

# Old Dominion University

Old Dominion University  
Norfolk, VA 23529-0011  
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Old Dominion University



UNDERGRADUATE

CATALOG

2011-2012

2011-2012

  
OLD DOMINION  
UNIVERSITY  
IDEA FUSION

**OLD  
DOMINION  
UNIVERSITY  
CATALOG**

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# Table of Contents

	Page
Academic Calendar.....	iv
Old Dominion University.....	1
Policies and Procedures .....	7
Student Resources and Services.....	24
Admission to Old Dominion University.....	33
Tuition, Fees and Financial Information .....	38
Student Financial Aid .....	42
Synopsis of Degree Programs .....	54
Registration Requirements and Procedures.....	56
Academic Information, Resources and Policies .....	62
Requirements for Undergraduate Degrees .....	72
General Education Requirements .....	73
General Education Transfer Equivalents for Virginia Community College System Courses.....	80
Colleges, Schools, and Departments of Instruction.....	83
The College of Arts and Letters .....	83
The College of Business and Public Administration .....	123
The Darden College of Education .....	135
The Frank Batten College of Engineering and Technology.....	149
The College of Health Sciences.....	166
The College of Sciences.....	182
Courses of Instruction.....	201
Officers of the University .....	299
Faculty.....	306
Index.....	321

**NATURE OF ANNOUNCEMENTS.** Announcements contained in this publication are subject to change without notice and may not be regarded in the nature of binding obligations to the University. The University reserves the right to change any provisions or requirements. Only the Provost or designee can approve changes to the Catalog except where otherwise stated within.

When students matriculate with Old Dominion University, they come under the academic requirements of the edition of the Catalog at that time. Students may graduate under these academic requirements within a period of six years even though subsequent Catalogs may change. Academic requirements include competency requirements, general education requirements, grade point average requirements, major and minor course requirements, foreign language requirements, overall unit requirements and related curriculum matters. Grading practices, tuition, fees and other matters are not considered to be “academic requirements” and are subject to change at the discretion of the University.

Should new changes be to their advantage, undergraduate students may graduate under the conditions of the newer catalog. However, because academic programs are subject to requirements imposed by outside accrediting or certifying agencies, the Commonwealth of Virginia, and the United States of America, such outside requirements take precedence.

It is the policy of Old Dominion University to provide equal employment, educational and social opportunities for all persons, without regard to race, color, religion, sex (including pregnancy), national origin, age, veteran status, disability, political affiliation, sexual orientation or genetic information. Old Dominion University complies with the Family Rights and Privacy Act of 1974 (as amended).

The University is an Affirmative Action Equal Opportunity employer.

**STUDENT RESPONSIBILITY FOR CATALOG INFORMATION.** Students are held individually responsible for the information contained in the University Catalog. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur.

# Letter from the Provost

Welcome to Old Dominion University. Located in the Hampton Roads Metropolitan area, you will find Old Dominion University to be a vibrant and active community of scholars and students.

More than 18,000 undergraduates and nearly 6,000 graduate students comprise the Old Dominion student body. Our community includes more than 1,000 international students with more than 110 foreign countries represented. Clubs and organizations for nearly every interest – more than 250 in all – thrive at Old Dominion University, nurturing the personal and social development that is essential to the university experience.

At Old Dominion University we offer a broad range of undergraduate degree programs in our colleges of Arts and Letters, Business and Public Administration, Education, Engineering and Technology, Health Sciences, and Sciences. Interdisciplinary options are available, along with an undergraduate research program that provides numerous opportunities for undergraduate students to work alongside faculty members. Through our Career Advantage Program, we guarantee a practical, faculty-directed, for-credit experience related to a student's major for all undergraduate students. Our students also participate in study abroad programs in Europe, South Africa, Australia, Korea and many other international destinations.

Old Dominion University's main campus is located in the city of Norfolk, but the ODU community extends well beyond, with Regional Higher Education Centers in Virginia Beach, and in two other locations in the area. Through our distance learning programs, we deliver undergraduate courses and programs to students at community college sites and higher education centers across the Commonwealth of Virginia, at various military bases and corporations, and at several out-of-state or independent locations. A variety of course and degree programs are offered using interactive television, on-line Internet technologies, CD-ROM, and video streaming, to provide students the opportunity to take courses from any location.

We are committed to the success of our students. Our Academic Enhancement unit serves as the central venue for undergraduate students to locate all of the services they need to ensure their progress from the moment they enter Old Dominion University through graduation and beyond. The Honors College, with an emphasis on critical thinking and issues of global importance, offers specially designed, low-enrollment courses to honors students and selected juniors and seniors; it is also the central home for our many undergraduate research opportunities. Students in our graduate programs work alongside faculty in cutting-edge research projects that extend our knowledge in areas as diverse as Modeling and Simulation, Bioelectrics, International Studies, Sciences, Educational Leadership, and many other disciplines. Our graduate students also have the opportunity to receive highly practical training in our professional schools such as in our MBA program, in a wide range of Education programs, and in the Health Sciences and Engineering.

Our faculty members bring a wealth of talent to our classrooms each day. Many of our faculty have been recognized on the state, national, and international levels with awards for teaching, research and service. Their lively and provocative teaching, commitment to academic excellence, and innovative research that is both fundamental and applied, enrich the surrounding region and combine into a fusion of ideas and practice that makes the Old Dominion experience a truly rewarding one for all students.

We look forward to you joining the Old Dominion University community.



Carol Simpson  
Provost

# Academic Calendar

## First Semester 2011-12

August 27 (Saturday)	Classes begin
September 5 (Monday)	Labor Day Holiday
October 8-11 (Sat-Tues)	Fall Holiday
November 8 (Tuesday)	Last day to withdraw from classes
November 23-27 (Wed-Sun)	Thanksgiving Holiday
December 9 (Friday)	Classes end
December 10 (Saturday)	Exams begin
December 16 (Friday)	Exams end
December 17 (Saturday)	Commencement

## Second Semester 2011-12

January 7 (Saturday)	Classes begin
January 14-16 (Sat-Mon)	Martin Luther King, Jr. Holiday
March 5-10 (Mon-Sat)	Spring Holiday
March 27 (Tuesday)	Last day to withdraw from classes
April 24 (Tuesday)	Classes end
April 25 (Wednesday)	Reading Day
April 26 (Thursday)	Exams begin
May 3 (Thursday)	Exams end
May 5 (Saturday)	Commencement

## Summer 2012

May 14 (Monday)	Session 1 classes begin
May 21 (Monday)	Session 2 classes begin
May 28 (Monday)	Holiday – no classes held
June 19 (Tuesday)	Session 2 classes end
June 21 (Thursday)	Session 2 exams end
June 21 (Thursday)	Session 1 classes end
June 26 (Tuesday)	Session 1 exams end
June 27 (Wednesday)	Session 4 classes begin
July 2 (Monday)	Session 5 classes begin
July 4 (Wednesday)	Holiday – no classes held
July 31 (Tuesday)	Session 5 classes end
August 2 (Thursday)	Session 5 exams end
August 7 (Tuesday)	Session 4 classes end
August 9 (Thursday)	Session 4 exams end

## First Semester 2012-13

August 25 (Saturday)	Classes begin
September 3 (Monday)	Labor Day Holiday
October 6-9 (Sat-Tues)	Fall Holiday
November 6 (Tuesday)	Last day to withdraw from classes
November 21-25 (Wed-Sun)	Thanksgiving Holiday
December 7 (Friday)	Classes end
December 8 (Saturday)	Exams begin
December 14 (Friday)	Exams end
December 15 (Saturday)	Commencement

## Second Semester 2012-13

January 12 (Saturday)	Classes begin
January 19-21 (Sat-Mon)	Martin Luther King, Jr. Holiday
March 11-16 (Mon-Sat)	Spring Holiday
April 2 (Tuesday)	Last day to withdraw from classes
April 30 (Tuesday)	Classes end
May 1 (Wednesday)	Reading Day
May 2 (Thursday)	Exams begin
May 9 (Thursday)	Exams end
May 11 (Saturday)	Commencement

## Summer 2013

May 20 (Monday)	Session 1 classes begin
May 27 (Monday)	Holiday – no classes held
May 28 (Tuesday)	Session 2 classes begin
June 25 (Tuesday)	Session 2 classes end
June 27 (Thursday)	Session 2 exams end
June 27 (Thursday)	Session 1 classes end
July 2 (Tuesday)	Session 1 exams end
July 3 (Wednesday)	Session 4 classes begin
July 4 (Thursday)	Holiday – no classes held
July 8 (Monday)	Session 5 classes begin
August 5 (Monday)	Session 5 classes end
August 8 (Thursday)	Session 5 exams end
August 13 (Tuesday)	Session 4 classes end
August 15 (Thursday)	Session 4 exams end

## First Semester 2013-14

August 24 (Saturday)	Classes begin
September 2 (Monday)	Labor Day Holiday
October 12-15 (Sat-Tues)	Fall Holiday
November 5 (Tuesday)	Last day to withdraw from classes
November 27-Dec. 1 (Wed-Sun)	Thanksgiving Holiday
December 6 (Friday)	Classes end
December 7 (Saturday)	Exams begin
December 13 (Friday)	Exams end
December 14 (Saturday)	Commencement

## Second Semester 2013-14

January 11 (Saturday)	Classes begin
January 18-20 (Sat-Mon)	Martin Luther King, Jr. Holiday
March 10-15 (Mon-Sat)	Spring Holiday
April 1 (Tuesday)	Last day to withdraw from classes
April 29 (Tuesday)	Classes end
April 30 (Wednesday)	Reading Day
May 1 (Thursday)	Exams begin
May 8 (Thursday)	Exams end
May 10 (Saturday)	Commencement

## Summer 2014

May 19 (Monday)	Session 1 classes begin
May 26 (Monday)	Holiday – no classes held
May 27 (Tuesday)	Session 2 classes begin
June 24 (Tuesday)	Session 2 classes end
June 26 (Thursday)	Session 2 exams end
June 26 (Thursday)	Session 1 classes end
July 1 (Tuesday)	Session 1 exams end
July 2 (Wednesday)	Session 4 classes begin
July 4 (Friday)	Holiday
July 7 (Monday)	Session 5 classes begin
August 4 (Monday)	Session 5 classes end
August 7 (Thursday)	Session 5 exams end
August 11 (Monday)	Session 4 classes end
August 14 (Thursday)	Session 4 exams end



# Old Dominion University

## History

Old Dominion University began its tradition of excellence when it was founded in 1930 by the College of William and Mary, the second oldest university in the United States. Established as an extension of William and Mary in Williamsburg, Virginia, and Virginia Polytechnic Institute in Blacksburg, Virginia, Old Dominion began educating teachers and engineers. The two-year school rapidly evolved into a four-year institution, and was granted independence in 1962 as Old Dominion College.

Considerable growth in enrollment, the expansion of research facilities and preparation for the addition of graduate programs led the Board of Visitors to approve the name change to Old Dominion University. Now Old Dominion is a powerhouse for higher education with six colleges: Arts and Letters, Business and Public Administration, Education, Engineering and Technology, Health Sciences and Sciences. Old Dominion has offered master's degrees since 1964 and Ph.D.s since 1971. Students currently choose from 69 baccalaureate programs, 54 master's programs, two education specialist programs and 42 doctoral programs. The University has achieved designation as a Research University (high research activity) from the Carnegie Foundation for the Advancement of Teaching.

Proud of its past, Old Dominion constantly looks to the future and prides itself on its continually expanding research and teaching programs. An ever-evolving university, Old Dominion is an agent of change for its students, for the region and the nation it serves. Old Dominion is Virginia's forward-focused, public doctoral research university for students from around the world who want a rigorous academic experience in a profoundly multicultural community. Our nationally recognized faculty use real-world expertise and innovative teaching methods to challenge students to achieve their highest goals. Our determined entrepreneurial approach to problem-solving drives cutting-edge research, eminent scholarship and strategic partnerships with government, business, industry, organizations and the arts.

## Students

The students at Old Dominion share a special sense of excitement derived in part from the rich tapestry of backgrounds, cultures and ages represented here. Our students hail from all 50 states and more than 100 countries. Studying in this multicultural, international environment, and taking advantage of our guaranteed internship program, offers students a true edge after they graduate and begin to compete for jobs in the "real world."

Among ODU's outstanding students in recent years are a Rhodes Scholar, Truman Scholar and three USA Today Academic All-Americans, as well as the first undergraduate in the commonwealth of Virginia to earn a patent. The University's alumni ranks include an Emmy Award-winning television producer, a United States Air Force astronaut, the former Vice Chief of Naval Operations, the commander, U.S. Central Command, the former chief of surgery at Walter Reed Army Medical Center, award-winning authors, engineers and scientists, and professional coaches and athletes.

More than 18,000 undergraduates and nearly 6,000 graduate students comprise the Old Dominion student body. Residence halls and apartments on campus house more than 4,400 students, while many other students live nearby within walking distance of the campus. Another 6,000 are distance learners located throughout Virginia and other states - even on ships at sea - who rarely ever set foot on the campus. A significant percentage of students are in some way connected to the military.

Students in search of extracurricular activities don't have far to look. The University boasts more than 200 student clubs and organizations. The Office of Student Activities and Leadership (OSAL) sponsors a wide variety of programs that complement academic excellence, offer a supportive environment, engage students in various learning experiences and provide them with opportunities to interact with a diversity of groups and individuals. OSAL is primarily responsible for commuter services, clubs and organizations, Greek-letter organizations, leadership programs, service and volunteerism, and weekend activities.

## The Norfolk Campus and Region

Situated on 188 acres near downtown Norfolk, Old Dominion University's main campus stretches from the Elizabeth River to the Lafayette River, and watching sunsets on the water is a natural pastime for our students. With its garden areas, reflecting pools and spacious green lawns bordered by tree-lined walkways, the campus offers the best of both worlds - a beautiful setting and just minutes away from Hampton Roads' largest cities.

One of the most exciting developments on the campus today is the University Village, with its impressive centerpiece, the Ted Constant Convocation Center, which opened its doors in 2002 and hosts everything from basketball games to concerts to commencements. This 75-acre development at the east end of campus is home to 960 modern student apartments, a variety of restaurants and shops, a hotel, research facilities, an art gallery, and bookstore.

On the main campus, at the west end of the grassy, five-acre Kaufman Mall, lies Webb University Center, a spacious facility that dazzles with its two-story glass facade, creating an outdoor ambience and providing a sunny home - in any season - for student life. At the north end of campus, a stroll along the brick sidewalks of the Williamsburg Lawn, with its towering willow oak trees, offers students and visitors a trip back in time to the beginnings of the University.

Old Dominion's 75th anniversary in 2005 found an impressive array of cutting-edge facilities that have created a campus that's ideal for the pursuit of a diverse number of majors. Among these are the fully automated Perry Library, with more than 3.8 million items, state-of-the-art laboratories in the sciences and engineering, and the new E.V. Williams Engineering and Computational Sciences Building. The campus is also home to Pretlow Planetarium, the Lions Child Study Center, new, superior facilities for clinical work in the health sciences, a modern Oceanography and Physics Building, the Gormto TELETECHNET Center and the Diehn Fine and Performing Arts Center. Recent additions include an orchid conservatory and research building, as well as renovation to the Technology Building and the Batten Arts and Letters Building, all of which will further provide expanded opportunities for our students in the arts, sciences, health sciences and engineering. The campus boasts a variety of indoor and outdoor sports facilities. A completely new student recreational center opened in 2009.

Further enhancing the on-campus engineering and science curricula, the University operates the Mid-Atlantic Regional Spaceport located at Wallops Island on Virginia's Eastern Shore; has a significant presence in the Applied Research Center at the Department of Energy's Jefferson Laboratories in Newport News; continues to expand its Reidy Research Center for Bioelectronics and the Virginia Modeling, Analysis, and Simulation Center on the Portsmouth-Suffolk border; and owns and manages the Blackwater Ecological Preserve in Zuni.

Only 20 miles from the sand and surf of Virginia Beach and just 40 miles from historic Williamsburg, ODU's Norfolk campus, in one of the nation's oldest seaports and one of today's busiest international seaports on the east coast, offers an attractive location for study and leisure. Prospective students and families are welcome to visit the campus Monday through Saturday throughout the year.

## Faculty

Approximately 730 full-time and 650 part-time faculty bring a wealth of talent to our classrooms each day. Their lively, provocative teaching, research and applied experience, along with their commitment to academic excellence, combine to make the Old Dominion experience a rewarding one for students.

Many of our faculty have been recognized on the state and national levels with awards for teaching, research and service. Since 1990, Old Dominion University faculty have won three professor of the year awards from the Carnegie Institute for the Advancement of Teaching, one Humboldt Award, three Virginia Outstanding Scientist awards sponsored by the Science Museum of Virginia, and 25 Virginia Outstanding Faculty Awards that are sponsored by the State Council of Higher Education for Virginia. Among our faculty ranks you will find nationally and internationally recognized scientists, engineers, educators and authors.

Faculty also serve as the primary academic advisers to our students, beginning in the freshman year. These relationships offer a special opportunity for new students to understand their chosen majors from the perspective of extensive experience and insight that only a professor can offer.

Because of our location and our relationship with dozens of corporations, federal facilities, the armed services, health care services and the tourist industry, faculty at Old Dominion bring a real-world, problem-solving focus to the classroom that makes learning come to life.



## A Global Vision

Old Dominion University has made an extraordinary commitment to be recognized as a globally focused institution. This commitment is reflected in a series of recent innovations including:

- International Student Leadership Awards for outstanding leadership and academic achievement to Old Dominion's diverse international student community
- Provost Award for Leadership in International Education, recognizing faculty leadership in program innovation
- Dean's Education Abroad Awards, expanding financial support to bring study abroad within reach for more undergraduates
- ICAP, adding a global dimension to the University's innovative Career Advantage Program
- The Office of International Programs, a comprehensive support office that facilitates continued global exploration and innovation

For more information visit [www.odu.edu/oduhome/international.shtml](http://www.odu.edu/oduhome/international.shtml).

## Outside the Classroom

Clubs and organizations for nearly every interest—more than 250 in all—thrive at Old Dominion, nurturing the personal and social development that is essential to the University experience. Clubs for every college and most majors, sororities and fraternities, an Honor Council, Student Government, Student Activities Council, and numerous recreational sports teams and athletic clubs make it easy to get involved at Old Dominion. In addition, ROTC programs are available for the Navy, Army and Marine Corps.

The benefits and rewards of joining one or more student organizations vary depending on you! Some of the best reasons for getting involved are making new friends, leadership development, taking advantage of opportunities, exploring careers and gaining that Monarch Pride!

Eighteen NCAA Division I sports bring pride and spirit to campus life each year, including Division I-AA football, and Old Dominion Monarchs have won 32 team and individual national titles, including four in basketball, nine in field hockey and 15 in sailing.

## The Mission of the University

### MISSION

Old Dominion University, located in the City of Norfolk in the metropolitan Hampton Roads region of coastal Virginia, is a dynamic public research institution that serves its students and enriches the Commonwealth of Virginia, the nation and the world through rigorous academic programs, strategic partnerships, and active civic engagement.

### BACKGROUND

Old Dominion University is located in Hampton Roads, one of the world's major seaports. Since the early seventeenth century, Hampton Roads has been the state's gateway to the rest of the world and the world's gateway to Virginia in commerce and industry, in recreation and culture, and in national security. Now a complex of seven major cities, it is a microcosm of the opportunities and challenges of contemporary urban America. It is also a major center for research and development and a home for extensive scientific and technological activities in marine science, aerospace, ship design and construction, advanced electronics, and nuclear physics.

The University takes its unique character from Hampton Roads as it provides leadership to the state and nation in teaching, research, and service. Thus the University has a special mission for the Commonwealth in commerce, and in international affairs and cultures. It has a significant commitment in science, engineering and technology, particularly in fields of major importance to the region. As a metropolitan institution, the University places particular emphasis upon urban issues, including education and health care, and upon fine and performing arts.

As one of America's major ports, Hampton Roads is the locus of national and international military commands, and the home of a culturally diverse population. The University therefore has natural strengths in activities having international outreach. Faculty members in such fields as business, economics, international studies, geography and the sciences strive to design curricula, teach courses, and encourage foreign exchanges that enhance the University's role as Virginia's international institution.

The Hampton Roads scientific environment provides special opportunities for science and engineering faculty to emphasize research and graduate programs in such fields as marine science, aerospace, and advanced electronics. Global ocean studies and cooperative research at NASA receive particular

attention, as University researchers collaborate with U.S. and foreign engineers and scientists.

Urban issues are addressed by programs in public administration, education, the social sciences, and the health professions. The richness of Hampton Roads' artistic life gives great vitality to the University's programs in the visual arts, music, theatre, and dance.

### MISSION SUPPORT

Old Dominion University serves the needs of several internal and external constituents with its resources. These include: current and prospective students seeking undergraduate, graduate, and continuing education programs; business and industry; government agencies at all levels; the military; research organizations; and the community at large regionally statewide, nationally, and internationally. These constituencies are discussed in greater detail in the following paragraphs.

Old Dominion University offers a wide array of undergraduate programs, all of which meet national standards of excellence. Every Old Dominion undergraduate student follows a general education program that is designed to develop the intellectual skills of critical thinking and problem solving and to encompass the breadth of understanding needed for personal growth and achievement and for responsible citizenship. This general education program places special emphasis upon appreciation of the arts and upon understanding the perspectives of women, minorities, and non-Western cultures. Each undergraduate chooses a major program in the liberal arts or sciences or in a technological or professional field.

Old Dominion University's graduate offerings are focused on society's need for advanced professional education and on specialized programs at the master's and doctoral levels for which the institution is prepared through unusual strength of faculty or special geographic advantages. All graduate programs meet national standards of excellence.

As a national leader in the field of technology-delivered distance learning, the University strives to enhance the quality of the educational experience, wherever education is delivered, by applying emerging technologies. It also supports research to explore the impact of these technologies on the teaching-learning process. By utilizing these technologies and by partnering with institutions of higher education, corporations, and governmental entities, the University is able to provide undergraduate and graduate degree programs to students across time and geographic boundaries.

Because of its commitment to Hampton Roads and its emphasis on creative innovation, Old Dominion University offers life-long learning opportunities through credit and noncredit courses and brings educational services and programs to the people of Hampton Roads at several off-campus centers. The University has a responsibility to serve the many members of the military services and their families. The military forms a unique combination of national and international constituents because they are from other locales in the United States and are looking to become, among other things, internationally capable in an international environment.

As a center of learning, Old Dominion University is committed to the principle of free inquiry. The University faculty of distinguished teacher-scholars seek to pass on the best in academic tradition while establishing themselves at the forefront of discovery and creativity. As partners in the development of the University's future, the faculty enjoy full academic freedom and have a recognized role in the decision-making process of the University. Mindful of present and future needs for a multicultural academic climate, the University deems recruitment and retention of minority and women faculty members and staff to be essential.

The University is committed to providing the highest quality instruction to all of its students. Teaching excellence is encouraged through faculty development programs and appropriate recognition of superior instruction.

The discovery of new knowledge through research and creative endeavor is a central function of Old Dominion University, which values and supports faculty participation in the discovery, synthesis, application and creation of new knowledge and art forms. The institution shall promote and preserve excellence in basic and applied research as a Carnegie Foundation Doctoral Research-Extensive University which is a key production and coordination force in technology development.

The University encourages the involvement of its faculty and staff in community service. The enrichment of the lives of students and residents of Hampton Roads is fostered through University sponsored cultural activities, fine and performing arts events, and intercollegiate athletics. In addition, through applied research, consulting, and other activities, the University plays a prominent role in the development of local business and industry and serves as a resource of government agencies and both public and private educational institutions.

The University seeks in its student body a diversity of age, gender, ethnic, religious, social, and national backgrounds. It actively recruits American

minority students along with students from other countries worldwide in such numbers as to have their presence make a discernible impact upon the University's educational processes. Old Dominion recognizes its mandate to serve both the academically gifted and those who have the potential for academic success despite educational, social, or economic disadvantages.

Extracurricular activities and experiences are offered that challenge students to develop a personal system of values, to think and act autonomously, to achieve physical competence, and to establish a sense of their own identity. Other services help students meet educational, personal, and health needs.

Old Dominion University depends on its alumni for advice, leadership, and support. In close collaboration with the University, the Alumni Association provides to former students opportunities to continue their participation in various aspects of university life, to advance their personal and professional development, and to sustain communication and strengthen bonds with their alma mater and fellow alumni.

To evaluate its accomplishments against its goals, a continuing process of systematic assessment is given high priority by the University. Information gained from such efforts is utilized to ensure the highest possible quality for all University programs. The Board of Visitors will conduct a periodic review of the University's mission and major goals in conjunction with representatives of the major University constituencies. The review will ensure that the mission clearly identifies the University's unique role in Virginia's public higher education system and assures that the University is focusing its resources to be the best that it can be in that role to achieve its mission and accomplish the major goals.

Adopted by the Board of Visitors

June 10, 1971

Revised January 17, 1989

Revised April 15, 1999

Revised June 14, 2002

Revised April 8, 2010

## Major Goals of the University

### 1. Students.

Old Dominion University is a selective admission institution. The University strives to serve those students in the immediate geographical area as well as attract students from the national and international communities. Additionally, the University seeks to attract and serve a culturally and ethnically diverse student body. The University pays particular attention to identifying and admitting students who are academically gifted. As a major metropolitan university, Old Dominion University has a special commitment to serve those students who have been academically, socially, or economically disadvantaged, but who have the potential for academic success.

### 2. Faculty.

Old Dominion University seeks to attract and retain a distinguished faculty of teacher-scholars. Its faculty enjoy academic freedom and have a recognized role in the decision-making process of the University. The University is committed to strengthening its faculty through the recruitment and retention of minorities and women.

### 3. Academic Programs.

**UNDERGRADUATE PROGRAMS.** As a comprehensive university, Old Dominion University offers and develops quality liberal arts, science, technology and professional programs. Old Dominion University undergraduate students follow a general education program that emphasizes intellectual skills and the breadth of intercultural understanding necessary for personal growth and achievement and responsible citizenship. All Old Dominion University degree programs meet national standards of excellence.

**GRADUATE PROGRAMS.** Old Dominion University's graduate offerings are focused on society's need for advanced professional education and on specialized programs at the master's and doctoral levels for which the institution is prepared through unusual strength of faculty or special geographic advantages. In selected graduate programs, the University aspires to international leadership.

**SPECIAL EMPHASIS AREAS.** Because Hampton Roads is a major international maritime and commerce center that is Virginia's window to the nation and world, the University has a special mission for the Commonwealth in commerce, and in international affairs and cultures. With the principal marine and aerospace activities of the Commonwealth concentrated in Hampton Roads, the University has a significant commitment to science, engineering and technology, specifically in marine science, aerospace and other

fields of major importance to the region. Due to its location in a large metropolitan area, Old Dominion University places particular emphasis on urban issues, including education and health care, and on fine and performing arts.

### 4. Teaching.

Old Dominion University is committed to providing the highest quality instruction to all of its students. Teaching excellence is encouraged through faculty development programs and appropriate recognition of superior instruction.

### 5. Research, Scholarship and Creativity.

Old Dominion University is a center of learning committed to the principle of free inquiry. The University seeks to participate in the acquisition, discovery, synthesis, application, and creation of new knowledge and art forms through research, scholarly endeavor and creative undertakings by faculty and students. In selected areas of research, scholarship and creativity, the University strives for international recognition.

### 6. Distance Learning.

As a national leader in the field of technology-delivered distance learning, Old Dominion University is committed to providing academic programs to a diverse national and international population. The University seeks partnerships and alliances that will facilitate delivering those programs to place-bound students.

### 7. Life-long Learning.

Old Dominion University is committed to the concept of life-long learning, and offers credit and noncredit courses throughout the region. The University seeks to develop off-campus centers to bring educational services and programs to the citizens of the region. Because of the major Armed Forces presence in Hampton Roads, the University is particularly cognizant of its responsibility to serve members of the military services and their families.

### 8. Community Service.

Community service is an important part of the University's mission. Particular importance is attached to the enrichment of the lives of students and residents of Hampton Roads through University cultural activities, fine and performing arts events, and recreational, intramural and intercollegiate athletics. The University acts as a resource to business, industrial, health care and educational organizations, as well as to the agencies of local, state and federal government. The University is committed through applied research, consulting and other activities to playing a major role in advancing the overall development of Hampton Roads.

### 9. Student Life.

The University provides opportunities for student development outside of the classroom. Programs are offered to enhance personal and social growth of individual students, to provide an exciting and stimulating collegiate environment and to enable students to cope with educational, career, and health needs. Students choosing to live in on-campus housing benefit from programs especially designed to promote student educational and personal development.

### 10. Alumni.

Alumni are an important part of the University community. Through outreach programs, participation on advisory committees, and a variety of professional and social activities, the University maintains a close relationship with its alumni and seeks alumni involvement and support for planning and development purposes.

### 11. Quality.

Improvement of the University is a continual process. The foregoing goals provide criteria for the rigorous and regular evaluation of the quality, pertinence and effectiveness of academic and other University programs. These goals also provide criteria for the assessment of student achievement and the performance of members of the faculty, administration, and staff.

Adopted by the Board of Visitors

January 17, 1989

Revised April 15, 1999

## General Statement of Policy

Within the limits of the University's facilities as to numbers that can be accommodated, admission to Old Dominion University is open to all qualified students without regard to race, color, religion, national origin, sex (including pregnancy), age, veteran status, disability, political affiliation, sexual orientation, or genetic information; the facilities and services of the University are open to all enrolled students on those same bases, and all policies and

standards of the University, including those governing employment, are applied accordingly. Students having concerns of this nature should contact the assistant vice president for institutional equity and diversity.

## Accreditations

Old Dominion University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, master's, education specialist, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Old Dominion University.

Numerous programs of study at the University are accredited by specialized accrediting agencies that are recognized by the Council on Higher Education Accreditation (CHEA).

The baccalaureate degrees in civil engineering, computer engineering, electrical engineering, environmental engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>. The engineering technology programs in civil engineering technology, electrical engineering technology, and mechanical engineering technology are accredited by the Technology Accreditation Commission (TAC) of ABET, <http://www.abet.org>.

The graduate and undergraduate teacher education degree programs in the Colleges of Arts and Letters, Education and Sciences are accredited by the National Council for Accreditation of Teacher Education. The Child Study and Child Development Centers are accredited by the Southern Association of Colleges and Schools (SACS) and Council on Accreditation and School Improvement (SACS/CASI).

The recreation and tourism studies program is accredited by the National Recreation and Park Association Council on Accreditation. Both the undergraduate and graduate program emphasis areas in sport management have received program approval through the North American Society for Sport Management (NASSM) and the National Association for Sport and Physical Education (NASPE). The graduate program emphasis area in athletic training is accredited by the National Athletic Trainers Association (NATA). The undergraduate program in exercise science is accredited by the Commission on Accreditation of Allied-Health Programs (CAAHEP). The graduate program in speech-language pathology is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. The community, mental health, school, and college counseling master's and counselor education doctoral degree programs located on the Norfolk campus are accredited by the Council on Accreditation of Counseling and Related Educational Programs (CACREP).

The doctoral program in clinical psychology is accredited by the American Psychological Association. The undergraduate program in chemistry is American Chemical Society certified.

The undergraduate and graduate business programs of the College of Business and Public Administration are accredited by The Association to Advance Collegiate Schools of Business (AACSB)-International. The undergraduate and master's degrees in accounting are also accredited by the AACSB-International. The master's degree in public administration is accredited by the National Association of Schools of Public Affairs and Administration.

The program in dental hygiene is accredited by the American Dental Association Commission on Dental Accreditation. The baccalaureate and master's nursing programs are accredited by the Commission on Collegiate Nursing Education and approved by the Virginia Board of Nursing. Graduate nursing programs are accredited and approved by the Commission on Collegiate Nursing Education, the Pediatric Nursing Certification Board, the National Nurses Certification Corporation, American Nurses Certification Corporation, and the American College of Nurse Practitioners. The certified registered nurse anesthetist specialty is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs. The medical technology program and histotechnology certificate program are accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N River Road, Suite 720, Rosemont, IL 60018, 773 714-8880. The physical therapy program is accredited by the American Physical Therapy Association, Commission on Accreditation in Physical Therapy Education (CAPTE). The environmental health programs have been awarded accreditation from the National Environmental Health Science and Protection Accreditation Council. The nuclear medicine technology program is accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. The Master of Public Health program has received accreditation from the Council on Education for Public Health. The cytotechnology certificate program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The ophthalmic technology certificate program is

accredited by the Committee on Accreditation for Ophthalmic Medical Personnel (CoA-OMP).

The Department of Music is a full member of the National Association of Schools of Music. The Department of Art is a full member of the National Association of Schools of Art and Design. The theatre program is accredited by the National Association of Schools of Theatre.

## Affiliations

The University is a member of the Southern Association of Colleges and Schools, the American Council on Education, the National Commission on Accrediting, the Council of Graduate Schools in the United States, the American Association of State Colleges and Universities, the American Association for Higher Education, the Association of American Colleges and Universities, the Association of Governing Boards of Universities and Colleges, the Association of Urban Universities, the Council for the Advancement and Support of Education, the National Association of State Universities and Land Grant Colleges, the National Commission for Co-op Education, the Southeastern University Research Association, the American Association of University Women, the University Extension Association, the National Society for Experiential Education, the Universities Space Research Association, the American Association of Collegiate Schools of Business, the National Council for Accreditation of Teacher Education, the Association of University Evening Colleges, the National Association of College and University Summer Sessions, the Association of Virginia Colleges, the Association of Schools of Allied Health Professions, the American Association of Dental Schools, the American Society for Engineering Education, the Consortium for Oceanographic Research and Education, and the Conference of Southern Graduate Schools. The University is also a Division I member of the Collegiate Athletic Association (NCAA) and the Colonial Athletic Association (CAA).

Old Dominion University is authorized by the Washington Higher Education Coordinating Board (HECB) and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Old Dominion University to offer the following degree programs: Bachelor of Science in Business Administration: Accounting, Finance, Information Systems and Technology, Management, Marketing; Bachelor of Science in Communication; Bachelor of Science in Computer Science; Bachelor of Science in Criminal Justice; Bachelor of Science in Engineering Technology: Civil Engineering Technology, Electrical Engineering Technology, General Engineering Technology, Mechanical Engineering Technology; Bachelor of Science in Health Sciences; Bachelor of Science in Human Services; \*\*Bachelor of Science in Interdisciplinary Studies; Bachelor of Science in Nursing (RN to BSN); Bachelor of Science in Occupational and Technical Studies; Master of Engineering Management; Master of Science in Community Health; \*Master of Science in Education: Military Career Transition Program (MCTP), Pre-K through 6, Middle School Education (Grades 6-8), Secondary Education (Grades 6-12), Secondary Education – Field Based, Special Education, Special Education – General Curriculum K-12\*; Master of Science in Nursing: Family Nurse Practitioner Role, Nurse Administrator Role, Nurse Educator Role, Women's Health Nurse Practitioner Role; Master of Science in Occupational and Technical Studies; Doctor of Philosophy in Community College Leadership; and \*\*Doctor of Philosophy in Education. Authorization by the HECB does not carry with it an endorsement by the board of the institution or its programs. Any person desiring information about the requirements of the Act or the applicability of those requirements to the institution may contact the HECB office at P.O. Box 43430, Olympia, WA 98504-3430.

\*Eligibility for initial educator certification in Washington is based on completion of a state approved educator preparation program. This program is approved in Virginia and is authorized for field placements in Washington by the Professional Educators Standards Board. Even though students may be residing in Washington while in this program, their application for educator certification in Washington will be processed as an out-of-state application. Go to <http://pathway.pesb.wa.gov/outofstate> for more information. Teachers are advised to contact their individual school districts as to whether this program may qualify for teacher advancement.

\*\*The Bachelor of Science in Interdisciplinary Studies-Teacher Preparation (Primary/Elementary) and the Doctor of Philosophy in Education with a concentration in Occupational and Technical Studies are not intended to lead to teacher certification. Teachers are advised to contact their individual school districts as to whether these programs may qualify for salary advancement.

## Distinguished Faculty Chairs and Professorships

In 1964, Virginia became the first state in the nation to establish an Eminent Scholars Program. Virginia encourages donors to create endowments to attract and retain outstanding faculty members by matching the income from these endowments, thus doubling the impact of the donors' gifts.

The generosity of several individuals and groups has made it possible for the University to establish chairs and professorships to support faculty members and their scholarly activities through this program. Included in these gifts are the following:

**The P. Stephen Barna Professorship Endowment.** Mr. E. James Hayes, a 1989 alumnus of Old Dominion University, established a professorship for aerospace engineering in the Frank Batten College of Engineering and Technology in 2003.

**The Richard F. Barry, Jr. Chair.** Established in 1997, this endowment provides support for a chair in the College of Sciences Department of Mathematics and Statistics. Richard F. Barry III, a former rector and member of the University's Board of Visitors and former Vice Chairman of Landmark Communications, Inc., created the endowment in honor of his father who taught mathematics at the University.

**The Batten Chairs.** The Batten Chairs were established in 2003 by Frank and Jane Batten. Mr. Batten, who passed away in 2009, was the retired Chairman and CEO of Landmark Communications and the first rector of the Board of Visitors. The Batten's \$32 million gift, the largest in Old Dominion's history, benefits all six of the University's colleges with emphasis to the Frank Batten College of Engineering and Technology and the College of Sciences. The Batten Chairs include:

- Batten Endowed Chair in Jewish Studies**
- Batten Endowed Chair in Counseling**
- Batten Endowed Chair in Computational Engineering**
- Batten Endowed Chair in System of Systems Engineering**
- Batten Endowed Chair in Bioelectrics Engineering**
- Batten Endowed Chair in Micro- and Nano-electronics Engineering**
- Batten Endowed Chair in Biomedical Engineering**
- Batten Endowed Chair in Advanced Transportation Engineering**
- Batten Endowed Chair in Science**
- Batten Endowed Chair in Health Sciences**

**The Frederick Wharton Beazley Professorship.** Created by an anonymous donor in 1988, the professorship in the College of Business and Public Administration was established to honor Portsmouth philanthropist, Mr. F. W. Beazley.

**The Bioinformatics Professor.** The Bioinformatics Professor endowment was established in 1992 within the College of Sciences by the Department of Computer Science.

**The CBPA Endowed Professorship in Accounting.** The Dean of the College of Business and Public Administration established a professorship in 2006 to attract or retain an accounting scholar. The endowment was funded initially by KPMG Partners.

**The Richard T. Cheng Chair in Computer Science.** In 1998, former faculty member Dr. Richard Cheng endowed a chair in the department in which he helped establish accreditation. He is the former Chairman and CEO of ECI Systems and Engineering.

**The Commonwealth Professorships.** Provided by an anonymous donor as a substantial endowment gift in 1967, the endowment supports professorships in any of the University's six colleges.

**The Constance F. and Colgate W. Darden Professorships.** The Dardens endowed two professorships, one in education and one in history, in 1976. The Darden College of Education was named in honor of Mr. Darden, a U.S. Congressman, former Virginia Governor and President of the University of Virginia.

**The Mina Hohenberg Darden Chair in Creative Writing.** This endowed English department professorship was initiated in 1997 as a memorial to Mina Hohenberg Darden by her family and friends. Mrs. Darden received three M.A. degrees from Old Dominion and was working toward an M.F.A. in poetry.

**The Diehn Chair in Music.** The Diehn Fund, established by the estate of F. Ludwig Diehn, provided the funding in 1999 for a chair in music. The Diehn Fund also supports the Diehn Concert Series and the Diehn Fine and Performing Arts Center.

**The Dragas Professorship in International Studies Endowment.** This endowment was established in 1996 by the George and Grace Dragas Foundation to create a professorship in international studies. Mr. Dragas is an alumnus and former rector of the University's Board of Visitors.

**The Ray Ferrari Endowed Professorship.** Mr. E. James Hayes, a 1989 alumnus of Old Dominion University, instituted an engineering department

professorship in 1997 to honor his mechanical engineering technology professor and mentor, Ray Ferrari.

**The Mary Payne Hogan Endowed Professorship.** Established in honor of Mary Payne Hogan, the endowment was created in 1997 by an anonymous donor. The professorship supports the College of Sciences, specifically in botany.

**The Louis I. Jaffe Professorship.** In 1968, an anonymous donor created a professorship in the College of Arts and Letters in memory of the Pulitzer Prize-winning editor of *The Virginian-Pilot*, Mr. Jaffe.

**The George M. and Linda H. Kaufman Professorship.** The Kaufmans endowed this professorship in 1985. A lectureship in public affairs also bears their name. Mrs. Kaufman is a former member of the Board of Visitors. Mr. Kaufmann led the effort to landscape the University's mall, which was named in honor of his parents.

**The William E. Lobeck, Jr. Endowed Chair.** Established in 2002 by the Lobeck-Taylor Foundation, this funding created an endowed chair in advanced engineering environments in the Frank Batten College of Engineering and Technology. Mr. Lobeck is an alumnus and former president of the Auto Nation Rental Group of Republic Industries.

**The Mitsubishi Kasei Professorship in Manufacturing Engineering.** The Mitsubishi Kasei Corporation in 1990 established this professorship in manufacturing engineering in the Frank Batten College of Engineering and Technology.

**The A.D. and Annye Lewis Morgan Professorship.** The Morgan Trust established this professorship in 1986 consistent with the wishes of the Morgans. He was a successful Norfolk physician who also created a scholarship fund to benefit Old Dominion students. The professorship is for a faculty member in either the Frank Batten College of Engineering and Technology or the College of Sciences.

**The Ruth M. & Perry E. Morgan Endowed Professorship.** Mr. Perry Morgan, former Editor-in-Chief of *The Virginian Pilot*, established a professorship in the College of Arts & Letters in 1996 in honor of his wife, Ruth. The incumbent must have a doctorate in American literature with an emphasis in Southern literature.

**Rosanne Keeley Norris Professorship.** Frederick J. Norris '78, through a bequest in his will, established a professorship in 2007 in memory of his mother, Mrs. Rosanne Keeley Norris, who devoted her career to primary education in the California and Massachusetts public schools. Mr. Norris desired to assist the University in attracting and retaining outstanding faculty in the Darden College of Education.

**Oceanography Professorships.** A challenge gift from the Norfolk Foundation in 1975 and gifts in response from corporations, friends, and alumni made possible an endowment to support several professorships in oceanography.

**The Samuel L. and Fay M. Slover Chairs.** A 1967 bequest from Mrs. Slover established an endowment that supports three chairs in oceanography. Col. Slover was the owner of *The Virginian-Pilot* and *The Ledger Star*.

**The Oscar F. Smith Chair.** The Oscar F. Smith Foundation made a grant in 1968 to establish an endowed chair in oceanography. The late Mr. Smith was president of Norfolk Shipbuilding and Drydock, Co., now Norshipco.

**The William B. Spong, Jr., Professorship.** In 1988, The Landmark Charitable Foundation endowed a professorship on behalf of *The Virginian-Pilot* and *The Ledger Star* to honor the former U. S. Senator and President of Old Dominion University. The professorship is for a faculty member in the College of Business and Public Administration.

**The Robert M. Stanton Chair in Real Estate and Economic Development.** Mr. Robert M. Stanton, a 1961 alumnus of Old Dominion University and former rector of the Board of Visitors, established a chair in real estate and economic development in the College of Business and Public Administration in 2003. The purpose of the chair is to help develop and enhance the Center for Real Estate and Economic Development into a nationally recognized institution. Mr. Stanton was the first chair of the Real Estate Foundation.

**The Robert Stiffler Distinguished Professorship in Botany.** The Robert Stiffler Distinguished Professorship in Botany was created in 2003 by an anonymous donor. The professorship in the College of Sciences honors 28 years of Robert Stiffler's service to *The Virginian-Pilot* and the community as a gardening columnist and expert. The chair will help Old Dominion University and the Norfolk Botanical Garden fulfill their research goals in the field of botany.

**The Jesse and Loleta White Lectureship.** Created in 1992 by the Aphasisa Foundation of Virginia, this endowment supports a faculty position in the Child Study Center within the Darden College of Education.

**E.V. Williams Faculty Fellowship Endowment.** Established in 2005 through a bequest of Mr. E. Virginius Williams for the College of Business and Public Administration.

**E.V. Williams Endowed Chair in Strategic Leadership.** Established in 2005 through a bequest of Mr. E. Virginius Williams for the College of Business and Public Administration.

## **Educational Foundation**

The Old Dominion University Educational Foundation is a nonprofit 501(c)(3) corporation chartered in 1955 to receive and manage gifts that support the educational mission of the University. As of September 30, 2010, the Foundation was responsible for managing approximately \$151 million of endowment assets, including \$10.1 million of University endowments. The Foundation is supported by the University's Office of Development and is governed by a Board of Trustees consisting of alumni and friends of the University.

## **Old Dominion Athletic Foundation**

The Old Dominion Athletic Foundation was incorporated in 1964 to provide funds for the University to compete successfully in intercollegiate athletic programs. The Foundation is governed by a Board of Trustees comprising alumni and friends of the University. Its activities are coordinated through the Department of Athletics and the Office of Development.

## **Real Estate Foundation**

The Old Dominion University Real Estate Foundation was incorporated in 1994 to receive, acquire and manage gifts of real property for the benefit of the University. The Foundation manages a number of properties near the Norfolk campus and the Virginia Beach Higher Education Center, as well as the development of the University Village. The Foundation is governed by a Board of Trustees consisting of alumni and friends of the University.

# Policies and Procedures

## Accommodation of Students with Disabilities: Policy and Procedures

Statement: Old Dominion University is committed to achieving equal educational opportunity and full participation for persons with disabilities. It is the University's policy that no qualified person be excluded from participation in any University program or activity, be denied the benefits of any University program or activity, or otherwise be subjected to discrimination with regard to any University program or activity. This policy derives from the University's commitment to non-discrimination for all persons in employment, access to facilities, student programs, activities and services.

Disability Services shall oversee the assessment of student requests for accommodation and assistance and shall coordinate the development of the program among the student, faculty members, and department chairs. In addition, the office shall implement the University's disability program for students and supervise the delivery of equipment and services.

The director of equal opportunity and affirmative action is the Section 504 coordinator who will monitor the implementation of these guidelines.

The provisions of services to students with documented disabilities at Old Dominion University are based on the principle of non-discrimination and accommodation in academic programs set forth in the implementing regulations for Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. These services will be provided within the basic guidelines to follow, with the understanding that students with disabilities may require unique accommodations and must have their needs assessed on a case-by-case basis. The provision of accommodations for students with documented disabilities need not guarantee them equal results or achievement; accommodations must only afford them an equal opportunity for achievement. Old Dominion University is committed to providing students with documented disabilities the same opportunity to achieve academic success as it provides for all students.

### I. Definition of Those Qualified for Assistance

The appropriate recipient of accommodations is defined as one who has a physical or mental impairment, which substantially limits one or more major life activities, such as walking, seeing, hearing, speaking, performing manual tasks or learning. In addition, a person who has history of such an impairment is qualified for assistance. With respect specifically to the post-secondary setting, such a person must be otherwise qualified under the academic standards requisite for admission in spite of the disability.

### II. Recruitment

The Office of Admissions at Old Dominion University will make all reasonable effort to assure that all recruitment activities are made accessible to persons with documented disabilities. All schools hosting Old Dominion University recruitment activities will be encouraged to provide information that such facilities are accessible so that interested persons with disabilities will not be excluded or denied participation. In keeping with this policy, Old Dominion University will provide, if given adequate advance notice, such services as interpreters, audiotapes or reader services at recruitment functions.

### III. Admission to the University

#### A. General Admission

The requirements for general admission for persons with disabilities are no different from other persons applying to Old Dominion University. The official application for general admission to the University will not ask for information concerning an applicant's physical or mental disability. However, there are programs within the University which have technical standards which must be met. A prospective student may choose to self disclose in the admissions process.

#### B. Acceptance to Specific Programs

Technical standards have been established by each academic program which describe the skills the student must have or be able to acquire in order to meet curriculum requirements and to perform successfully in an academic program. The University is not required to make major academic adjustments, fundamental changes, or substantially modify standards for acceptance into or completion of any academic program. Students with disabilities interested in

applying for acceptance to a particular program should assure that they are aware of any applicable technical standards.

If a question arises about the qualifications of a student with a disability who wishes to be accepted in a particular degree program, the department chair shall have the responsibility of deciding whether or not the applicant will be accepted to the program. After having considered the requests for accommodation presented by the student, as well as the technical standards for the requested program, the department chair shall determine whether or not the student is otherwise qualified for acceptance to the program.

In making the determination, the department chair should consult with the student's advisor and Disability Services. If after careful consideration, the department chair decides that the student is not otherwise qualified for acceptance to the program of study, the student will be advised of his or her academic options. The decision of the department chair may be appealed to the dean. The dean shall consult with the director of equal opportunity/affirmative action prior to deciding the appeal. The decision of the dean is final.

### IV. Determination of Need for Reasonable Accommodations/ Academic Adjustments

Under Section 504, institutions are required to respond by making modifications in academic requirements as necessary to ensure that such requirements do not discriminate or have the effect of discriminating against a student with a disability.

The information sent to students upon acceptance to the University shall include a notice that it is the responsibility of students with a disability to contact Disability Services to arrange for accommodations. The information provided by the student in doing so will be kept confidential and shared only with those involved in arranging for accommodations.

Students who request reasonable accommodations must be prepared to provide documentation of the disability by a qualified professional, where appropriate, before accommodations will be implemented. Except under extraordinary circumstances, the documentation must be current, i.e., dated no more than three years prior to enrollment in the University.

Documentation must provide sufficient information to assist the institution in determining what difficulties the student would encounter in a normal learning environment. Although formats will vary, the following critical data should be included in any documentation in support of a request for accommodations:

1. The student's name, the dates of examination or testing, the examiner's name and credentials;
2. Reasons for referral;
3. The learning disability, a list of the tests administered, including the names of the tests as well as the version used;
4. An analysis or interpretation of test results;
5. Diagnostic summary with a brief composite of the entire assessment process (the summary should address the concerns raised in the "reasons for referral"); and
6. Recommendations of strategies to assist the student in becoming an efficient learner.

A student with a documented disability who has registered for class or has been accepted into the University can request support services and the use of assistive technology for classroom and extracurricular activities. The student must notify Disability Services of the accommodations required within a reasonable time prior to the date of anticipated need. Reasonable accommodations by the University are possible only after contact with Disability Services has been initiated. Students needing sign language interpreters or special equipment should provide 45 days notice to Disability Services.

A request for accommodation shall be assessed by the Office of Disability Services after carefully reviewing the diagnostic evaluation and the student's previous scholastic performance. Each will be reviewed on its own merit and verified by objective documentation about the effect of the specific documented disability on the ability to learn in the content area in question.

Students are encouraged to self-identify their documented disability to their professors at the beginning of each semester to avoid delays in receiving accommodations. If students are newly documented during the course of a semester, accommodations will be implemented within a reasonable time period, usually two weeks following presentation of the documentation.

In order to receive accommodations, students must supply their instructors with letters from Disability Services which verify their

disability and identify reasonable accommodations. The student and faculty member shall:

1. discuss the implementation of appropriate accommodations;
2. note their respective agreement to these accommodations; and
3. return the signed forms to Disability Services noting their agreement in the space provided.

Students who have a documented disability may elect not to disclose the disability. Should the student seek accommodations late in the semester, or if a student has a disability which is not obvious and chooses not to disclose it, then he/she should be aware that 1) all previous grades will stand as earned, and 2) accommodations will be implemented in a timely manner, usually within two weeks. For students who are newly identified and documented during the course of a semester and thus have not had the advantage of accommodations, considerations will be made on a case-by-case basis in consultation with all parties involved.

The types of accommodations provided to students with documented disabilities will vary depending on the nature of the disability and the course content. Often an initial trial-and-error period may be needed to determine the best way to accommodate a student's disability.

Disability Services will advise the students in writing of the results of the assessment. This notification to the student from the University shall serve as a guide for the provision of services from the University for the semester or situation specified.

If accommodations do not meet the needs of the student or are not implemented, the student should contact Disability Services for further assistance. Disability Services will determine the reasonableness of the accommodation(s) requested. If Disability Services determines that the request is reasonable, it will consult with the appropriate chair and, if necessary, the dean to reach agreement on the accommodations to be provided.

If Disability Services does not agree with the student's request, then the student may follow the procedures outlined in Section VI of this policy.

## V. Support Services

### A. Advising

Students with documented disabilities should make sure that their advisors are aware of the disabilities so that the advisor can guide the student as to course or degree requirements which may affect the student's completion of the course or degree program.

### B. Classroom Accommodations

The University shall provide the following minimal accommodations for students with documented disabilities in the classroom: 1) classroom activities, including testing procedures and other methods of evaluation used for classroom participation, shall be reasonably modified to provide students with documented disabilities with the opportunity to participate; 2) the location of classrooms shall be changed as appropriate to accommodate the student with a disability; 3) a reasonable number of elective courses shall be held in accessible facilities; and 4) the use of special equipment and assistive technology.

### C. Student Services and Activities

Students with documented disabilities at Old Dominion University shall be provided reasonable accommodation for participation in and use of student services and activities including housing, health insurance, counseling, financial aid, physical education, athletics, recreation, transportation, or other extracurricular programs or activities.

Given adequate notification, those students who require assistive technology and assistance for counseling settings will be provided with the aids and assistance necessary to participate.

At athletic and extracurricular activities, such as concerts and stage entertainment, special seating will be provided for students using wheelchairs as audience participants. For Old Dominion University sponsored lectures, cultural activities, convocations and commencements, the participation of students with documented disabilities shall be provided, upon request, through the aid of sign interpreters, assistive technology or other reasonable accommodation. Arrangements shall be made by Disability Services if sufficient notification is given.

### D. Housing

Old Dominion University provides on-campus housing space which has been specifically reserved for occupancy by students with documented disabilities and is moderately barrier free. The University will provide and assign students with disabilities to housing as such space is available in residence halls and apartment settings. Roommates will be assigned to students with disabilities

occupying modified rooms in the same manner as other resident students.

It is the responsibility of the student to identify him/herself as a student with a documented disability seeking University housing in order to be considered for a reserved space. Application for a reserved space for a student with a disability should be made to Disability Services.

The Office of Student Housing will assign that space based on information provided by Disability Services. Priority will be based on the greatest physical need to live in University housing as a means of providing a student with a disability opportunity to successfully fulfill his/her academic program at the University. Final selection for reserved spaces for students with disabilities will be completed at a specified date in mid-summer of each year. Students will be informed of their room assignment by the Office of Student Housing. The remaining spaces reserved for students with disabilities will be turned over to the Office of Student Housing staff for assignment to students on the housing waiting list. Any student with a documented disability has the alternative of applying through the housing application process and is not required to take a reserved space. However, students who have special needs should make sure the regular housing space can accommodate their needs.

Rental rates for students with documented disabilities shall be set at the same rate as for any other student at Old Dominion University. The exception to this is the single room policy that provides for a limited number of single room accommodations available for qualified students with documented disabilities at the rate which would normally be charged for double occupancy. The request for single accommodations must be made to Disability Services and be properly documented. A final determination is made by Disability Services in collaboration with the Office of Student Housing. Returning students may request that they be assigned to the same space as in the previous year. Students should proceed through the regular housing process to request the same space.

## VI. Complaint Resolution Process

If a student with a documented disability believes that he/she has not been provided with the services to which he/she is entitled, the student should direct his/her complaint to the University 504 coordinator who is the director of equal opportunity and affirmative action. The student shall provide to the director of equal opportunity and affirmative action, in writing, documentation of the disability, the nature of the discrimination, and any other information deemed important. The director will then attempt to reach an agreement through an informal mediation process. If an agreement is reached, a copy of the agreement shall be provided to the student and the faculty member. If an agreement cannot be reached, the director will convene an ADA Evaluation Committee for the purpose of evaluating the case and making a recommendation to the provost and vice president for academic affairs. The decision of the provost and vice president for academic affairs is final.

The members of the ADA Evaluation Committee will include the director of equal opportunity and affirmative action (chair), the general counsel, the director of disability services, the appropriate dean and a designated representative from Academic Affairs.

## Electronic Messaging Policy for Official University Communication

Electronic messaging systems and communication services are provided by Old Dominion University for the purpose of enhancing productivity and maintaining effective communication.

Old Dominion University employees, students, employees of affiliated organizations, and guests, volunteers and researchers who are provided email accounts must activate and maintain regular access to University-provided electronic messaging accounts. These accounts must be used to send official information and notices, and users are responsible for accessing email in order to obtain official University communications. Administrative offices and academic departments may provide advance notice when electronic communication is used as the communication method.

Failure to access the email account will not exempt individuals from being aware of and meeting requirements and responsibilities included in electronic communications.

Message content is the sole responsibility of the individual sending the message. Users are strongly encouraged to be aware of generally accepted online etiquette.

Instructors retain the discretion of establishing class expectations for email and other electronic messaging communication as a part of the course requirements.

Alternative messaging services should be arranged in cases where users' access to information technology resources is limited or unavailable.

## Firearms, Weapons, and Certain Related Devices

In the course of pursuing its mission as an institution of higher education of the Commonwealth of Virginia, Old Dominion University seeks to provide a safe and secure environment for its students, faculty, staff, and all others coming upon the campus. This policy regulates use of privately owned firearms, and prohibits firearms, related devices and weapons on campus to the extent permitted by law.

### Application:

This policy applies to the University's students, its employees, volunteers, and invitees. Persons lawfully on campus, other than students, employees, volunteers, and invitees as these terms are defined below, are not subject to this policy other than paragraph 6, which does apply. Additionally, such persons may not carry firearms, related devices, and weapons in campus buildings, to University sports events, entertainments, or educational and cultural functions or events, whether held or conducted indoors or out.

### Definitions:

1. "Campus" means any land in Virginia, with or without buildings or structures, owned or leased by the University, or otherwise under its control.
2. "Employee" means any person providing personal services under the direction and control of the University either full or part-time, whatever the basis for compensation may be.
3. "Firearms" means any pistol, rifle, shotgun, or other device designed or intended to propel a bullet, shot, or any other object of any kind as the result of an explosion of any combustible material whether or not the same is actually capable of being fired or discharged. "Firearms" includes pistols permitted to be carried or worn concealed. "Firearms" does not include firearms issued by the University, federal, state, and local agencies, departments, or the armed services, and carried in the performance of duty, or otherwise in accordance with the instructions of the issuing authority.
4. "Invitee" means any person other than an employee coming on campus for a business purpose, or in connection with the performance of a contract with the University. Solely for the purpose of this policy, the term does not include members of the general public including family of students, and alumni and former students of the University.
5. "Related Devices" means realistic replicas of firearms, including such replicas sold or traded as "toys" (other than transparent, brightly colored water guns), paintball guns, BB or pellet rifles and pistols, sling shots, bows and arrows, and crossbows and bolts.
6. "Students" means any person enrolled in one or more credit or non-credit courses or programs.
7. "Volunteer" means a person meeting the criteria of, and selected and supervised according to University Policy 6023, "Guidelines for the Use of Volunteers."
8. "Weapons," means knives (other than knives used for domestic purposes, pen or folding knives with blades less than three inches in length, and box cutters, and utility knives kept or carried for use in accordance with the purpose intended by the original seller), machetes, straight razors, spring sticks, metal knucks, blackjacks; any flailing instrument consisting of two or more rigid parts connected in such a manner as to allow them to swing freely, which may be known as a nun chahka, nun chuck, nunchaku, shuriken, or fighting chain; any disc, of whatever configuration having at least two points or pointed blades, which is designed to be thrown or propelled and which may be known as a throwing star or oriental dart.

### Policy:

1. Firearms, weapons and related devices may not be carried, maintained or kept anywhere on campus, including in automobiles parked on campus, by employees, students, and volunteers.

2. a. During bow and crossbow hunting seasons, bows and crossbows with arrows and bolts may be stored with the ODU Police Department by students residing on campus, and may be so stored at other times for use in organized competitions. The Department shall accept and store bows and crossbows in accordance with Department procedures. These procedures shall make provision for bow and crossbow storage at all times, and for reasonable access to withdraw them; and,  
b. Any student residing on campus having lawful possession of a firearm may store the firearm and ammunition at the ODU Police Department during any hunting season, and at other times for use in organized competitions and at target ranges licensed to do such business. The Department shall accept and store firearms in accordance with Department procedures; provided that such procedures shall make provision for firearms storage at all times, and for reasonable access to withdraw them.
3. For the purpose of the foregoing subparagraphs, bows, crossbows, and firearms shall be brought from their off-campus location directly to the place of storage designated by the Department.
4. Exceptions to this policy may, for good cause shown, be made at the discretion of the president and University police chief. Any such application shall be in writing, and shall state with particularity the exception sought and the reason for same. Additional information may be required of the applicant, and the application and any additional information may be required to be submitted in the form of an affidavit.
5. When firearms are carried on campus as permitted by this policy, they shall be carried with the muzzle angled up or down so as to avoid pointing the firearm at oneself, or any other person. All firearms, including those permitted to be concealed, having a safety shall have the safety in the "on" position. All semi-automatic firearms shall be carried with an empty breech or firing chamber. All revolvers shall be carried with an empty chamber to the immediate left or right of the barrel, depending on whether the cylinder turns clockwise or counterclockwise, and the chamber under the hammer shall be empty as well, unless the revolver is hammerless. All shotguns and other firearms that break to be loaded shall be carried broken and unloaded.
6. Violations of the foregoing policy shall be reported to the appropriate authority within the University for such disciplinary action as may be appropriate under the circumstances, including suspension, dismissal, and termination. Failure to report a violation of this policy may itself result in disciplinary action.

## Inclement Weather and Emergencies

**Statement:** This policy concerns the operation of Old Dominion University (classes, academic services, and administrative operations) at its main campus in Norfolk, Virginia, the Virginia Beach Higher Education Center, the Peninsula Higher Education Center, and the Tri-Cities Higher Education Center as well as other off-campus locations in the affected geographic areas.

### **Responsibility**

The Provost and Vice President for Academic Affairs (the Provost) is designated as the authority to close the university for reasons of inclement weather or emergencies. The authority will be exercised in consultation with the other vice presidents and the Director of Public Safety. Closing decisions will be communicated directly to the Vice President for Institutional Advancement as this position has primary responsibility for implementing the closing notification process. In the Provost's absence the responsibility for this function shall pass to the administrators in the following order of priority:

1. Vice President for Administration and Finance
2. Vice President for Student Affairs
3. Vice President for Institutional Advancement
4. Dean, College of Arts and Letters
5. Dean, College of Sciences

### **Procedures**

1. In the event of inclement weather or emergencies outside of normal business hours which may affect the operation of the University, the Director of Public Safety will notify the Provost as early as possible of conditions which may require cancellation of classes or closing



of the University. The Provost will inform the Director of Public Safety of his/her decision at that time. He/she will also inform the Vice President for Institutional Advancement.

2. The Office of the Vice President for Institutional Advancement will be responsible for informing students, faculty, and staff of a decision to close the University because of inclement weather/emergencies. Local television stations, radio stations and newspapers will be informed immediately and urged to broadcast the closing.

### **Old Dominion University Child Study and Child Development Centers**

The Old Dominion University Child Study and Child Development Centers follow the University's inclement weather/ emergency closing policy. Parents and faculty will be informed when the University closes due to weather. Announcements of University closings are given on all major TV and radio outlets in the local area. No refunds will be made for days or parts of days missed because of such closings. If, for any reason, one of the children's buildings is without power or flooded, or cannot be used (even though the rest of the University has re-opened), an additional effort will be made to notify all parents of those children affected.

## **Old Dominion University Discrimination Complaint Procedure**

### **I. Purpose and Scope of the Procedure**

#### **A. Purpose**

The purpose of the Discrimination Complaint Procedure ("the Procedure") is to promote equal employment, equal educational, and social opportunities for Old Dominion University employees and students by providing a means for the internal resolution of complaints of discrimination on the basis of gender, race, color, religion, national origin, age, disability, veteran status, sexual orientation or political affiliation.

#### **B. Use of the Procedure**

The Procedure may be used by any full- or part-time employee or student of Old Dominion University, who believes that he or she has a discrimination complaint as defined in the Procedures except as follows:

1. A student disciplinary action which must be appealed as described in the University's Student Disciplinary Policies and Procedures; and
2. The imposition of a faculty sanction, the termination of a faculty member for financial reasons, and a decision concerning the award of tenure to a faculty member, all of which may be reviewed only as described in the specifically applicable faculty personnel policies and procedures contained in the University's Faculty Handbook.

#### **C. Use of Administrative Review Procedures**

An employee or student must complete any existing administrative review procedures for review of an action about which the employee or student wishes to complain prior to filing a complaint under this procedure.

#### **D. Use of Other Discrimination Complaint or Grievance Procedures**

This Procedure is not to be used in addition to other internal discrimination complaint or grievance procedures which may be available to the employee or student who has a discrimination complaint. For example:

- 1) an employee covered under the Virginia Personnel Act who chooses to complain about an action through the grievance procedure described in the Virginia Personnel Act must raise a complaint of discrimination in his or her grievance; 2) a faculty member who chooses to complain about an action through the grievance procedure provided in the Faculty Handbook must raise a complaint of discrimination in his or her grievance; or 3) a student who chooses to complain about an action through any existing student grievance procedure must raise a complaint of discrimination in his or her grievance.

#### **E. Use of External Discrimination Complaint Procedures**

This Procedure affords a means for the internal resolution of discrimination complaints, and is not intended to be used in conjunction with external (i.e. State or Federal) discrimination complaint procedures. Therefore, this Procedure is not available to an employee or student who has filed a complaint with the Commonwealth of Virginia Department of Human Resource Management or with the U.S. Equal Employment Opportunity

Commission. Any complaint pending under this Procedure will be dismissed upon notice to the University that a federal or state complaint has been filed.

### **II. Definitions**

For the purposes of the Procedure, the following terms have the meanings ascribed to them as follows:

- A. **Discrimination Complaint:** A discrimination complaint is a written statement by an individual that he or she has suffered direct injury as a result of an action by a University official or employee which is intended on the basis of gender, race, color, religion, national origin, age, disability, veteran status, sexual orientation, or political affiliation.
- B. **Complainant:** The individual who files a discrimination complaint.
- C. **Respondent:** The University official or employee named in the discrimination complaint as having taken the action, which is the basis for the complaint.
- D. **Director:** The EO/AA director or the director's designated representative.

### **III. Administration of the Procedure**

#### **A. Responsibility for Administration**

The Procedure will be administered by the director and all records resulting from a complainant's use of the Procedure will be maintained by the director. The director establishes and interprets the Procedure, assures compliance with the Procedure as it relates to employees and students, and is responsible for providing information to employees and students concerning the availability and operation of the Procedure.

#### **B. Time Periods**

1. With the exception of the time period described in paragraph V (B), designated vacation days of the University and days between the end of one University semester or summer session and the beginning of the next semester or summer shall not be included in the time periods described herein.
2. If, under the Procedure, a time period begins upon a party's receipt of notice, the time period will commence upon actual receipt of notice by the party or three (3) days after the notice was sent by certified mail to the last address shown on University records for that party.

### **IV. Informal Procedure**

#### **A. Informal Discussion**

The director shall encourage an employee or student who has a complaint of alleged discrimination to discuss the complaint with the individual who took the action, which is the basis for the complaint. The Director may be present during such discussions if either party requests such.

#### **B. Informal Resolution**

Both parties to the complaint shall attempt to effect a resolution of the complaint through informal discussions.

### **V. Formal Procedure**

#### **A. Discrimination Complaint**

An employee or student who has a complaint of illegal discrimination may initiate formally this discrimination complaint procedure by filing a written statement with the EO/AA Office. The written statement must include the following:

1. a description of the action upon which the complaint is based;
2. the date of the action or in the case of an action which was reviewed administratively, the date of the final administrative decision below the level of the president;
3. the name of the respondent, that is, the name of the University employee who took the action or, in the case of an action which was reviewed administratively, the name of the University official who made the final administrative decision, below the level of the president, in the review process;
4. the nature of the alleged discrimination;
5. whether the complainant has informally discussed the matter with the respondent and, if so, the results of those discussions; and
6. whether the complainant has pursued the complaint through administrative review procedures, and, if so, a description of those procedures and the results.

#### **B. Time for Filing a Complaint**

The written statement must be filed within one hundred twenty (120) calendar days of the date upon which either the action described in the complaint occurred or the final decision was made after an administrative review of the action, whichever was later.

**C. Response to the Complaint**

If the director determines that the written statement is complete and is a timely filed discrimination complaint, the director will notify the supervisor of the respondent. The respondent may respond in writing to the discrimination complaint; however, the respondent's written response must be received by the director within ten (10) days of the respondent's receipt of notice of the complaint. In the written response, the respondent may ask for an opportunity to resolve the complaint through discussions. If the respondent should ask for an opportunity to discuss the matter, the director will take no further action on the complaint for a period of ten (10) days from the date of the director's receipt of the written response so as to provide that opportunity.

**D. Procedure for Investigating a Complaint**

1. If the complaint is not resolved informally, the director will provide both parties with a reasonable time to choose whether to have an investigation made by the director or by a panel.
2. If either party should choose to have an investigation made by a panel, the discrimination complaint will be investigated by a panel.
3. If neither of the parties chooses to have the complaint investigated by the panel, the director will investigate the complaint. The director's investigation will commence within five (5) days of the director's receipt of notice of the election made by the parties or within five (5) days of the end of the period for making such an election, whichever is earlier. During the investigation, the director will, at a minimum:
  - a. provide an opportunity to both the complainant and the respondent to meet with the director and discuss the complaint;
  - b. attempt to interview all individuals whom the parties have identified as having pertinent information; and
  - c. review all documents provided by the parties.

The director may interview also other individuals whom, in the director's judgement, have pertinent information and may review also other documents which, in the director's judgement, are relevant to the investigation of the complaint. The director will make a taped recording of all interviews. The director will conduct the investigation expeditiously and, upon conclusion of the investigation, will make a finding and recommendation as described in paragraph 6.

4. If either party chooses to have the investigation made by a panel, the panel will be composed of three members from the University's EO/AA Committee as follows:
  - a. One member of the panel will be selected by the complainant and one member by the respondent. Neither of the individuals so selected may have had prior involvement in the action, which is the basis for the complaint. If either party chooses an individual with such prior involvement, that party will be given an opportunity to select another individual to serve on the panel.
  - b. The third member of the panel and its chair will be the EO/AA director.
  - c. A party whose initial selection is disqualified will be given three (3) days within which to select a replacement and to advise the director accordingly.
  - d. If either party fails to select a panel member within the time period set by the director, the director will choose the panel member for that party.
5. The panel's investigation will commence within ten days of the panel's selection. The investigation will proceed as follows:
  - a. The panel will hear a presentation by the complainant, during which the complainant will present his or her claim, pertinent witnesses and relevant documents.
  - b. The panel will then hear a presentation by the respondent during which the respondent will present his or her response to the complaint, pertinent witnesses and relevant documents.

- c. A party may be present during the other party's presentation but witnesses will be present only while making statements to the panel.
  - d. The panel members may question the parties and witnesses but must do so in a fair and objective manner.
  - e. The panel members may request documents other than those presented by the parties and may interview pertinent witnesses other than those presented by the parties.
  - f. The chair will set the date(s), time(s) and place(s) of the panel's meeting(s) and will conduct the meeting(s). The chair may limit repetitive or irrelevant statements by the parties or by witnesses. The chair shall limit questioning by a panel member if that questioning becomes abusive, unfair, or repetitive. The chair may dismiss from a meeting any person, including a party, who becomes abusive or who obstructs or interferes with the meeting.
  - g. The meeting(s) will be closed. Taped recording(s) of the meeting(s) will be made.
  - h. Upon the conclusion of its investigation, the panel will meet to determine its finding and make its recommendation as described in paragraph 6 below. The panel's finding and recommendations shall be determined by majority vote of the panel members.
6. Findings and recommendations of the director or panel shall be made as follows:
- a. Where the director or panel finds that there is not probable cause to believe that discrimination has occurred, the director or panel shall recommend that the complaint be dismissed.
  - b. Where the director or panel finds that there is probable cause to believe that discrimination has occurred, the director or panel shall recommend a remedy, which the University's president has the authority to provide.

The findings and recommendation of the director or the panel will be forwarded to the University's president. The director, as chair of the panel, will communicate the decision of the panel to the president. Copies of the findings and recommendations will be sent to the complainant and the respondent. The taped record of the investigation and documents received during the investigation will be provided to the president with the director's or panel's decision.

**E. Decision by the President**

1. The president will make a final decision in the matter based upon the president's review of the findings and recommendations of the director or panel. The president will notify the complainant and respondent of the president's decision in writing within twenty-one (21) days of the president's receipt of the findings and recommendations. If the president disagrees with the panel's or director's findings and recommendations, the statement of decision will include a statement of reasons for the decision. If the president decides to provide a remedy to the complainant, the statement will include a description of the remedy to be provided. The president's decision is final.
2. When a remedy is provided by the president, the director will monitor implementation of that remedy.

**VI. Assurance of Confidentiality and Retention of Records**

- A. The complaint and all records developed during the investigations of the complaint shall be considered confidential and shall not be released except as required by law or by the provisions of this Procedure.
- B. The complaint and all records developed during the investigation of the complaint shall be retained for a period of two (2) years after the date of the president's decision. Thereafter the records shall be destroyed unless state or federal action is pending.

**VII. Further Review of the Complaint**

After the president makes a decision, there is no further University review of the complaint. A dissatisfied complainant may file a complaint of discrimination with the Commonwealth of Virginia Department of Human Resource Management, the U.S. Equal Employment Opportunity Commission, or the U.S. Department of Education, Office for Civil Rights.

## Sexual Assault Policy

**Statement:** Sexual assault is defined as rape, forcible sodomy, sexual penetration with an inanimate object, fondling or touching of an unwilling person's intimate parts (genitalia, groin, breast or buttocks, covered or uncovered), or forcing an unwilling person to touch another's intimate parts. Included in the offense of any of these acts are persons known to the victim as well as persons unknown to the victim. The offending act(s) can be committed through the use of force, the threat of force, by intimidation, or not forcibly/against the person's will, such as when the victim is incapable of giving consent due to the substantiated use of alcohol or drugs or for other verified reasons.

A sexual assault of any University student, faculty, or staff member which occurs either on or off campus and is perpetrated by another student, faculty or staff member will be adjudicated by using the disciplinary process appropriate to the alleged assailant. Disciplinary action may be initiated, in addition to, and separate from, any criminal charges which may be pending for the same alleged offense.

It is a violation of University policy for any member of the University community to make an intentionally false accusation of sexual assault.

Incidents of sexual assault can be reported to university authorities by contacting the Dean of Students and Chief Student Affairs Officer, a residence hall staff member, the Women's Center, Counseling Services, Student Health Services, or the Department of Public Safety. Each of these areas has individuals trained to handle reports of sexual assault.

When any staff or faculty member receives a report of sexual assault, the staff member must complete the Sexual Assault Incident Report (SAIR) form (anonymously at the victim's request) and submit it to the Sexual Assault Free Environment (S.A.F.E.) Program Coordinator in the Women's Center within 24 hours.

Counseling, crisis-intervention, and medical assistance will be made available to the victim through RESPONSE (757-622-4300) and through campus services such as the Women's Center, Counseling Services, and Student Health Services. A victim may choose to contact any of the above services for support and information whether or not she/he chooses to report the assault to the Department of Public Safety or the Police.

## Sexual Harassment Policy and Procedures

### I. Policy

#### A. Policy Statement and Responsibilities

1. Sexual harassment in any situation is reprehensible. It is the policy of Old Dominion University to provide students and employees with an environment for learning and working which is free of sexual harassment whether by members of the same sex or the opposite sex, which is prohibited by Title IX of the Education Amendments of 1972 and Title VII of the 1964 Civil Rights Act.
2. It is the responsibility of University administrators and supervisors to assure that effective measures are taken to implement the procedures outlined in this policy.
3. It is a violation of this policy for any member of the University community to seek gain, advancement, or consideration in return for sexual favors, or to make an intentionally false accusation of sexual harassment.
4. The assistant vice president for institutional equity and diversity ("assistant vice president") must be advised of all complaints or reported incidents of sexual harassment. The Office of Institutional Equity and Diversity will monitor repeated complaints or reports within the same unit or against the same individual, where appropriately identified, to assure that such allegations are fairly and properly handled.
5. Any person who has been accused of sexual harassment, pursuant to the terms of this policy, who retaliates against his/her accuser in any manner, shall be charged with a violation of this policy which shall be treated as an independent and separate act of sexual harassment.

6. Any member of the University community who is found in violation of this policy will be subject to appropriate sanctions, which may include discharge, expulsion or debarment.

#### B. Policy Definitions

1. "Work" for the purposes of this policy, means employment-related activities carried out by University employees and University-sponsored activities carried out by volunteers.
2. "Member of the University community," for purposes of this policy, means student or employee, or an alumnus, alumna, or volunteer involved in any University-sponsored activity.

#### C. Definition of Sexual Harassment

Sexual harassment is defined as unwelcomed and unsolicited conduct of a sexual nature, physical or verbal, by a member of the University community of the opposite sex, or the same sex, in an official University position when:

1. Another of the University community member's submission to such conduct is made explicitly or implicitly a term or condition of the employee's work performance or the student's academic performance;
2. Another of the University community member's submission to or rejection of such conduct is used as a basis for an employment decision or an academic evaluation; or
3. Such conduct is known or should have been known to interfere with such person's work or academic performance by creating an intimidating, hostile, or offensive working or educational environment.

A variety of sexual conduct directed at another University community member may be considered sexual harassment, including, but not limited to:

- offensive sexual innuendos, advances, propositions, threats, jokes, suggestive comments;
- graphic or degrading comments of a sexual nature about a person's appearance, whistling in a suggestive manner, obscene gestures;
- uninvented physical contact or touching such as pinching or intentional brushing against the body;
- solicitation of sexual favors through implicit or explicit promises of rewards or threats of punishment.

#### D. Power Differential, Consent and Sexual Harassment

Consenting romantic and sexual relationships between faculty and student, or between supervisor and employee, while not expressly forbidden, are generally deemed very unwise. A faculty member who enters into a sexual relationship with a student (or a supervisor with an employee) where a professional power differential exists, must realize that, if a charge of sexual harassment is subsequently lodged, it will be exceedingly difficult to prove a defense on grounds of mutual consent.

If conduct of a sexual nature has occurred or is occurring in an apparently consensual romantic or sexual relationship, and, if a complaint of sexual harassment regarding such conduct is filed by the student against the faculty member or the teaching/lab assistant, or by the employee against the University official, then sexual harassment shall be rebuttably presumed in such cases, when:

1. The relationship is between a faculty member or teaching/lab assistant and a student and:
  - a. The faculty member or teaching/lab assistant is in a position to determine the student's grade or otherwise affect the student's academic performance or advancement; and
  - b. The relationship began after the faculty member or teaching assistant was in such a position, or
2. The relationship is between an employee and a University official who is in a position to supervise the employee or otherwise influence the conditions of the employee's work and the relationship began after the supervisor was in such a position.

Sexual harassment is presumed under such circumstances because the power differential existing between the faculty member and student or the supervisor and employee may restrict the student or employee's freedom to choose to enter into the relationship. In order to rebut the presumption of sexual harassment, the faculty member, teaching assistant or other University employee or official who is charged with sexual harassment as a result of conduct occurring in a

consensual relationship as described above must be prepared to prove, by a preponderance of the evidence, that the individual claiming sexual harassment entered into the relationship freely and voluntarily.

**II. Committee on Sexual Harassment**

A. The president will appoint a Committee on Sexual Harassment consisting of individuals with professional training and/or experience such as would qualify them to assist victims of sexual harassment and those accused of violating this policy. The chair of the committee shall be the University's assistant vice president for institutional equity and diversity. The other members shall be as follows: two faculty members and staff members at large, a staff member from Counseling Services, a staff member from Student Health Services, and a staff member from the Women's Center. Please contact the Office of Institutional Equity and Diversity for a listing of current members.

**III. Procedures for Enforcement of the Sexual Harassment Policy**

Sexual harassment complaints can be made according to the procedures outlined below.

Members of the Sexual Harassment Committee shall assist members of the University community who are the object of sexual harassment, or who are accused of violating this policy. Committee members may also assist the assistant vice president in the informal mediation process by their direct involvement.

All student complaints of sexual harassment must be filed within two years from the date the alleged harassment occurred. Complaints by other members of the University community must be made within 120 days from the date the alleged harassment occurred.

**A. STEP I**

1. Any individual in the University community who believes she or he has been the victim of sexual harassment, as defined in this policy, should contact the assistant vice president or a member of the University Committee on Sexual Harassment.
2. The complainant may elect an informal process to mediate the complaint. This process provides an opportunity for the complainant and the accused to resolve the problem in an informal manner, without the necessity of disciplinary action or of the more formal procedures for processing a complaint.
3. The complainant may elect to file a formal complaint. The complainant shall explain, in writing, the nature of the harassment and indicate what remedy she or he seeks. The assistant vice president shall forward a copy of the complaint to the accused member of the University community and the appropriate supervisor/administrator, with a copy of this policy, and advise him or her that an investigation of charges will be conducted.
4. The supervisor/administrator, working with the Office of Institutional Equity and Diversity, shall conduct a prompt investigation of the complaint. During the investigation, the individual accused of sexual harassment must be provided with an opportunity to respond, either orally or in writing, to the complaint.
5. In determining whether the alleged conduct constitutes sexual harassment, the supervisor/administrator will look at the record as a whole and at the totality of the circumstances, such as the nature of the sexual conduct and the context in which the conduct occurred.
6. Upon the completion of the investigation of the complaint, the supervisor/administrator shall submit the findings to the assistant vice president. In conjunction with the Office of Institutional Equity and Diversity, the supervisor/administrator shall seek to secure a written agreement that satisfies all parties to the complaint. If such an agreement is reached, a copy of the agreement shall be provided to each of the parties involved and the assistant vice president.
7. A resolution by agreement of the parties may include the imposition of a sanction upon the accused individual which the accused individual agrees to accept as a sanction.
8. If the proposed resolution is not accepted by the accused individual, the supervisor/administrator may impose a sanction.
9. The assistant vice president may modify a sanction or the terms of an agreement. The assistant vice president's approval is required on any final agreement.

10. The accuser's right for redress under this policy shall terminate upon the imposition of a sanction.
11. If an investigation of a complaint exceeds thirty (30) days from the date of receipt by the supervisor/administrator, the assistant vice president shall notify the parties in writing of the progressive status of the investigation and the proposed extension of time needed for completion of the investigation.
12. Other related issues not specifically identified in the complaint may be brought to the attention of the appropriate administrator by the assistant vice president.

**B. STEP II**

1. Upon conclusion of the administrative review, if the complaint is unresolved and the complainant desires to proceed with the charge, the record of the complaint shall be provided to the chair of the appropriate administrative tribunal listed below.
2. Members of the Committee on Sexual Harassment may advise the complainant and the accused by clarifying and explaining procedures, and promoting an equitable resolution for all parties.
3. The imposition of sanctions shall occur in accordance with applicable University disciplinary and sanction procedures.

**C. University Complaint Resolution Procedures**

1. A complaint of sexual harassment may be pursued in accordance with the appropriate University complaint resolution procedure:

Complainant	Procedure	Contact
Student	University's Discrimination Complaint Procedure or Student Conduct Committee	Office of Institutional Equity and Diversity (OIED)  Hearing Officer
Faculty	Faculty Grievance Procedure or University's Discrimination Complaint Procedure	Chair of the Committee  OIED
Classified Employee	University's Discrimination Complaint Procedure or State Employee's Discrimination Complaint Procedure or State Grievance Procedure	OIED  Human Resources
Wage Employee	University's Discrimination Complaint Procedure or State Employee's Discrimination Complaint Procedure	OIED Human Resources
Administrator, Alumnus or Volunteer	University's Discrimination Complaint Procedure	OIED

2. The complainant shall not be entitled to more than one of the procedures for complaint resolution outlined in III.C.1.
3. The sanctions that may be imposed by the appropriate tribunal shall include but not be limited to:
  - a. For faculty, administrators, and staff — censure/reprimand, demotion, suspension without pay, or discharge.
  - b. For students — probation, suspension or expulsion.
  - c. For other members of the University community— reprimand, temporary or permanent debarment from University functions, activities and memberships.

## Smoking Policy

**Statement:** The intent of this policy is to create as nearly a smoke-free public environment as is possible. To this end, the following general policies are established:

1. Smoking is prohibited in all University facilities.
2. Smoking is prohibited within 20 feet of the entrance to any University facility.
3. Preferential consideration will be given to nonsmokers whenever it is determined they are being exposed involuntarily to smoke, whether directly or indirectly.

To enhance the implementation of these general policies, the following guidelines are established:

- A. Smoking is prohibited in all indoor and enclosed courtyard locations.
- B. Smoking is prohibited in all outdoor athletic facilities that are defined by a fence or wall and within 20 feet of fence or wall entrances.
- C. Smoking is prohibited in all University provided vehicles.
- D. Smoking is prohibited in any area in which a fire or safety hazard exists.
- E. All smoking materials (cigarette butts, matches, etc.) must be disposed of properly in a designated ash urn and not in a waste receptacle or thrown on the ground.

Implementation of this policy is the responsibility of administrative officers or their designees who have jurisdiction over the relevant facilities or areas. Implementation will include the following:

- A. Informing all people within the jurisdiction of the policy on smoking and non-smoking;
- B. Where appropriate, approving and designating smoking and non-smoking areas within their jurisdiction; and
- C. Assuring that smoking and non-smoking areas are appropriately marked.

Enforcement of the smoking policy depends on respect for the rights of and cooperation among all members of the University community. Complaints based on this policy and disputes arising from its implementation should be referred to the immediate supervisor of the relevant unit for resolution. Failing resolution at that level, the supervisor should refer the matter to the appropriate department or unit head, with final appeal to the vice president for administration and finance.

This policy does not supersede more restrictive policies which may be derived from and in compliance with federal, state or local laws, ordinances, and regulations.

## Stalking Policy

**Statement:** Stalking is defined as an intentional course of conduct directed at another person or series of people which would cause a reasonable person to feel frightened, intimidated, threatened, or harassed. Stalking may occur when the person engaging in the course of conduct knows or should know that:

1. the conduct is unwanted; or
2. the conduct causes the other person(s) a reasonable expectation of imminent physical harm; or
3. the conduct causes substantial impairment of the other person's ability to perform the activities of daily life.

Examples of stalking behaviors include, but are not limited to:

- Repeatedly contacting or following another person or series of people
- Remaining in a person's physical or visual proximity
- Surveillance or other types of observation
- Harassment, either by the individual or through a third party
- Conveying verbal or written threats or threats implied by conduct (or a combination thereof)
- Use of electronic devices or software to track or obtain private information.

Students or employees charged with a violation of the stalking policy can be disciplined under the appropriate standards of conduct.

Counseling, crisis-intervention, and medical assistance will be made available to the victim through RESPONSE (757-622-4300) and through campus services such as the Women's Center, Counseling Services and Student Health Services. A victim may choose to contact any of the above services for support and information whether or not she/he chooses to report the stalking to the Department of Public Safety or Police.

## Student Complaint Procedure

Although the University and its Colleges have a variety of procedures for dealing with student-initiated complaints, including grade appeals, general harassment, sexual harassment complaints, disability accommodations, and discrimination, those procedures generally have not covered student complaints about faculty conduct in the classroom or other formal academic settings.

The University recognizes that the instructor has the authority to maintain appropriate classroom behavior and respects the academic freedom of the faculty (see Board of Visitors Policy 1403: Academic Freedom). The University will not normally interfere with content or style of teaching activities. The University recognizes the responsibility to establish procedures for addressing student complaints about faculty conduct that is not protected by academic freedom and not addressed in other procedures (See Board of Visitors Policy 1502: Student Rights and Freedoms).

### I. General Provisions

#### A. Determination of Appropriate Procedure

The student is responsible for filing the complaint under the proper procedure. Complaints should only be filed using this procedure if there is no other provision available. Failure to follow the appropriate procedures may result in the complaint not being heard.

#### B. Student Complaints and Concurrent Procedures

The act of filing a complaint under this procedure will not normally delay any pending process or procedure involving the student and/or faculty member. Normally, any concurrent process or procedure will move forward independently of the student complaint, though it may be delayed for good cause as determined by the appropriate University official(s).

#### C. Retaliation

No student who files a complaint under this procedure shall be subject to any form of retaliation by any person, department, program or college.

### II. Procedures

#### A. Step 1 - Informal Resolution

Students must first attempt to resolve complaints informally. Given the nature of complaints covered by this procedure, it is expected that in all but the most unusual circumstances, students will first raise the issue with the faculty member. In the event this is not feasible, the student will contact the Department Chair to file a formal complaint. In instances where there is no Department Chair, the student should contact the Program Director.

#### B. Step 2 - Formal Complaint

If the issue is not resolved informally, the student may contact the Department Chair or Program Director if there is no Chair. In instances where the Chair is the subject of the complaint, the student should contact the Dean of the College to which the chair is assigned. The student must contact the Chair (or Program Director if there is no Chair or Dean if the Chair is the subject of the complaint) within 30 business days of the action from which the complaint arises or the complaint will be barred. The Chair or Dean has the discretion to accept a complaint filed after this deadline for good cause.

The complaint must be in writing and contain:

- a. The student's name and University Identification Number
- b. The faculty member's name and the course subject area prefix and number
- c. A detailed description of the nature of the complaint
- d. A detailed description of attempts at informal resolution with the faculty member and Chair
- e. A detailed description of the relief sought

#### C. Step 3 - Investigation

The Chair may designate a faculty member to investigate the complaint. If the Chair is the subject of the complaint, the student shall contact the academic Dean who will designate a faculty member to investigate the complaint. The person investigating the complaint will meet, either independently or collectively, with the student and the person who is the subject of the complaint within 10 business days from the filing of the

complaint. The decision should be issued in writing to the student and the faculty member within 20 business days of the date the complaint is filed.

The complaint process is not intended to be an adversarial hearing and both the interviews of the student and the faculty member will usually be conducted without the other present.

#### **D. Step 4 - Appeal Procedure**

If the student is not satisfied with the resolution in Step 3, the student may file a formal appeal with the appropriate academic Dean. The appeal must be filed within five business days after the decision in Step 3 has been sent. The Dean has the discretion to accept a complaint filed after this deadline for good cause.

The appeal must be in writing and contain:

- a. The student's name and University Identification Number
  - b. The faculty member's name and the course subject area prefix and number
  - c. A detailed description of the nature of the complaint
  - d. A detailed description of attempts at resolution with the faculty member and Chair or Program Director
  - e. A detailed description of the relief sought
  - f. A copy of the Chair's (or Program Director's) finding and supporting documents. (No new information is permitted.)
1. The Dean shall provide the faculty member and Chair or Program Director a copy of the appeal.
  2. The Dean may consider the appeal or appoint a faculty member to consider the appeal. The person appointed shall not have been involved as a decision maker in Steps 1-3 above.
  3. The person considering the appeal shall review the materials and issue the finding within 30 business days from the date the appeal is filed. The review of materials will generally occur outside the presence of the complainant and respondent, and it will be limited to a review of the record. The person considering the appeal may interview any person, such as the original decision-maker, as needed.
  4. The person making the decision shall first determine whether the conduct in question is protected by academic freedom and whether the student's complaint is best addressed by this process.
  5. At the end of the review, a written decision will be issued. A copy of the decision will be sent to the complaining student, the faculty member, and the Chair or Program Director.
  6. The decision by the designee of the Dean is final.

appropriate. In the event there is no vice president, the president shall designate the official to oversee this responsibility.

- B. Code of Student Conduct: The statement of rules and regulations governing student conduct as established by the Board of Visitors and contained in Section V herein.
- C. Chair: The head of the Student Conduct Committee and presiding officer at Student Conduct Committee hearings; a vice chair shall assume the duties of chair, when the chair is unavailable.
- D. Student: A person who (1) has been admitted to or has enrolled or intends to enroll at the University, and (2) has not completed a program of study for which he/she was enrolled. Student status continues whether or not the University's academic programs are in session. For the purposes of pursuing alleged violations of the Code of Student Conduct, each student shall be responsible for his/her conduct from the time of application for admission through the actual awarding of a degree, even though conduct may occur before classes begin or after classes end (even if the student's conduct is not discovered until after a degree is awarded).
- E. The Student Conduct Committee: A faculty/student body authorized to hear and adjudicate alleged violations of the Code of Student Conduct.
- F. Administrative Action: The issuance of an oral or written warning, admonition, reprimand, and/or use of counseling procedures.
- G. University Hearing Officer: The University official or officials assigned by the vice president to conduct disciplinary proceedings and administrative action.
- H. Disciplinary Proceedings: Those proceedings initiated by a notice of charges and governed by the provisions of Section VIII. The term Disciplinary Proceedings does not include Administrative Action.
- I. Honor Council: A student organization which educates members of the academic community about the University's standards of academic integrity. The Council also monitors student adherence to these standards, and provides panel members to serve on the Student Conduct Committee.

#### **IV. Honor Code**

"We, the students of Old Dominion University, aspire to be honest and forthright in our academic endeavors. Therefore, we will practice honesty and integrity and be guided by the tenets of the Monarch Creed. We will meet the challenge to be beyond reproach in our actions and our words. We will conduct ourselves in a manner that commands the dignity and respect that we also give to others."

#### **V. Code of Student Conduct**

University students shall conduct themselves in a manner compatible with the University's educational mission and shall be disciplined only for misconduct adversely affecting that mission, regardless of whether the alleged misconduct occurs on or off campus. The University will pursue off-campus misconduct only when the student's behavior compromises the health, safety or well being of the University community or when the misconduct reflects upon a student's fitness to remain enrolled at the institution. Specifically, students are subject to disciplinary action for the following:

- A. Academic dishonesty, including but not limited to, a violation of one or more of the following standards of academic honesty in any academic activity:
  1. Cheating: Intentionally or knowingly using unauthorized materials, study aids or other information. Examples of cheating include, but are not limited to, the following: using unapproved resources, information or assistance to complete an assignment, paper, project, quiz or exam; intentionally or knowingly collaborating on any academic work in violation of oral and/or written instructions provided by a faculty member; or submitting a paper for which the content and organization is substantially the same as a paper previously submitted for another course, without first obtaining permission from the instructor of each course.
  2. Plagiarism: Intentionally or knowingly representing the words or ideas of another as one's own without properly acknowledging their source. Examples of plagiarism include, but are not limited to, the following: submitting a research paper obtained from a commercial research service, the Internet, or from another student as if it were original work; making simple changes to borrowed materials while leaving the organization, content, or phraseology intact; or copying material from a source,

## **Student Disciplinary Policies and Procedures**

### **I. Preamble**

Students are expected and required to assume the responsibility for their own behavior and to abide by the laws of the Commonwealth of Virginia and the rules and regulations of Old Dominion University. A student who violates the following general standards of conduct may be subject to administrative actions (as defined in Section III-F), or to one or more disciplinary sanctions (as defined in section VII), whether or not civil authorities choose to prosecute.

### **II. Authority**

Old Dominion University is governed by its Board of Visitors and supported by the Commonwealth of Virginia. The Board is specifically authorized to regulate student conduct by state statute.

### **III. Definitions**

As used in this document, the following terms shall have the meanings ascribed to them as follows:

- A. Vice president for student affairs (hereafter referred to as "vice president): The University official who has primary responsibility for the administration of all student discipline. He/she exercises final decision-making authority for cases which have been heard by the Student Conduct Committee. This official may delegate all or part of this responsibility to such other persons as he/she deems

supplying proper documentation, but leaving out quotation marks. Plagiarism also occurs in a group project if one or more of the members of the group does none of the group's work and participates in none of the group's activities, but attempts to take credit for the work of the group.

3. Fabrication: Intentionally or knowingly inventing, altering or falsifying any data, citation or information. Examples of fabrication include, but are not limited to, the following: citation of a primary source which the student actually obtained from a secondary source; or invention or alteration of experimental data without appropriate documentation (such as statistical outliers).
4. Facilitation: Intentionally or knowingly helping another student violate, or attempt to violate, any standard of academic honesty, or failure to report known violations of academic dishonesty.

Students engaging in the behaviors listed in Section V.A.1-4 above shall be presumed as having done so intentionally or knowingly.

- B. Forgery, alteration, or misuse of University or other official documents, records, or identification;
- C. Knowingly furnishing false information to the University;
- D. Obstruction or disruption of University operations;
- E. Obstruction or disruption of University-authorized activities;
- F. Physical or violent verbal abuse of any person;
- G. Conduct that threatens or endangers the health or safety of any person;
- H. Theft of or damage to University property;
- I. Theft of private property, or causing intentional or reckless damage to private property;
- J. Unauthorized entry of University facilities or property;
- K. Unauthorized access, use or misuse of University property including, but not limited to: attempting to leave the library with library materials which have not been properly borrowed; unauthorized use or misuse of computer equipment, computer accounts, computer software and hardware; or misuse of University telephones;
- L. Violation of University regulations or campus policies approved by either the Board of Visitors or the president and described in official University publications, (e.g., Old Dominion University Catalog, Student Handbook, TELETECHNET Student Handbook);
- M. Use or possession of alcohol, marijuana, narcotics, controlled substances, or drug paraphernalia (except as expressly permitted by law or University regulations);
- N. The sale or distribution of marijuana, narcotics, or dangerous drugs;
- O. Violation of University residence hall policies (consult the Residence Hall Handbook);
- P. Lewd, indecent, or obscene displays of conduct;
- Q. Drunken or disorderly behavior;
- R. Intimidating behavior directed toward any student, faculty member, staff member, or administrator;
- S. Failure to comply with the directions of University officials, their authorized agents, and local police agencies acting in the performance of their duties;
- T. Violation of the University's firearms policy;
- U. Circulating a report or warning that property under University control or supervision may be subject to a bombing, fire, crime, emergency, or other catastrophe, knowing that the report or warning is false;
- V. Tampering with safety equipment or the inappropriate use or possession of safety equipment on property owned or controlled by the University;
- W. Giving false testimony or evidence at any official University hearing or to any University official;
- X. Conduct deemed unlawful by any local, state or federal civil or criminal law. Violations of law may be regarded as a violation of this Code regardless of whether the offense is prosecuted in a court of law;
- Y. Violations of the conditions of a sanction imposed through University disciplinary procedures;
- Z. Violation of the University's sexual assault policy;
- AA. The unreasonable use of complimentary materials and/or supplies provided for the benefit or consumption of the University community;
- AB. Retaliation;

- AC. Providing assistance to any person who violates, or attempts to violate, any portion of the Code of Student Conduct;
- AD. Impersonation of a University official.

## VI. Violations of Residence Hall Rules and Regulations

It is recognized that living in groups requires a certain amount of tolerance and conformity by all concerned. Rules controlling conduct within housing owned or controlled by the University are promulgated by the Office of Student Housing to enhance the freedom and comfort of everyone living in the residence halls. These rules, along with procedures for their enforcement and applicable sanctions, are published in the Residence Hall Handbook available from the Office of Student Housing.

The Old Dominion University Code of Student Conduct and disciplinary procedures apply to all students, including those who live in the residence halls. Alleged violations of the Code by residence hall students will be forwarded to the vice president for student affairs or his/her designee.

## VII. Sanctions

A student who violates the Code of Student Conduct may be subject to the following sanctions. Students found responsible for an Academic Dishonesty violation, which results in suspension or dismissal, will have a suspension or dismissal notation published on the student's academic transcript. Suspension and dismissal notations shall not be subject to removal. Additionally, an "Academic Dishonesty" notation may be applied to the student's transcript as described in Section VIII.B. The "Academic Dishonesty" notation shall remain affixed to the transcript until the student successfully petitions its removal pursuant to the procedures outlined in Section VIII.B. All sanctions will be recorded in the student's conduct file, which will be maintained by the Office of Student Conduct and Academic Integrity.

### A. Restitution

Restitution may include payment for damage to University property or facilities, payment for damage to the property or person of a member of the University community, and repayment of misappropriated or misused University funds.

### B. Disciplinary Probation

Disciplinary probation is a period of fixed duration in which the fitness of a student to continue at the University is evaluated. Disciplinary probation serves as a warning to the student that future violations of the Code of Student Conduct may result in more serious sanctions including suspension or dismissal. Subsequent violations which occur during the student's probationary period will normally result in a review for suspension from the University. Disciplinary probation may include mandatory conditions such as the following by way of illustration and not limitation:

- Exclusion from privileged or extracurricular activities at the University;
- Suspension of residence privileges in property owned or controlled by the University;
- Educational sanctions, such as papers, projects, meetings or other appropriate educational activities;
- Mandatory participation in classes, and/or other lawful activities deemed appropriate, as a means of rehabilitating the student found in violation of the Code of Student Conduct.
- A fine of an amount specified by the hearing officer or Student Conduct Committee and approved by the vice president.

In cases where misconduct is the result of abuse of alcohol or other drugs, mandatory alcohol or drug education may be a required condition of the probation.

### C. Disciplinary Suspension

Disciplinary suspension is the temporary separation of a student from the University. In cases of disciplinary suspension, tuition refunds will be evaluated in accordance with the Tuition Refund Policy as outlined in the Old Dominion University Catalog.

### D. Disciplinary Dismissal

Disciplinary dismissal is the permanent separation of a student from the University. In cases of disciplinary dismissal, tuition refunds will be evaluated in accordance with the Tuition Refund Policy as outlined in the Old Dominion University Catalog.

### E. Revocation of Admission and/or Degree

Admission to or a degree awarded from the University may be revoked for fraud, misrepresentation, or other violations of institutional standards in obtaining the degree, or for other serious violations committed by a student prior to graduation.

### F. Summary Disciplinary Dismissal

Summary disciplinary dismissal is the immediate separation of a student from the University and is authorized by the vice president

or a designated representative when the continued presence of the student at the University constitutes a danger to the health, safety, or welfare of the University community. At the time a student is summarily dismissed, the student shall be informed of his or her right to a hearing in accordance with the procedures contained in the Student Disciplinary Policies and Procedures. Such hearing shall be held without undue delay and the student shall remain dismissed until the hearing determines the student's status.

### VIII. Disciplinary Procedures

#### A. Administrative Action Proceedings

Administrative action proceedings are informal investigations conducted by a University hearing officer for alleged violations of University regulations by a student or a student organization. The hearing officer may take administrative action without instituting disciplinary proceedings, and such action shall be final and not subject to further hearing or appeal. A disciplinary sanction may not be imposed without first instituting disciplinary proceedings pursuant to the institution of disciplinary procedures.

#### B. Academic Dishonesty Procedures

1. Faculty members should clearly identify course specific standards which interpret University, college, and departmental policies related to academic integrity. These explanations should appear in the course syllabus and in all other explanations of course requirements. Faculty should require the inclusion of the honor pledge on all academic work submitted for grading.

2. Faculty members who discover evidence of academic dishonesty may arrange to meet with the student(s) suspected of the alleged infraction or forward the case to the vice president. Violations that are purely technical in nature, without any perceived intent to achieve academic advantage, may be reported at the discretion of the faculty member. However, if the instructor wishes to impose a grade sanction for the violation, the Academic Dishonesty Procedures outlined in sections VIII.B.3–B.7 must be followed. At any time faculty members may choose to consult with the vice president or the Office of Student Conduct and Academic Integrity.

3. If the student(s) acknowledge(s) the act of academic dishonesty, and the faculty member is satisfied that the incident can be effectively resolved with a grade sanction:

- a. The faculty member will assign either an F in the course, or an F for the assignment or exam during which the cheating occurred.
- b. The faculty member will forward a written summary of the incident to the Office of Student Conduct and Academic Integrity.
- c. The hearing officer will contact the student to arrange a conference to review the Standards of Conduct related to academic dishonesty.
- d. If the student is currently not on disciplinary probation, the student will be placed on disciplinary probation for one calendar year.
- e. If the student is currently on disciplinary probation, or if the student has previously acknowledged an act of academic dishonesty and received a grade sanction as a result, disciplinary proceedings will be instituted to determine the appropriate disciplinary sanction. Such sanction may include suspension or dismissal from the University.

f. All official disciplinary sanctions, including grade sanctions, which are assigned to a student as a result of an act of academic dishonesty, will be recorded on the student's official University transcript.

1. In the case of disciplinary sanction of probation assigned for Academic Dishonesty, a student will be given the option to petition the vice president for student affairs to have the "Academic Dishonesty" notation removed from his/her transcript if:

- a. A minimum of one year has elapsed since the sanction was imposed; and
- b. the student has successfully completed the University's "Academic Integrity Matters" Seminar; and

c. the student has not been found in violation of other Honor Code infractions during the student's tenure at the University; and

d. there is evidence that the academic dishonesty was not a premeditated act.

2. Students may not utilize the grade forgiveness policy to retake the class in which the academic dishonesty occurred.

3. The vice president for student affairs will notify the petitioner of his/her decision within three weeks of the receipt of the petition.

4. If the student denies the allegation of academic dishonesty, or if the faculty member believes the severity of the incident may warrant a sanction more severe than a grade sanction:

a. The faculty member will forward a written summary of the incident to the University hearing officer. The summary must contain copies of all evidence including the names of any known witnesses to the alleged act of academic dishonesty.

b. The University hearing officer will institute formal Disciplinary Proceedings. The faculty member should be given the opportunity to provide information at a hearing.

c. If the University hearing officer determines the student engaged in conduct prohibited by a standard of academic dishonesty described in this Code, but there is insufficient information to support the student violated the standard *knowingly* or *intentionally*, then the hearing officer may find the student responsible for the lesser violation of "academic negligence" in lieu of the previously alleged standard of academic dishonesty.

1. Students may be found in violation of academic negligence only when the student has previously received prior notice regarding charges of plagiarism, cheating, collusion, or fabrication. Accordingly, a determination that a student has engaged in academic negligence may only occur after the hearing officer has instituted formal Disciplinary Proceedings.

2. A determination that a student engaged in academic negligence will normally result in the imposition of a grade sanction and completion of one or more educational sanctions to improve the student's knowledge about appropriate academic conduct.

3. A hearing officer may consider a student's prior violation of academic negligence when determining whether a student knowingly or intentionally violated a subsequent standard of academic dishonesty. In such cases, the hearing officer shall consider past misconduct when making a factual determination regarding whether a student knowingly or intentionally committed the violation, as past academic negligence leads to the rebuttable presumption that the student knew or reasonably should have known that the conduct in question was a violation of this Code.

d. No grade sanction should be assigned by the instructor until the case is finally resolved, including the process of hearing the student's appeal, if any. If the charges cannot be resolved prior to the end of semester, a grade of "I" should be assigned by the instructor. If a student withdraws from a course in which the alleged dishonesty occurs prior to the final resolution of the allegations, and the student is found responsible for the violation and a grade sanction is assigned, the grade sanction will appear on the student's transcript even when the student has previously withdrawn without a record of the student's registration appearing on the transcript.

e. The faculty member will be notified of the final outcome in order that the appropriate grade may be assigned.

f. If a student accused of academic dishonesty is found to be not in violation, the student will have the option to



withdraw from the course without notation on the student's academic transcript, even if the deadline to withdraw without a grade of "W" has passed.

5. Students found responsible for knowing or intentional violations of academic dishonesty will normally receive an "Academic Dishonesty" notation on the student's official University transcript.
  - a. A student may petition the vice president to have the "Academic Dishonesty" notation removed from his/her transcript if:
    1. A minimum of one year has elapsed since the sanction was imposed; and
    2. the student has successfully completed the University's "Academic Integrity Matters" seminar or alternate educational activity approved by the vice president; and
    3. the student has not been found in violation of other Academic Dishonesty violations during the student's tenure at the University.
  - b. The vice president will notify the petitioner of his/her decision within three weeks of the receipt of the petition.
  - c. The Academic Dishonesty notation will not normally be removed from the student's transcript when the act of dishonesty involved significant deception or premeditation. A student may only petition to have one "Academic Dishonesty" notation removed from his/her transcript. Any subsequent violations that result in a transcript notation will not be eligible for removal and shall be permanently affixed on the student's transcript.
6. Students may not utilize the grade forgiveness policy to retake the class in which the academic dishonesty occurred. Nothing about this provision is intended to prevent a student from retaking a course required for advancement within the student's intended course of study.
7. Students may file a grade appeal if a grade sanction for alleged academic dishonesty violation occurs without proper adherence to the above procedures.

#### C. **Institution of Disciplinary Proceedings**

Disciplinary charges brought against a student or a recognized student organization shall be adjudicated in the following manner:

1. Upon written notice of an alleged violation of the Code of Student Conduct disciplinary proceedings shall be instituted by the vice president or University hearing officer by the issuance of notice of charges. The written notice of complaint may be initiated by faculty, staff, students or through a campus police summons.
2. The respondent will be informed of the alleged violation(s) in writing. The vice president will normally forward relevant evidence to a pre-hearing officer who will promptly schedule a pre-hearing conference with the respondent. Appropriate arrangements will be made for students at distance sites. The vice president may choose to bypass the pre-hearing and forward a case directly to a University hearing officer for the initial hearing. During the pre-hearing conference, the respondent will have the opportunity to discuss and review all evidence as well as ask questions about the charges and the options available for resolution. During this conference the student will be presented with the following options:
  - a. To plead in violation to the charges, waive all rights to a formal hearing and appeal and accept a sanction imposed by the hearing officer; or
  - b. To request a formal hearing with the right to appeal.
3. Students who fail to attend the pre-hearing conference will be considered in violation of the charges and an appropriate sanction will be imposed. Students who fail to attend a formal hearing will forfeit their right to appeal.

#### D. **Formal Hearing Procedures**

1. A student may request a new hearing officer if the respondent believes the assigned hearing officer cannot be unbiased. A hearing officer shall also remove him/herself from hearing a case if he/she believes him/herself to be biased. If a respondent requests the removal of a hearing officer, such a request must be received in writing within two business days following the date on which the notice of charge is sent. Requests should be submitted in writing to the director of student conduct & academic integrity stating the precise reason(s) why the

student believes the hearing officer assigned cannot be unbiased. The director of student conduct & academic integrity will decide, in his/her sole discretion, if the hearing officer should be reassigned. If the respondent seeks to remove the director of student conduct & academic integrity as the hearing officer, the request will be reviewed by the vice president. The respondent will be notified of the final decision and provided with the name of the new hearing officer, if reassigned. Whenever possible, the original date of the hearing will not change when a new hearing officer is assigned.

#### 2. **Rights of the Respondent:**

- a. To be present at the hearing and hear all testimony presented. If a student, who has been properly notified, fails to appear at the scheduled date, time and place for the hearing, the panel may hear the case and make its findings in the student's absence;
  - b. To examine, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
  - c. To be provided, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
  - d. To question witnesses in accordance with the rules;
  - e. To present evidence in accordance with the rules;
  - f. To remain silent at the hearing.
3. The notice of charges and all other written notices shall be delivered to the respondent's official University e-mail address. Notices of charge for student organizations will be sent via e-mail to the organization's representative (the representative will normally be the organization's president as listed with the Office of Student Activities and Leadership). The notice shall include the portion(s) of the Code of Student Conduct allegedly violated and request the student or organizational representative to appear/participate at a specified time, date and place for a hearing. Other appropriate arrangements will be made for students at distance sites. Failure to read e-mail sent to the student's University e-mail address shall not invalidate the notice. If the notice is for a formal hearing, the student will be informed of the name(s) of any witness(es) the hearing officer will call to the respondent's hearing. The respondent shall also be informed of his/her rights to examine and be provided with a copy of all evidence available at the time of the notice.
  4. If the notice of charges requests the appearance/participation of the respondent at a hearing, and if the respondent fails or refuses to appear/participate, the University hearing officer may, after such investigation that is deemed sufficient: dismiss the charges; take administrative action; or impose a disciplinary sanction.
  5. Requests for continuance must be timely and made by the student in writing to the hearing officer, who may reschedule the hearing if the request is timely and for good cause. If the hearing officer takes administrative action, the respondent or organization shall be notified in writing of such action and such action shall not be subject to further hearing or appeal. If the hearing officer imposes a disciplinary sanction, the student or organization representative shall be notified in writing of such action. Appeals to disciplinary sanctions imposed at a hearing held in the absence of the respondent or organizational representative shall follow the procedures outlined in the disciplinary procedures.
  6. When a respondent or organizational representative appears in response to the notice of charges, the hearing officer shall review the facts of the alleged violations, and the names of witnesses then known to the hearing officer. The student or organizational representative shall be advised that no response is required and that any statement made shall become a part of the official evidence of the case. The respondent may advise the hearing officer of any witnesses or evidence supporting the respondent's position. The hearing officer shall also advise the respondent that if any new evidence is discovered during an investigation subsequent to the hearing, it will be shared with the respondent. The respondent will have an opportunity to respond to the evidence. In certain cases an advisor may assist the hearing officer.
  7. After the hearing with the student or organizational representative and such further investigation as the hearing officer deems necessary, the hearing officer shall proceed as

follows: 1) If the hearing officer determines that the alleged violation is not supported by a preponderance of the evidence, the charges shall be dismissed and the respondent so notified. 2) If the hearing officer is satisfied that a preponderance of evidence supports the allegations, but that no disciplinary sanction should be imposed, the hearing officer may levy administrative action and notify the student accordingly. 3) If the hearing officer is satisfied that a preponderance of evidence supports a finding of responsibility and that a disciplinary sanction(s) should be imposed, the hearing officer shall so notify the respondent or organizational representative, describing the sanction(s) which the hearing officer will impose.

8. The respondent may accept the decision and sanction(s) proposed by the hearing officer or, the respondent may request an appeal hearing before the Student Conduct Committee utilizing the procedures outlined in Section E.

Faculty and other staff who have been involved in the hearing will be notified that the hearing has concluded and provided with any recommendation resulting from the hearing that requires their action.

9. Rules of Procedure:

a. In cases involving more than one student, the hearing officer may consolidate the cases for hearing, but shall make separate findings for each respondent.

b. The respondent may have an adviser of the student's choice present during the hearing. All advisers must be University community members, must have no other role in the hearing (such as a witness) and may not be lawyers. A lawyer will only be permitted to serve as an adviser when related criminal charges are filed and pending. In cases where a lawyer serves as a respondent's adviser, the student is responsible for any lawyer's fees incurred.

Generally, the adviser shall be present for consultation purposes only and shall not be permitted to speak on the student's behalf. However, an adviser may be permitted to address the committee at the discretion of the hearing officer. If a respondent elects to be accompanied by a third party adviser, the respondent must provide a signed letter designating that person as their adviser before the University can communicate otherwise privileged information to the adviser.

c. Rules of common courtesy and decency shall be observed.

d. The questioning of any person appearing before the hearing officer by any individual participating in a hearing shall not be in a badgering, unduly repetitious, or irrelevant manner. It shall be at the discretion of the hearing officer to curtail a participant's further opportunity for questioning if such behavior occurs.

e. Any person may be dismissed from the hearing who interferes with or obstructs the hearing or who fails to abide by the rulings of the hearing officer.

f. The hearing officer shall have the right to call additional witnesses, require the presentation of additional evidence, and require additional investigation. A witness is regarded as someone who has personal knowledge of the incident at issue. Witnesses may have no other role in the hearing, such as an adviser, and shall be present only during their testimony and subsequent questioning. Neither the respondent nor the complainant may question witnesses directly. Rather, questions will be submitted to the hearing officer, who will decide which, if any, of the questions to ask witnesses in order to preserve a non-adversarial tone during hearings. Hearsay witnesses may be considered at the discretion of the hearing officer for good cause. Character witnesses generally will not be permitted to provide statements. It will be the respondent's responsibility to forward a list of witnesses and a summary of each witness's expected testimony to the hearing officer no later than two business days prior to the student's scheduled hearing.

g. A taped or stenographic record of a hearing may be maintained at the discretion of the vice president, or

designee. Any taped or stenographic records made will become property of Old Dominion University. Generally, the record of the hearing will be established by the hearing officer's written hearing decision, to be delivered to the respondent after the conclusion of the hearing. The notice, exhibits, decision, and taped or stenographic record (if applicable) shall become the record of the case and shall be filed in the Office of Student Conduct & Academic Integrity.

h. All hearings shall be closed.

i. Formal rules of evidence used in courts of law do not apply in student conduct hearings.

#### E. Appeal Procedures

1. Only students who have attended and participated in their student conduct hearing have the right to appeal the decision of the hearing officer. The appealing student may remain in class pending the outcome of an appeal. However, if the decision of the hearing office is upheld, then sanction(s) will be imposed as of the original date unless the Student Conduct Committee affixes a different sanction date.

2. A respondent or organization appealing the decision of the hearing officer should file a notice of appeal to the Student Conduct Committee via the Office of Student Conduct & Academic Integrity. Such an appeal must be physically received in the Student Conduct & Academic Integrity office within five business days from the date of the letter containing the findings in the case. The appeal request must contain, at a minimum, a statement of grounds for appeal and a summary statement of the facts supporting such grounds. Grounds for appeal include:

a. A claim that a substantial deviation from published procedures unfairly and materially affected the outcome of the case;

b. A claim that the sanction(s) imposed was (were) inappropriate or overly harsh; (sanctions of reprimand and disciplinary probation, except in cases involving restitution, fines or academic dishonesty, are not subject to appeal);

c. A claim that the hearing officer abused his/her discretion;

d. New evidence, not known to the respondent in a previous hearing, which could exonerate the student.

#### F. The Student Conduct Committee

The Student Conduct Committee (hereafter "the Committee") is the appellate body within the University student conduct system. It shall hear all appeals of decisions made by a hearing officer. The Committee shall consist of: faculty members appointed by the vice president from a list of nominees submitted by the Faculty Senate or from a list of faculty who have previously served; students appointed by the vice president from a list of nominees submitted by the Student Government Association or from a list of students who have previously served; and a chair from the faculty appointed by the vice president. Student nominees should consist primarily of members of the Honor Council. The term of office for these positions shall be one year and shall be renewable.

In order to provide for the prompt consideration and disposition of all cases, appeal hearings shall be conducted according to the following procedures:

1. All requests for appeal will be reviewed by the director of student conduct & academic integrity to determine if the respondent has clearly outlined one or more acceptable grounds for appeal. The director will also review requests to ensure that a statement of facts supporting these grounds accompanies the request for an appeal. Students who fail to outline acceptable grounds and a statement of supporting facts will be notified their appeal will not be processed due to failure to provide the required information. Students who identify acceptable grounds and a statement of supporting facts will have their appeal requests forwarded to the vice president. Students who wish to have witnesses provide statements at their appeal should include in their request a list of witnesses and a summary of each witness's expected testimony. Upon receipt of an appeal from the director of student conduct & academic integrity, the vice president shall initiate a Student Conduct Committee appeal hearing by designating two faculty

members and two student members to serve with the chair on a hearing panel. Faculty and student alternates will also be identified to serve in the event of an unanticipated absence of a hearing panel member. A hearing panelist shall remove him/herself from an appeal if the panelist believes he/she cannot be unbiased. The chair will preside, but will not vote, except in the event of a tie.

2. The vice president shall provide written notice to the student who filed the appeal including the date, time, and place of the hearing. This written notice will also contain a statement of the grounds for appeal to be considered by the Committee. This notice shall be delivered by email, or to the student's address currently on record with the University. If the student's address is not current, other reasonable attempts will be made to deliver the notice. Failure of the student to have a current address on record with the University, or failure to read email sent to the student's official University email address shall not invalidate the notice. The notice shall be given at least five working days before the hearing date, unless the vice president, for good cause, shall fix a shorter time. If a student who has been properly notified fails to appear for the hearing at the scheduled date, time, and place, the hearing panel may hear the appeal and make its findings in the student's absence.
3. A continuance of the hearing date may be requested by the respondent. Such requests must be timely and made in writing to the vice president, who shall have the authority to reschedule the hearing if the request is timely and for good cause. Usually, only one such continuance is granted. If a continuance is granted, the vice president shall notify both the student and the hearing panel of the new date for the hearing.
4. The format for the hearing shall be as follows: The chair shall call the hearing to order, call the roll of the panel in attendance, note the presence or absence of the student appealing the decision, read the notice of hearing, establish the presence of any adviser for the student, call to the attention of the student any special or unusual procedures to be used during the hearing, and permit the student to state the grounds for the appeal. Only evidence or witnesses that the chair deems relevant to the stated grounds for appeal will be heard. In certain cases the chair may be assisted by an advisor.

The appeal hearing shall be limited to testimony and evidence related to the grounds for appeal as stated by the respondent.

5. At the conclusion of the appeal hearing, the hearing panel shall recess the hearing and meet in executive session (out of the presence of all parties to the hearing) to determine its findings. The panel shall either recommend upholding the findings of the hearing officer or recommend that the decision of the hearing officer be modified. If the panel recommends that the hearing officer's decision be modified, the panel shall recommend either a different finding and/or sanction to the vice president. There shall be no findings to modify unless a majority of the hearing panelists agree that a preponderance of the evidence supports modifying the decision of the hearing officer. All hearing panel members are expected to cast a vote; however, all votes made by individual panel members shall remain confidential. The chair shall not be entitled to vote, except in the case of a tie.
6. Upon making its decision, the hearing panel shall so advise the vice president in writing within two working days after the date of the appeal hearing. The vice president will review the student's appeal and the recommendations of the Student Conduct Committee.

The vice president shall examine the record of the case and any additional evidence provided. The vice president may interview witnesses to the case, or engage in whatever investigation he/she deems appropriate to fully hear the student's appeal. The vice president shall consider the recommendations of the hearing panel and may accept or reject the recommendations of the panel. Nothing herein prohibits the vice president from consulting with other University officials concerning any appeal.

Within five working days after receiving the recommendation of the hearing panel, the vice president will advise the respondent of his/her decision concerning the final disposition of the case. However, the vice president may

extend this deadline for good cause. The decision of the vice president is final and not subject to further appeal or consideration.

7. Rules of Procedure in Appeal Hearings:
  - a. In cases involving more than one student, the vice president for student affairs may consolidate the cases for hearing, but the committee shall make separate recommendations for each respondent.
  - b. The appealing student may have an adviser of the student's choice present during the hearing. All advisers must be University community members, must have no other role in the hearing (such as a witness) and may not be lawyers. A lawyer will only be permitted to serve as an adviser when related criminal charges are filed and pending. In cases where a lawyer serves as a respondent's adviser, the student is responsible for any lawyer's fees incurred. Generally, the adviser shall be present for consultation purposes only and shall not be permitted to speak on the student's behalf. However, an adviser may be permitted to address the committee at the discretion of the chair. If a respondent elects to be accompanied by a third party adviser, the accused must provide a signed letter designating that person as their adviser before the University can communicate to the adviser otherwise privileged information.
  - c. Rules of common courtesy and decency shall be observed.
  - d. The questioning of any person appearing before the hearing panel by any individual participating in a hearing shall not be in a badgering, unduly repetitious, or irrelevant manner. It shall be at the discretion of the chair to curtail a participant's further opportunity for questioning if such behavior occurs.
  - e. Any person may be dismissed from the hearing who interferes with or obstructs the hearing or who fails to abide by the rulings of the chair.
  - f. The chair shall have the right to call additional witnesses, require the presentation of additional evidence, and require additional investigation. A witness is regarded as someone who has personal knowledge of the incident at issue. Witnesses may have no other role in the hearing, such as an adviser, and shall be present only during their testimony and subsequent questioning. Neither the respondent nor the complainant may question witnesses directly. Rather, questions will be submitted to the chair, who will decide which, if any, of the questions to ask witnesses in order to preserve a non-adversarial tone during appeal hearings. Hearsay witnesses may be considered at the discretion of the chair for good cause. Character witnesses generally will not be permitted to provide statements.
  - g. A taped or stenographic record of a hearing shall be maintained (not including subsequent deliberations occurring in the panel's executive session). Any taped or stenographic records made will become property of Old Dominion University. The notice, exhibits, taped or stenographic record, recommendation of the panel and final disposition of the case by the vice president shall become the record of the case and shall be filed in the Office of Student Conduct & Academic Integrity.
  - h. All hearings shall be closed.
  - i. Formal rules of evidence used in courts of law do not apply in appeal hearings.
8. The respondent is entitled:
  - a. To be present at the hearing and hear all testimony presented. If a student, who has been properly notified, fails to appear at the scheduled date, time, and place for the hearing, the panel may hear the case and make its findings in the student's absence;
  - b. To examine, prior to the hearing, evidence to be presented at the hearing, to the extent that it is available;
  - c. To be provided, prior to the hearing, with the names of witnesses whom the University hearing officer has asked to appear at the hearing;
  - d. To question witnesses in accordance with the rules;
  - e. To present evidence in accordance with the rules;

f. To remain silent during the hearing.

**G. Additional Procedures in Cases of Sexual Assault**

1. The vice president shall schedule special training for the Student Conduct Committee and the hearing officer(s) once each semester covering the University's policies governing sexual assault, and the special needs of the complainant and the respondent in these cases.
2. Upon notification of an alleged violation, the respondent shall not initiate any contact, directly or indirectly, with the complainant. Retaliation against the complainant or against any witness involved in the case by the respondent or others acting on behalf of the respondent shall be considered a violation of the Code of Student Conduct.
3. During a hearing, no evidence may be presented which pertains to the past sexual history of the complainant or of any witness.
4. During a hearing, unrelated past sexual history of the respondent may not be entered as evidence nor discussed in the hearing.
5. The respondent and complainant will be notified in writing of the outcome of Disciplinary Proceedings, any sanctions imposed and of the final action taken by the vice president on any appeal.
6. The complainant shall have the right to have an accompanying adviser throughout a hearing.
7. The complainant shall be informed of all witnesses to be called, to the extent known, during a hearing.
8. A hearing involving charges of sexual assault shall be closed.
9. All proceedings in cases involving sexual assault will be treated confidentially, to the extent provided by law, and the identities of any involved party will not be disclosed to anyone not directly involved with the University's disciplinary process.

**H. Mediation Option**

Students seeking to file charges against another student that have arisen out of personal or group conflict may choose the mediation option instead of formal disciplinary proceedings. All parties to the conflict must agree in writing to have their dispute mediated.

The University hearing officer may assist the student in determining if the concern should be mediated or handled through the student conduct system.

Mediation is confidential and mediation agreements will be binding. Violation of such agreements may be referred to the student conduct process. The University hearing officer using trained mediators will schedule mediation sessions.

**IX. Record Maintenance**

Student conduct files will be maintained and destroyed in accordance with the Commonwealth of Virginia's *Records Retention and Disposition Schedule*. All student conduct files will be retained by the Office of Student Conduct & Academic Integrity for a period of five years with the following exceptions:

- A. In cases of disciplinary suspension and dismissal the disciplinary file will be retained permanently by the Office of Student Conduct & Academic Integrity.
- B. Records of disciplinary probation (excluding academic dishonesty cases) will be retained for one year after the conclusion of the probationary period.

**Interim Suspension**

The chief student affairs officer, or designee, may suspend a student from the University for an interim period pending disciplinary or criminal proceedings, or medical evaluation. The interim suspension shall become immediately effective without prior notice whenever there is evidence that in the opinion of the chief student affairs officer the continued presence of the student at the University poses a substantial and immediate threat to him/herself or to others, or to the stability and continuance of normal University functions.

A student suspended on an interim basis shall be given a prompt opportunity to appear personally before the chief student affairs officer or a designee in order to discuss the following issues only:

- a. the reliability of the information concerning the student's conduct, including the matter of his or her identity;
- b. whether the conduct and surrounding circumstances reasonably indicate that the continued presence of the student on University premises poses a substantial and immediate threat to him/herself or to others or the stability and continuance of normal University functions.

The suspended student shall be able to appeal the decision to the president, or the designee. The decision of the President, or designee, shall be final.

The chief student affairs officer and/or president, or designees, may impose conditions to re-admittance to the University as the conditions warrant.

**Student Record Policy**

**A. PURPOSE**

The University Student Record Policy is formulated to protect the privacy of the student information that is maintained by the University, and yet provide access to student records for those having a legitimate reason to view such records. The regulations and procedures to ensure adequate protection of the student are provided in this policy.

**B. AUTHORITY**

Virginia Code Section 23-9.2:3, as amended, grants authority to the Board of Visitors to establish rules and regulations for the institution. Section 6.01(a)(6) of the Board of Visitors Bylaws grants authority to the President to implement the policies and procedures of the Board relating to University operations.

The University Student Record Policy is intended to conform with all State and Federal statutes dealing with access of information held by an educational institution on present and former students. (FERPA Cite 20 U.S.C. 1232 (g); Government Data Collection and Dissemination Practices Act, Code of Virginia Section 2.2-3800, et seq, as amended.)

**C. DEFINITIONS**

De-identified Data – Data are de-identified if a reasonable determination is made that the student's identity is not personally identifiable, whether through single or multiple releases, taking into account other reasonably available information. Personally identifiable information includes direct identifiers, such as social security number, as well as indirect identifiers, such as the name of the student's parent or family member or other personal information that would allow a reasonable person in the community to identify the student with reasonable certainty.

Student Records refers to those files and their contents that are maintained by official units of the University.

**D. SCOPE**

This policy applies to authorized employees and volunteers accessing, for any reason, the records of all students who attend or have attended Old Dominion University. Employees include all staff, administrators, faculty, full- or part-time, and classified or non-classified persons who are paid by the University.

**E. POLICY STATEMENT**

Generally, students have the right to review any official record that the University maintains on them. Generally, access to records by others, without student permission, is limited to purposes of an educational nature. When access is permitted, documents will be examined only under conditions that will prevent unauthorized removal, alteration or mutilation. Information to which the student does not have access is limited to:

- Financial records of parents or guardians;
- Confidential letters of recommendation received by the University prior to January 1, 1975;
- Specific confidential letters of recommendation received by the University on or after January 1, 1975, for which students have waived their right of access;
- Medical-psychological records used in connection with treatment of the student. Such records, however, can be reviewed by the physician or psychologist of the student's choice; and
- Old Dominion University Police Department and Department of Human Resources records, when utilized for internal purposes by those offices in their official capacities.

The University Registrar is the custodian of the official academic record maintained by the University and is the office designated to release official transcripts on behalf of the University. The Office of the University Registrar is the initial point of contact for questions related to these rules. Subpoenas seeking education records are typically served on the University Registrar by the Old Dominion University Police Department, and the Office of the University Registrar should be informed whenever the University or a University employee is served with a subpoena seeking education records. A copy of each subpoena shall be furnished to the Office of the University Counsel. No documents shall be released or information disclosed until University Counsel determines that the subpoena is valid.

Only the following offices are authorized to release non-directory information upon written authorization of the student, subpoena or court

order: Office of the University Registrar, Career Management Center, University Controller=s Office, Student Financial Aid Office, Office of the Dean of Students and Chief Student Affairs Officer, Academic Enhancement, and academic colleges. The non-directory information that these offices are permitted to release includes, but is not limited to, the following:

- Office of the University Registrar: admission records, cumulative academic records, Veteran=s records, transfer records
- Career Management Center: Information necessary to gain or maintain employment (part time, work/study, coop/internship, full time)
- Student Financial Aid Office: financial aid records (scholarships, grants, etc.)
- Office of the Dean of Students and Chief Student Affairs Officer: disciplinary and student organization records
- Academic Enhancement and Academic Colleges: advising records
- University Controller=s Office: business records (tuition, fees, etc.)

The appropriate official will collect and maintain records not included in the categories listed above and will make them available for inspection and review.

1. Access to Student Records by the Student
  - a. A student has the right to inspect his/her record (as defined earlier in this section) and is entitled to an explanation of any information therein.
  - b. Documents submitted to the University will not be returned to the student. Academic records received from other institutions will not be sent to third parties external to the University or released to the student. The student must request those records from the originating institution.
  - c. Official records and transcripts of the University (signature and/or seal affixed) will be mailed directly to other institutions or agencies at the student's request. Official records given directly to the student will be clearly marked AIssued to Student.@
  - d. Should a student believe his/her record is incorrect, a written request must be submitted to the appropriate University official indicating the incorrect information and the information that should be entered. The official will respond within 14 business days of the student=s request.
2. Access to Student Records by Others
  - a. Old Dominion University hereby designates the following information as public directory information. Such information may be disclosed by the institution at its discretion:
    1. Name;
    2. Address;
    3. Telephone Number;
    4. E-Mail Address;
    5. Date of birth;
    6. Gender;
    7. Photograph;
    8. Major field of study;
    9. Participation in officially recognized activities;
    10. Weight and height of athletic team members;
    11. Dates of attendance;
    12. Degrees, honors, and awards received; and
    13. The most previous educational institution attended.

Except as described in item 7 below, directory information will not be released for commercial purposes by administrative offices of the University.

- b. Currently enrolled students may withhold disclosure of directory information under the Family Educational Rights and Privacy Act of 1974. To withhold disclosure, written notification must be submitted to the Office of the University Registrar to effect disclosure for the same term.
- c. Grades should not be posted in a public place. Students should be referred to

[www.leonline.odu.edu](http://www.leonline.odu.edu) to view their grades.

- d. Confidential information should not be released by telephone or any other method for which authentication of the requestor is not practicable.
  - e. All other student information will be released only upon written request of the student, except those instances cited below.
3. Disclosure to Members of the University Community
    - a. Access to student records for administrative reasons for faculty and administrative staff is permissible provided that such persons are properly identified and can demonstrate a legitimate educational interest in the material.
    - b. Access to de-identified data for the purpose of research by faculty, administrative staff, and graduate students is permissible when authorized by the department head and the administrator of the office concerned. An authorization form that also specifies conditions of confidentiality is provided for this purpose.
    - c. Information requested by student organizations of any kind will be provided only when authorized by the Dean of Students and Chief Student Affairs Officer.
  4. Disclosure to Parents and Organizations Providing Financial Support to the Student
    - a. Records may be released without prior student approval to a parent or guardian on whom the student is financially dependent. Parents or guardians must furnish federal tax records for the prior year that demonstrate tax dependency to the Office of the University Registrar. Students will be informed when the record is released.
    - b. Records may be released to organizations providing financial support to a student upon official request and written waiver from the student.
  5. Disclosure to Other Educational Agencies and Organizations
 

Information may be released to another institution of learning, research organization, or accrediting body for legitimate educational reasons provided that any data shall be protected in a manner that will not permit the personal identification of the student by a third party.
  6. Disclosure in Connection with Audit or Evaluation of Federal or State Supported Education Programs
 

Authorized representatives of the following entities are permitted access to student records when the disclosure is in connection with an audit or evaluation of Federal or State supported education programs, or for the enforcement of or compliance with Federal legal requirements that relate to those programs:

    - Comptroller General of the U.S.
    - Secretary of Education
    - U.S. Attorney General (for law enforcement purposes only)
    - State and local authorities

Information collected for this purpose must be protected in a manner that does not permit personal identification of individuals by anyone except to the officials of the agencies identified above and such records must be destroyed when no longer needed for the purposes identified above.
  7. University-Affiliated Foundations and Organizations
 

Under very specific and clearly defined circumstances, University-affiliated foundations or organizations may have access to student directory information and may release this information to third-party vendors for purposes of communicating with current and former students as well as parents about benefits offered by the vendor. These circumstances may include, but are not limited to, affinity partnerships with the Alumni Association.

This information may be made available to third-party vendors only when a formal request is made to and approved by the University Registrar, and only if the use

and dissemination of such information is consistent with University policies and procedures and State and Federal laws and regulations, including the Federal Educational Rights and Privacy Act (FERPA).

F. PROCEDURES

Administrators, faculty and staff who work with student records and confidential student information should complete training on the Family Educational Rights and Privacy Act of 1974 offered by the Office of the University Registrar and available on-line in several formats. Questions about the policy and implementation should be referred to the University Registrar.

G. RESPONSIBLE OFFICER

University Registrar

## Technical Standards

To successfully complete a program at Old Dominion University, students must meet all academic and technical standards required by the program. Technical standards are all nonacademic criteria or standards for admission to or participation in the program in question. A technical standard is a description of the physical and mental abilities required of students to perform successfully in an academic program. Students are responsible for knowing the technical standards of their intended major program. Technical standards are documents that can and should be used in the advising process, both when students are exploring different majors and when they want specific information on what is required in a particular program.

Copies of all technical standards are located in the following offices: Educational Accessibility, Institutional Equity and Diversity, and University Counsel. In addition, each department chair has a copy. An informational reference and link to the Technical Standards Handbook can be found on the websites for Admissions, Educational Accessibility, and Institutional Equity and Diversity.

For students requiring accommodations, please contact the Office of Educational Accessibility for assistance. For more information on technical standards and accommodations, please access the following Office of Educational Accessibility webpage:  
<http://studentaffairs.odu.edu/educationalaccessibility>.

## Policies on Research

Students who receive compensation through sponsored research, tuition/fee waivers, scholarships, assistantships, or other financial arrangements are covered by Old Dominion University's Policy on Intellectual Property. This policy covers the ownership and use of copyrighted works, inventions, and any other form of intellectual property. In those cases where the University has a vested interest in intellectual property, the policy specifies how any revenues derived will be distributed between the inventor/author and the University. The policy can be found in its entirety at [http://www.odu.edu/ao/bov/manual/pdfs/1424\\_Revised\\_4-8-10.pdf](http://www.odu.edu/ao/bov/manual/pdfs/1424_Revised_4-8-10.pdf).

Students engaged in scientific research or other scholarly activity at Old Dominion University should also be aware of the University's Policy, Procedures and Timeline for Responding to Allegations of Misconduct in Scientific Research and Scholarly Activity. The policy can be found in its entirety in the Board of Visitors manual section on Research Policies at <http://www.odu.edu/ao/bov/manual/>.

## General Harassment Policy

Old Dominion University's General Harassment Policy can be found at [www.odu.edu/ao/polnproc/pdfs/6330.pdf](http://www.odu.edu/ao/polnproc/pdfs/6330.pdf).

# Student Resources and Services

## Division of Student Engagement and Enrollment Services

The Division of Student Engagement and Enrollment Services is a newly formed division and is responsible for the development, implementation, communication, and maintenance of an institutional focus on student success, which includes enrollment management. In partnership with the Provost and other University leaders, this area is responsible for the coordination of student success programs across the University and for student retention. This division provides creative leadership and strategic direction for a diverse array of student engagement services and programs including Student Activities and Leadership, Student Engagement, Housing and Residence Life, Summer Camps and Conferences, Student Conduct and Academic Integrity, Student Ombudsperson Services, Intercultural Relations, International Student Programming, Women's Center, Student Health Center, Recreation and Wellness, Counseling Center, Divisional IT Support, Assessment/Planning and Budget Management, Admissions, Graduate Admissions, International Admissions, Financial Aid, Transfer Evaluation Services, New Student and Parent Programs/Preview, Career Management Center, Center for Major Exploration, and Campus Ministries.

## Cocurricular and Extracurricular Activities

**Office of Student Activities and Leadership.** Involvement in student activities has a great potential for contributing to students' overall development. By discovering and participating in cocurricular and extracurricular activities, students can develop their interpersonal and leadership skills and increase their career-related learning. The goal of the Office of Student Activities and Leadership (OSAL) is to personalize and broaden the educational experience of the University's students. Toward this goal, the office works with students, faculty, and staff to create an atmosphere conducive to social, leadership, and educational cocurricular activities. For more information, visit the website at [www.studentaffairs.odu.edu/osal](http://www.studentaffairs.odu.edu/osal) or call 683-3446.

The office oversees the following:

**Leadership Development Opportunities.** To maximize and realize the potential of individual students and student organizations, the Office of Student Activities and Leadership assists in the planning and implementation of students' participation in leadership conferences, seminars, courses, and retreats throughout the academic year. These programs, available to any special interest group or student organization, focus on the identified purpose or needs of each group. Individual students interested in developing their leadership skills are also urged to participate.

**Center for Service and Civic Engagement.** The Center provides students with the opportunity to enhance their educational experience beyond the boundaries of the classroom by engaging in meaningful service to the campus and local and global communities. Events include Relay for Life, Blue Goes Green Week, Adopt-A-Spot, and Empty Bowls.

**Student Organizations.** There are over 250 student organizations that promote student interest in a broad range of fields. Student-run organizations are available in the following categories: educational, honors, professional/department interest, programming, recreational, religious, and student governing boards. A complete list of organization can be found at [www.studentaffairs.odu.edu/osal](http://www.studentaffairs.odu.edu/osal). To support these organizations, OSAL coordinates the recognition and annual registration process for existing and new organizations, provides officer training, group development, leadership education, budget utilization, and guidance in the organization of major concerts, programs and other activities that the groups sponsor.

**U-Center.** The U-Center, the student organization complex that includes computers, work spaces, storage, conference room and lounge area, is located in 1045 Webb Center.

**Fraternities and Sororities.** OSAL advises 14 international/national fraternities and 10 international/national sororities at Old Dominion University. The purpose of these organizations includes the maintenance of high standards of fraternal life and inter-Greek relations and cooperation with the University in achieving high social standards and sound scholarship. Service to the University and the community, encouragement for leadership and brother/sisterhood are also at the forefront of Greek activity. The groups are coordinated through the National Pan-Hellenic Council (NPHC), Interfraternity

Council (IFC), Panhellenic Council (PHC), and Multicultural Greek Council (MGC), along with Student Activities and Leadership. Top Greek leaders and scholars are eligible for membership in the Order of Omega National Greek Honor Society.

### Fraternities at the University Sororities at the University

Alpha Phi Alpha

Iota Phi Theta

Kappa Delta Rho

Lambda chi Alpha

Lambda Upsilon Lambda

Omega Psi Phi

Phi Beta Sigma

Phi Kappa Tau

Pi Kappa Alpha

Sigma Nu

Sigma Phi Epsilon

Sigma Pi

Tau Kappa Epsilon Theta Chi

Alpha Phi

Alpha Kappa Alpha

Alpha Xi Delta

Delta Sigma theta

Delta Zeta

Pi Beta Phi

Sigma Gamma Rho

Sigma Lambda Upsilon

Zeta Phi Beta

Zeta Tau Alpha

**Student Activities Council.** The Student Activities Council (SAC) is a student-run organization with the goal of providing quality events for Old Dominion University including films, special events, speakers, concerts and Homecoming. Committee members help in planning and organizing these events.

**Mace and Crown Newspaper.** Students at Old Dominion University publish a weekly newspaper, The Mace and Crown. In addition to keeping the campus informed, the University newspaper provides students the opportunity to develop skills in writing, photography, advertising and management.

**Student Government Association.** The Student Government Association (SGA) is involved in many topical issues touching all areas of University life. Participating in SGA is open to all students who may serve as elected senators or as volunteers on committees. Call 683-3438 for more information regarding these positions.

**WODU Radio Station.** The student-operated campus radio station serves two main purposes: providing experience for students interested in broadcasting and entertaining and sharing relevant information with the student population. Students involved with WODU can develop their skills in all areas of broadcasting including management, marketing, engineering and news and sports reporting.

**Event Management.** Through Event Management, OSAL coordinates all space allocations in Webb Center for meetings and events.

**Promoting and Building Spirit and Pride through ODU Traditions.** OSAL sponsors events to help students feel connected and show Monarch pride. These events include Spirit Fridays, Family Weekend and Rivalry Week. OSAL also advises the Monarch Maniacs.

**Directing the organization and implementation of major programs and events.** OSAL helps to plan and implement activities and events to enrich the lives of students. These include Main Street (the campus organizational fair), Homecoming, Student Affairs Leaders Award Ceremony, Week of Welcome, and Programs All Weekend (PAW).

## The National Honor Society of Phi Kappa Phi

The Old Dominion University Chapter of Phi Kappa Phi recognizes and honors superior scholarship in all academic disciplines. The Society hosts an initiation ceremony and provides scholarships for academic excellence. Membership in the Society is by invitation only, which requires both superior scholarship and good character as criteria.

## Campus Information Center

The Campus Information Center (CIC) provides students, faculty/staff, and guests of the University with information about departments, student organizations, activities, classes, policies, and more. In addition, the CIC offers the following products and services: postage stamps, football and basketball tickets for students, student organization event tickets, car assistance program, semester locker rentals, lost and found, free DVD rental service and vending refunds. The Campus Information Center is located in the front lobby of Webb Center and can be reached by calling (757) 683-5914.

## Career Management Center

The national award-winning Career Management Center (CMC) offers a comprehensive array of career programs for students under the auspices of the Career Advantage Program (CAP). CAP is a series of career-related events and

services designed to include a credit-bearing practical work experience related to a student's major. This practical experience may take the form of an internship, cooperative education experience, clinical rotation, student teaching, or a class containing a real-world, hands-on project.

CAP invites students to link with the Career Management Center and the available resources necessary for them to gain their career advantage early in their career planning process. Services are available from the time they first begin their studies at Old Dominion University. Recognizing that all students do not follow the same path, the program is designed to meet the needs of traditional, non-traditional, transfer, commuter, and distance students alike.

The Student Employment Program assists individuals in locating part-time and seasonal work on or off campus, including federal work-study positions for those who qualify. The Job Posting Unit advertises jobs of all types, including permanent full-time positions, electronically through ODU careerlink. This powerful interactive web-based system, available free to students and alumni, is a database of student and employer information, career information, a career event calendar and interview schedules, and the means to electronically apply for positions posted. It is also the primary tool used by the CMC to communicate with students.

Individual career consultations and electronic assessment tools as well as seminars on career exploration are available to assist in major and career path selection. Each college has an experienced professional CMC staff assigned to offer career assistance to students at all levels. CMC maintains full service satellite offices in the Colleges of Arts and Letters, Business and Public Administration, Engineering and Technology, and Sciences, which house the CMC Liaison to that college and are co-located with academic advisors from the college and the Center for Major Exploration advisors, creating a "Triad" of advisors for the students within each college. A hybrid satellite office, providing assistance onsite live during published office hours and real time virtual assistance at other times via electronic communication technology, provides services to students at the Virginia Beach Higher Education Center.

Cooperative education and internship experiences are available at the junior, senior and graduate levels. These programs allow students to gain valuable experience related to their major, while testing out possible career choices. All students are encouraged to participate in one or more practical experiences.

Professional seminars in resume writing, job search strategies, interview skills, salary negotiation and other career-related topics are offered throughout the year and are also available in video streamed and on-line versions. These are complemented by classroom and group presentations and other special career events, including employer information sessions, the employer sponsored seminar series "Career Advice and a Slice," as well as employer and alumni career information panels and etiquette dinners.

General job fairs are held twice a year and are supplemented by specialized fairs for specific populations, including a teacher fair, a graduate recruitment fair, and a summer job fair. Graduating students can also take advantage of the On-campus Recruiting Program, which provides the opportunity to interview, on campus, with employers for entry-level positions.

Students seeking additional career guidance may select mentors through the Alumni Mentor Program, created in partnership with the Alumni Association. Potential mentors in every discipline and from all over the nation and the world are available to students via eRecruiting.

Many of the programs and services available on campus are also offered on-line and via video streaming through the CMC website, ODU careerlink, and the Cyber Career Center. The CMC has developed this exciting opportunity as part of the any-time, any-place virtual career center model for students and alumni who prefer or require assistance from a career professional through electronic means. The Cyber Career Center allows CMC staff to provide quality career assistance from a distance, replicating face-to-face services through interactive media and multiple electronic means of communication. The National Association of Colleges and Employers (NACE) recognized CMC for this initiative with the Chevron Corporation Award as the most innovative career center in the country.

More information is available 24/7/365 Live by calling the Virtual Career Assistants at 800-937-ODU1 or virtually via the internet at [www.odu.edu/cmc](http://www.odu.edu/cmc). During normal working hours please call 757-683-4388 or visit a satellite office in the colleges or the main CMC office in Webb Center North, suite 2202.

## **Guaranteed Practicum and Career Advantage Program**

Old Dominion University is the only four-year, doctoral-granting institution in the United States to guarantee a practical, faculty-directed, for-credit experience related to a student's major. The Guaranteed Practicum was introduced in 1995 and is administered by the Career Management Center (CMC) as part of the Career Advantage Program (CAP) in partnership with the academic colleges.

The practicum, a practical work experience, may take the form of an internship, cooperative education experience, clinical rotation, student teaching, or a class containing a real-world, hands-on project or experience, as appropriate for each college and its majors. Classes meeting the specifications for the guaranteed practicum are clearly noted in the Courses of Instruction section of this catalog as "(Qualifies as a CAP Experience)."

The Guaranteed Practicum is the center piece of the Career Advantage Program. For more information on CAP, see the Career Management Center section of this Catalog.

## **Center for Major Exploration (CME)**

The purpose of CME is to assist students who have not selected a major upon entry to the University or who want to explore a new major or career at some point during their college career after experiencing a prior choice. This assistance is provided through individual advising and major/career counseling. The staff is concerned with aiding students in developing and evaluating their academic and career plans and providing services to enhance students' academic and future career success. CME staff work together with staff in the Career Management Center to offer additional programs and services throughout the year addressing a variety of topics related to academic success, choosing a major and career development. CME advisors also provide information for students regarding academic policies and procedures and other student service and administrative offices of the University. The Center for Major Exploration is located in 1500, first floor North Mall of Webb Center; the phone number is 757-683-3699; <http://uc.odu.edu/cme>.

## **Counseling Services**

The primary purpose of Counseling Services is to assist students with the transitions and changes they encounter during their college years. The staff helps students to better understand themselves and their potentials and to enhance problem-solving skills. The staff also lend support and assistance during times of crisis.

Counseling Services offers personal assessment, short-term individual and small group counseling, crisis intervention, referral for psychiatric services or long-term counseling, and a variety of educational programs that promote personal, academic and career development. Consultation services are also available to student organizations, faculty and staff. For more information, see the website at [www.studentaffairs.odu.edu/counseling](http://www.studentaffairs.odu.edu/counseling), come to 1526, first floor North Mall of Webb Center or phone 683-4401.

## **Educational Accessibility**

The Office of Educational Accessibility is committed to creating access to higher education for students with disabilities. The University meets the requirements of Section 504 of the Rehabilitation Act of 1973 and the Americans With Disabilities Act of 1990 by providing accommodations and services, which are based upon documentation submitted by the student. Reasonable accommodations are made for students with learning, medical, psychological, visual, hearing, mobility, temporary, and other impairments on an individual basis. Accommodations and other supportive services available in the Office of Educational Accessibility make a positive difference in the educational experience of students with disabilities and contribute significantly to their academic success.

In order to obtain assistance, all students must provide appropriate documentation and register with the Office of Educational Accessibility. Guidelines for documentation and procedures for registration may be located at [www.studentaffairs.odu.edu/disabilityservices](http://www.studentaffairs.odu.edu/disabilityservices). More specific information can be obtained by calling (757) 683-4655. Student interactions with the Office of Educational Accessibility remain confidential. New students needing interpreters are expected to contact the Office of Educational Accessibility at least 45 days before registration to make arrangements. Currently enrolled students need to make arrangements for accommodations as soon as they have pre-registered for a semester.

The Office of Educational Accessibility is located at 1525 Webb Center. The Section 504 Coordinator, who is also Assistant Vice President for Institutional Equity and Diversity, is located at 121-A Spong Hall and can be reached at (757) 683-3141.



## Filipino American Center

In line with Old Dominion's vision of a multicultural university, the Filipino American Center responds dynamically and creatively to the academic, educational, cultural, and social concerns of Filipino Americans. It serves as a resource and research center for Philippine history and culture and the Filipino American experience. It is a center for social interaction where Filipino culture and values are promoted, revitalized and celebrated. The center serves as a cultural liaison to the University and the Hampton Roads communities. Its strategic location in the College of Arts and Letters allows for an integrated approach in crafting and encountering new avenues of culture with a distinctive academic orientation.

The Center incorporates into its programs a heightened awareness for the diverse heritage of the Filipino American. The goals of the center are to serve as a resource center for the University, the Filipino American and the Hampton Roads communities and conduct research on Filipino Americans, promote courses in Filipino American Studies and plan summer programs or semester abroad (Philippines), and foster close linkages with Filipino American alumni.

The Filipino American Center is located in Dragas Room 2000. For more information, visit the web page at [www.al.odu.edu/filipino/](http://www.al.odu.edu/filipino/).

## Housing & Residence Life

Living on campus provides opportunities to build friendships and develop a sense of community. Housing & Residence Life staff members strive to create a residential environment that encourages the exploration of new ideas, behaviors, responsibilities, and ways of interacting with other individuals while allowing students to remain fully engaged in their academic pursuits. Students are encouraged to explore independence and autonomy within the context of responsible citizenship and mutual respect.

Variety is the word that best describes ODU's housing options. From Whitehurst Hall with rooms overlooking the Elizabeth River, to apartment-style living in the exciting University Village, to more traditional residence halls and apartment complexes, students can experience university life to its fullest by residing on campus. It opens a world of interaction with other students, faculty and staff through many community development, service, educational, cultural and recreational activities – everything from large-scale events such as the annual Haunted Hall program to an array of smaller programs within each residential area. Leadership opportunities are available within every residential area including Community Councils and the Residence Hall Association. Acting as a form of student government, the Community Council and Residence Hall Association provide feedback on department policies and help shape the experience on campus for other residential services.

As a member of the campus community, students can look forward to a special time of learning and maturing in welcoming and familiar surroundings. By choosing to live on campus, students are making Old Dominion not only their university, but also their home.

In an additional effort to continue to support academic environments outside of the classroom, Housing & Residence Life offers living learning communities. Living learning communities allow students of similar majors to reside in a residential area together, aiding in academic support outside of the classroom. Typically students within these communities make a better connection to faculty and their peers.

For further information about living on campus or employment opportunities, please visit the Housing & Residence Life web site at: [www.odu.edu/housing](http://www.odu.edu/housing). For answers to specific questions, contact: Housing & Residence Life, 4601 Elkhorn Avenue, Suite 1208, Norfolk, Virginia 23529, call (757) 683-4283 or email: [housing@odu.edu](mailto:housing@odu.edu).

**Off-Campus Housing.** Off-Campus Housing Services is the unit within Housing & Residence Life that provides guidance and support to students who desire off-campus housing accommodations. Students are provided resources and materials to help them in their search for affordable, safe, and secure housing. Students are also provided access to the listings directory where local landlords and property managers post vacancies specifically with ODU students in mind.

For further information about living off-campus please visit [www.studentaffairs.odu.edu/offcampushousing](http://www.studentaffairs.odu.edu/offcampushousing). For answers to specific questions or for one-on-one assistance, contact: Off-Campus Housing Services, 4603 Elkhorn Avenue, Suite 1208, Norfolk, Virginia 23529 or email [offcampushousingservices@odu.edu](mailto:offcampushousingservices@odu.edu).

## The Office of Intercultural Relations (OIR)

**The Intercultural Center.** The Intercultural Center, located at 2114 Webb Center, serves as a cultural hub for students and faculty. With its fully mediated and functional design, faculty can conduct classes, visitors can relax in plush seating while reading books from the Center's library or watching programs and DVDs on one of the 46" plasma televisions. Students have access to the computer area, can learn a new language with Rosetta Stone programs, or have a group study session. The Intercultural Center is not only a study or work space, it is also an area where students can relax and connect with friends and the University community.

**The Diversity Institute.** The Diversity Institute (DI) enhances awareness, commitment, knowledge and skills that are needed to develop leaders as change agents in a culturally diverse world. Semester-long sessions include modules and cultural learning labs that train participants on how to operate in a diverse multicultural and global setting. In addition to developing communication skills needed in a pluralistic society and expanding one's world view, DI is an excellent resume-builder. For more information, visit the Diversity Institute site at <http://studentaffairs.odu.edu/oir/DIVEINwebsite/>

**International Student Programming.** As citizens of a new, global community, it is imperative that individuals have the skills to navigate diverse settings and successfully interact with others. Therefore, OIR is committed to the academic, social and cultural support of the international student population, as well as providing opportunities for domestic students to enhance their own cultural competency. OIR strives to sustain a vibrant international student community by providing an array of services, such as arrival assistance, orientation support, on- and off-campus activities, and social networking opportunities. OIR actively encourages international-domestic student relationships by providing cultural programs and events such as International/American Connection, International Flavors, International Education Week, and Chit, Chat and Chew (informal food and discussion sessions). Thus, programs, workshops, activities, and events are designed so that participants will be prepared for successful integration into today's global society.

The Office of Intercultural Relations is located at 2109 Webb Center. Please visit the website at <http://studentaffairs.odu.edu/oir>; OIR is on Twitter: <http://twitter.com/oduoir>.

## Recreation and Wellness

The Recreation and Wellness Department offers programming in the following areas: intramurals, sport clubs, fitness, wellness, and adventure. The Student Recreation Center is a state-of-the-art facility that features nearly 15,000 square feet of fitness equipment, a rock climbing wall, a multi-activity center gym, racquetball courts, a cycling studio, an outdoor adventure rental center, and much more. In addition, the Fitness Center at University Village provides participants with another state-of-the-art workout facility. Participants must be able to validate their identity with the biometric hand system or a valid University ID card when attempting to enter or participate in programs and activities sponsored by the department. For daily updates of programs and services, hours and special events, visit the webpage at <http://odu.edu/recsports/> or contact the office at 683-3384.

## Student Health Services

Old Dominion University Student Health Services is accredited by the Accreditation Association for Ambulatory Health Care, Inc. The Health Center is located at 1007 South Webb Center, (757) 683-3132, Facsimile (757) 683-5930.

Student Health Services provides primary outpatient care and health education for Old Dominion University students. These services include medical care for acute illness and minor injury, routine health care, preventive health care and family planning. Student Health Services also provides referrals to health care providers in the local community for services beyond the scope of the campus health center. Laboratory testing sent off campus and x-rays or other diagnostic tests are done at the student's or family's expense. Full-time Norfolk campus students should complete the immunization requirements before coming to school. Any immunizations administered at Student Health Services are done at the student's expense.

All entering full-time Norfolk campus students (undergraduate, graduate, transfer, and English Language Center students) are required to complete the Tuberculosis (TB) Risk Assessment on the health history form submitted to Student Health Services. Each student determined to be part of an at risk population for TB must present the results of a TB skin test (Mantoux PPD) to Student Health Services within two months prior to matriculation at Old

Dominion University. Any student with symptoms of active TB will be required to be tested immediately. Students who are not in compliance with the University Policy 4002 for TB screening will be reported to the Dean of Students.

All entering full-time Norfolk campus students are required to have all their immunizations up to date, including the Meningitis and/or Hepatitis B vaccine waiver forms if the student declines these vaccines. Students who do not submit the required health history/immunization documentation will not be allowed to register for the second semester. A complete list of immunization requirements and health history/immunization forms are on the Student Health Services website at [studentaffairs.odu.edu/student/healthservices](http://studentaffairs.odu.edu/student/healthservices).

Health education provides Old Dominion University students with information, education and programs to address their health concerns and needs. Health education focuses on the whole person and seeks to engage students in educational, experiential, and service learning opportunities to illustrate the importance of a healthy lifestyle. Health education is also responsible for campus-wide programs to prevent alcohol and substance abuse among students. Students may also volunteer as members of the Student Health Advisory Council (SHAC). Call (757) 683-5927 to speak with a health educator.

**Student Health Insurance.** All full-time and part-time students are encouraged to make provision for payment of charges for health services not provided by Student Health Services. The University recommends that all students carry adequate personal health insurance. International students are required to have health insurance. See the Student Health Services web site for information regarding health insurance at [www.studentaffairs.odu.edu/healthservices](http://www.studentaffairs.odu.edu/healthservices).

## Student Conduct and Academic Integrity

The Office of Student Conduct and Academic Integrity exists to promote the community standards of Old Dominion University. Through interactions with students, the office hopes to foster a climate of personal and academic integrity that facilitates the success of all University community members.

The Office of Student Conduct and Academic Integrity oversees the administration of the student conduct process (also known as the "student judicial process") when students are alleged to have violated University policies related to either academic or non-academic misconduct. Further, the Office provides education to the University community and serves as a resource for anyone with inquiries related to student conduct.

For more information about the Office of Student Conduct and Academic Integrity, or to access the *Student Disciplinary Policies and Procedures*, please visit the website at <http://www.studentaffairs.odu.edu/oscai>.

## Student Ombudsperson Services (S.O.S.)

Student Ombudsperson Services (S.O.S.) has as its primary goal assisting students in difficulty along their journey to achieve their personal and academic goals. The S.O.S. office seeks to help students understand University policies and procedures, will gather information relative to their stated concerns, and help them engage in constructive problem solving.

The Student Ombudsperson can assist students with:

- Absence Notifications
- Conflict Resolution
- Emergency Grants
- Administrative Withdrawal from the University

Contact Information:

2008 Webb Center

757-683-3442

Website: <http://studentaffairs.odu.edu/sos>

E-mail: SAHearsU@odu.edu

## Women's Center

The Women's Center offers programs and services designed to promote gender equity and address the special challenges and opportunities female students encounter in the pursuit of higher education. Recognizing the critical role that both women and men play in promoting an environment free of gender bias, Center programs are designed to educate and inspire students to achieve their personal, academic and professional potential.

S.A.F.E., Sexual Assault Free Environment, provides crisis intervention, education, advocacy and ODU policy/procedure information related to issues of sexual assault, stalking, sexual harassment and relationship violence. W.I.L.D., Women's Institute for Leadership Development, provides an opportunity for female students to identify and develop their leadership skills through seven modules. Additional programs are offered throughout the year that address a variety of topics related to women's academic and personal success including programs in celebration of Women's History Month in March. Referrals to University and community resources and a student resource room are also available. Students are encouraged to get involved with the Women's Center as a volunteer, intern or M-POWER Peer Educator.

Programs and services of the Center are open to women and men. For more information, please call 683-4109 or visit [www.studentaffairs.odu.edu/wc/](http://www.studentaffairs.odu.edu/wc/).

## Athletics

Old Dominion University's athletic program is among the most successful in the United States, boasting 28 team and four individual national championships, including three in women's basketball, nine in field hockey, 15 in sailing, a women's tennis clay court national crown, a men's basketball Division II title, and three individual wrestling Division II titles.

The Department of Intercollegiate Athletics is the home for Old Dominion University's 18 varsity programs for men and women. Old Dominion University offers competitive programs for student-athletes in the following sports: football, men's and women's soccer, field hockey, men's and women's sailing, men's and women's basketball, wrestling, men's and women's swimming and diving, women's lacrosse, men's and women's golf, men's and women's tennis, baseball and women's rowing. The University is reviewing additional intercollegiate program opportunities for women.

Old Dominion University is a Division I member of the National Collegiate Athletic Association (NCAA) and the Colonial Athletic Association (CAA). The 12 teams in the Colonial Athletic Association include: The University of Delaware in Newark, DE, Drexel University in Philadelphia, PA, George Mason University in Fairfax, VA, Georgia State University in Atlanta, GA, Hofstra University in Hempstead, NY, James Madison University in Harrisonburg, VA, the University of North Carolina at Wilmington in Wilmington, NC, Northeastern University in Boston, MA, Towson University in Towson, MD, Virginia Commonwealth University in Richmond, VA, and the College of William and Mary in Williamsburg, VA.

All full-time enrolled students are invited to attend intercollegiate athletic events free of charge. Beginning one week in advance of a regular season men's or women's basketball game and 10 days in advance of a football game, an Old Dominion ID card may be used to pick up student general admission tickets at the Constant Convocation Center Box Office or Webb Center Information Desk. At each men's and women's home basketball game and home football game, an Old Dominion ID and a ticket must be presented at the student gate entrance of the Constant Convocation Center or S.B. Ballard Stadium. For soccer, baseball and other special athletic events, students are admitted at the gate by showing their current student ID card. For more information, call the Constant Convocation Center Box Office at (757) 683-4444, or check out the athletic website at [www.odusports.com](http://www.odusports.com).

In addition, Old Dominion University provides students with a variety of recreational and intramural activities through its Recreation and Wellness Department. For more information on these activities contact the Recreation and Wellness Department at (757) 683-3384.

## Computing and Communications Services

As technology continues to change the way faculty teach and students learn, the Office of Computing and Communications Services (OCCS) maintains a leadership role in Old Dominion University's dedication to providing technology-intensive disciplines and innovative educational delivery processes. With responsibility for research, consultation, support, and maintenance for computing and communications technology for the University, OCCS is committed to delivering high-quality computer, information processing, and telecommunications services.

In addition to maintaining the University's administrative system, OCCS provides/manages all computing accounts for faculty, staff, and students. The department also maintains Academic Computer labs, instructional labs, University-wide data and telecommunications networks, and the University telephone system, and provides media technology equipment in support of academic and University-related activities. Technology support services for faculty, staff and students include a Technical Support Center that is open over 75 hours per week, with 24-hour telephone and e-mail problem reporting. A

Student Team provides peer-to-peer and walk-up technical support for students and on-site support for students in university housing.

Detailed information about these services is provided in the following paragraphs. Additional information about all computer services at Old Dominion University can be found on the OCCS web site at [www.occs.odu.edu](http://www.occs.odu.edu).

## Computer Accounts

In support of the University's mission of teaching, research, and other educational pursuits, OCCS provides three types of accounts for all students – MIDAS account, University student e-mail account, and University student LAN account. All accounts are established electronically via the University web site.

**MIDAS (Monarch Identification and Authorization System)**, released in January 2004, is gradually moving the University to "same sign on" for all technology access. The account is created from the MIDAS web site at <http://midas.odu.edu>. The establishment of a security profile allows the account holder to create a new password without knowing the current password. A MIDAS account is required to log in to the University Portal, a web site that can be customized by the individual with links to the web resources accessed most frequently (see section below on University Portal). The account provides a universal ID and password that is used to access Blackboard, on-line courses, faculty web pages and lecture notes, video streaming courses, Faculty/Student Communication System (FSCS) and many other important resources. Activation is immediate for mail purposes, but may require 24-48 hours for access to resources on other servers. (Blackboard is a web-based course management system that incorporates web pages, e-mail, discussion boards, chat rooms, online quizzes, virtual groups, and document sharing. FSCS is a web-based utility that allows course instructors and students enrolled in the course to add documents directly to a shared database.) The Student LAN Account is also required for students to access the Internet from University-supplied connections in the individual dorm rooms and common areas in the residence halls, and from wired jacks in several main campus buildings. Additionally, a University LAN account is required to access the University's wireless network (see section on Wireless LAN).

**University Student E-Mail Account** provides a vital communication link between students and University administrators, departments and faculty members. This account will be activated on line as part of the MIDAS account creation process.

**Student LAN Account** is required for students to log in to computers in all University public computer labs, OCCS-supported departmental labs, and some department-supported labs on the main campus and at the Virginia Beach, Peninsula, and Tri-Cities Higher Education Centers. This account will be activated on line as part of the MIDAS account creation process.

## Computer Labs

OCCS maintains University public computer labs equipped with Windows (XP and Vista) and Macintosh-based systems and various computer applications in support of class requirements. Laser printing is available in all labs. Students must have a University MIDAS account (see section on Accounts) to use the computers in the labs. Labs are located in: University Library, Webb Center, Virginia Beach Higher Education Center, Peninsula Higher Education Center, and Tri-Cities Higher Education Center. Lab schedules are posted on the OCCS web site at [www.occs.odu.edu](http://www.occs.odu.edu) 24 hours per day/seven days per week. IT consultants are available in all labs to provide assistance with application and computer-related questions and problems.

## Technical Support Center (TSC)

The Technical Support Center (TSC), located in Webb Center, is the central point of contact to the Office of Computing and Communications Services. The TSC may be reached by telephone at (757) 683-3192 or by e-mail to [occs@odu.edu](mailto:occs@odu.edu) 24 hours per day/seven days per week. OCCS personnel coordinate responses to computing problems and questions and, when necessary, forward inquiries to the appropriate support group. Students may also request technology information and report technology/telecommunications problems to the TSC on line at [fp.odu.edu](http://fp.odu.edu).

## Internet Access

In partnership with Network Virginia, high-speed Internet connectivity is provided to all workstations on the University network, including computer labs, offices, and wired dorm rooms. In the residence halls, sufficient Internet connections are provided to allow each resident an individual connection. Student assistants provide support with set up and connectivity issues.

## Mobile Monarch

The University strongly recommends that all incoming freshmen have a notebook that at least meets the University's minimum requirements. While students are strongly encouraged to purchase one of the recommended program notebooks, students may bring a non-program notebook to campus.

## MONARCHtechstore

Located in the University's Webb Center, the MONARCHtechstore offers a lowest-price guarantee on computers, peripherals, hardware, software, and supplies. Store profits go to ODU's unrestricted Student Scholarship Fund. Updated information is available at [www.odu.edu/techstore](http://www.odu.edu/techstore).

## MONARCHVision

MONARCHVision is the University's Campus Video/TV Network with service provided in all Residence Halls.

## Software Download

Through the University's software licensing program, some software is made available for students to download to their personal computers. This software includes Xwin 32 and the most current versions and upgrades of the McAfee VirusScan software. Downloadable software is available on the OCCS web site at [www.occs.odu.edu](http://www.occs.odu.edu) – Enter as Student, click on Software, and then click on University License Software available for download for all Students, Faculty, and Staff. When prompted for authentication, enter MIDAS ID and password.

## University Portal

The Old Dominion University Portal, located at <https://my.odu.edu>, provides University faculty, staff, and students a single point of access to their University services. Individuals may customize their portal page with links to the resources they access most frequently, including Blackboard, Leo Online, University-wide announcements, and Internet-based University email, address book and calendar.

## Wireless Local Area Network (WLAN)

Available almost universally across the Norfolk campus and at the Higher Education Centers in Virginia Beach, Hampton, and Portsmouth, the WLAN makes it possible for faculty, staff, and students to access the Internet from their laptop computers while enjoying a Starbucks coffee in Webb Center, conducting research in the University Library, or enjoying the sunshine in Tonelson Garden. A University MIDAS account (see section on Accounts) is required to access the wireless network.

## Distance Learning

Old Dominion University's Office of Distance Learning delivers graduate and upper-division undergraduate courses to students using a variety of technologies. Distance Learning provides access to higher education to students at community college sites and higher education centers across the Commonwealth of Virginia. The participating community college provides course work required for the first two years of study, Old Dominion University provides the final two years of course work, and students are able to complete their entire baccalaureate degree at their local community college campus. Graduate degree programs are also available at these locations.

Old Dominion University's statewide network of site locations extends well beyond the community colleges with course offerings at various military bases and corporations. Out-of-state site locations are operating in Arizona and Washington state. At these sites students may register for classes, meet with advisors, and attend classes both on-site and using telecommunications technologies.

In addition, the University offers a variety of degree programs using Internet technologies, such as web-based and video-streamed courses. These options provide students the flexibility to take courses from any location.

## Military Outreach

Old Dominion University is proud of its affiliation with military personnel and their families who represent all branches of the armed services. Students will find a variety of programs to match their personal and professional goals through the University's six colleges. Courses are available on campus and at a distance in live, synchronous, and anytime, asynchronous formats using media such as video-streaming, CD-Rom, and web-based technologies. Old

Dominion operates sites on or near military installations in and outside Virginia where, depending on the location, students can take classes on the base. Distance learning counselors at all locations are trained to facilitate registration, admissions, and advising. Old Dominion accepts tuition assistance and serves the special needs of veterans, on campus or at distance, with a dedicated staff.

Old Dominion University is affiliated with the Servicemembers Opportunity Colleges (SOC), DANTEs, and Troops to Teachers. The University is a member of the GoArmyED network, the USAF's Associate's to Bachelor's Cooperative (AUABC), and the Navy's NCPACE and partnership programs, all of which provide substantial credit for military training as well as flexibility, convenience, and affordability.

## Regional Higher Education Centers

Old Dominion University operates three full-service higher education centers within the metropolitan region, located in Hampton, Portsmouth, and Virginia Beach. These centers offer a wide range of academic programming, including degrees and certificates at the undergraduate and graduate levels. Courses are conducted through multiple modalities, including traditional face-to-face, 2-way video-conferencing, satellite-delivery, web-based, and hybrid programming. Student support services available include on-site advising, registration, computer labs, testing, career management coaching, athletics tickets, bookstore, and access to the University's library and mainframe computer. Each facility also offers non-credit courses and provides meeting and training space for government agencies, corporations, industry, and nonprofit organizations; capabilities include seminar/meeting rooms, teleconferencing, and administrative support. In addition, the regional higher education centers support a diverse array of community engagement efforts, ranging from partnerships with local public school districts to service-learning partnerships with an array of institutions and agencies.

ODU-Peninsula Higher Education Center  
600 Butler Farm Road, Suite 2200  
Hampton, Virginia 23666  
757-766-5200 (switchboard); 757-766-5201 (fax)  
[phec@odu.edu](mailto:phec@odu.edu)  
<http://www.odu.edu/peninsula/>

ODU-Tri-Cities Higher Education Center  
1070 University Boulevard  
Portsmouth, VA 23703  
757-686-6220 (switchboard); 757-686-6219 (fax)  
[tttcc@odu.edu](mailto:tttcc@odu.edu)  
<http://www.odu.edu/tricities>

ODU-Virginia Beach Higher Education Center  
1881 University Drive  
Virginia Beach, VA 23453  
757-368-4100 (switchboard); 757-368-4109 (fax)  
[vbhec@odu.edu](mailto:vbhec@odu.edu)  
<http://www.odu.edu/vbhec>

## Dining Services

Monarch Dining Services is responsible for many operations across campus. Webb Center is home to a wide range of dining options including Café 1201, House of Blue and Monarch Catering. The House of Blue has five separate operations including Grille Works, Pizza Hut, Burrito Theory, The BBQ Pit and Blue's Xpress. Café 1201 is a residential restaurant dining option that allows students to use their meal plans in Webb Center and provides a value to faculty, staff and students. Also located in Webb Center are dining favorites Quizno's and Chick-fil-A. Starbucks shops are also available in Webb Center and the Village Bookstore.

Other familiar names include Raising Cane's located in the University Village area and Einstein Bros. Bagels located in the Student Recreation Center. C3 in Whitehurst and Gresham Halls, Express in BAL, and P.O.D. Markets in the Quad and University Village area offer students ease and accessibility of on-campus convenience stores.

Legends in Whitehurst Hall and Rogers Café in Rogers Hall are dining facilities available to all cash, meal plan, flex points, and Monarch Plus card customers. These all-you-care-to-eat locations provide a residential restaurant within the student housing facility.

Monarch Catering offers services from coffee set-ups to extensive dinner menus and everything in between.

For hours of operation please visit the website at [www.odu.edu/monarchdining](http://www.odu.edu/monarchdining).

## International Programs

To be named, Executive Director

The Office of International Programs (OIP) coordinates activities that focus on Old Dominion University's strategic commitment to campus-wide internationalization. These activities fall into three general categories, all of which are designed to expand student understanding of our interdependent world: encouraging the incorporation of international issues and perspectives into undergraduate and graduate education; facilitating international exchange of students and faculty; and sharing international interests and expertise with the broader Hampton Roads community that Old Dominion University seeks to serve. For more detailed information, visit the OIP website at [www.odu.edu/oip](http://www.odu.edu/oip).

OIP facilitates the development of the University's cooperative agreements and exchange programs with other institutions of higher learning around the world in order to encourage exchange of students and faculty as well as collaborative research. OIP staff provide advising support for international fellowships, such as the Fulbright, National Security Education Program, and the Gilman International Scholarship Program.

OIP sponsors and coordinates international programs that serve and involve the citizens of the region and the state. These may include appearances by foreign diplomats, scholars and artists, workshops for teachers and other professionals, and support for internationally-focused community organizations.

OIP includes the Office of Study Abroad, the English Language Center, and International Student and Scholar Services.

**Office of Study Abroad (OSA).** Increasing global awareness happens in both the classroom and elsewhere on Old Dominion's multicultural campus, but there is no substitute for traveling abroad to acquire a personal perspective on our increasingly interdependent world. Old Dominion students participate in a wide array of study abroad experiences as an integral part of their college education. Faculty-led programs of study in the summer and over spring break are available in different subject areas (from Service Learning in South Africa to Theatre in London to Business Studies in Korea and China). Semester and academic year study abroad programs and reciprocal student exchange programs offer long-term opportunities in virtually all areas of the world. Old Dominion is a member of study abroad consortia that sponsor high quality programs around the globe, providing opportunities for exchange with over 100 universities overseas. Regardless of one's field of study, almost all Old Dominion students can study abroad. Practically all forms of student financial aid may be applied to an academic program abroad, and travel grants are available for many programs. Dean's Education Abroad Awards provide special support for selected majors, and internships, and volunteer and short-term work opportunities overseas are additional options.

The Office of Study Abroad administers overseas academic programs and authorizes transfer credit from approved programs of study. OSA maintains a library of study abroad directories (print and electronic), catalogs, and other reference materials from Old Dominion partner universities abroad; study abroad program brochures organized by country and region; atlases and travel guides; and reference materials on scholarships, internships and work abroad opportunities. A Study Abroad Fair is held every semester, and pre-departure orientation programs and "re-entry" sessions when students return from abroad are also organized by the staff. Please visit the OSA's web site at [www.odu.edu/studyabroad](http://www.odu.edu/studyabroad).

**English Language Center.** The English Language Center (ELC) offers intensive English language classes (six seven-week sessions per year) for international students and members of the local international community in grammar, composition, reading/vocabulary, and speaking/listening at beginning to advanced levels. This academic program primarily prepares students for study at American colleges and universities or for using English in workplaces around the world.

The ELC also provides semester-long Undergraduate and Graduate Bridge courses for students who have been conditionally admitted to the University and who need to improve their English language skills. The ELC administers the institutional TOEFL several times a year. Admission to ELC programs does not confer admission to other academic programs at Old Dominion University. Visit the ELC website at [www.odu.edu/esl](http://www.odu.edu/esl).

**International Student and Scholar Services (ISSS).** The Old Dominion University community includes more than 1000 international students and 100 visiting scholars from more than 110 foreign countries. Serving the cultural, legal and personal needs of these individuals is the main mission of the Office of International Student and Scholar Services. The office provides

administrative support and documentation services along with information and regulatory advising to assist international students and scholars in obtaining the best educational experience possible. ISSS also works closely with academic departments and administrative offices, offering workshops to staff members that help build awareness of the international community's needs as well as to develop and strengthen skills in intercultural communication. Among the specific offerings of the Office of International Student and Scholar Services is a complete range of immigration advising and individual assistance with the many cultural aspects of studying in a foreign country. ISSS administers the International Student Leadership Award Program, which provides tuition support for undergraduate international students who demonstrate extraordinary leadership and academic involvement. Visit the ISSS website at [www.odu.edu/iss](http://www.odu.edu/iss).

## Parking and Transportation Services

The department of Parking and Transportation Services is responsible for providing quality parking and transportation services throughout campus. A variety of surface parking lots and garages are available throughout campus to students, faculty and staff. All motor vehicles parked in University parking facilities must display a valid parking permit. Students, faculty and staff are required to purchase permits. Permits may be purchased online at [www.odu.edu/parking](http://www.odu.edu/parking) or at the Parking and Transportation Services Office. Visitors and guests may obtain complimentary one-day parking permits upon request at the office. The Parking and Transportation Services office is located on the corner of 43rd Street and Elkhorn Avenue.

University motor vehicle regulations are enforced year around except as noted in the ODU Motor Vehicle Regulations. Permit regulations are enforced from midnight Sunday until 4:00 p.m. Friday. Evening permits are available for purchase by students attending classes after 3:45 p.m. and are not valid prior to 3:45 p.m.

Parking and Transportation Services has many alternative transportation options for students who do not have a vehicle on campus. ODU shuttle buses take students around the Norfolk campus and to off-campus locations such as Wal-Mart and downtown Norfolk's MacArthur Mall. Free Hampton Roads Transit (HRT) bus passes are offered at the Parking and Transportation Services office for the fall and spring semesters for all current students. Zipcars are also located on campus for students 18 years or older to utilize for low hourly or daily rates.

Additional information on rules, regulations, and services may be obtained by calling Old Dominion University Parking and Transportation Services at (757) 683-4004 or by visiting the website at [www.odu.edu/af/parking](http://www.odu.edu/af/parking).

## Office of Research

Old Dominion University is classified as a Research Institution having high research activity, according to the Carnegie Foundation. In FY 2009, its total research and development (R&D) including institutionally-financed expenditures amounted to \$96.2 million. In an effort to sustain, enhance and grow its research enterprise, Old Dominion's Office of Research serves the faculty, staff, and students by providing basic research administrative services. The office also provides interface with public and private members of the external community as well as federal and state agencies that have a vested interest in research. The office is led by the institutional research officer and includes staff members who are able to leverage a breadth of experience and convey quality services related to development of research programs, regional economic development, compliance in the conduct of research, grant writing and development, intellectual property, technology transfer, and governance issues related to sponsored programs. Sponsored research administration services, encompassing the range of pre- and post-award grant and contract administration, in particular, are provided by the ODU Research Foundation.

While most of Old Dominion's research enterprise centers and entities are housed within specific colleges, the ones that are the most diverse in terms of their research focus and/or scope are configured within the Office of Research. The Virginia Modeling, Analysis, and Simulation Center (VMASC), the Frank Reidy Research Center for Bioelectrics, the Virginia Coastal Energy Research Consortium (VCERC), the Animal Facility and the Orchid Conservatory are five such entities.

VMASC is a multi-disciplinary modeling, simulation and visualization collaborative research center of Old Dominion University. With more than 100 industry, government, and academic partners, VMASC furthers the development and application of modeling, simulation, and visualization as an enterprise decision-making tool and promotes economic development through the transition of intellectual property to the commercial sector. Its core capabilities are: military modeling and simulation (primarily combat simulations), homeland security and homeland defense, medical simulations,

social system modeling, transportation, serious gaming, virtual environments, and business and supply chain modeling. VMASC creates computer simulations and conducts program analyses to meet stakeholders' needs. Computer simulations provide the capability to: quickly and economically test theories and ideas; help visualize and understand complex situations; prioritize labor and capital investment opportunities; and reduce the risk inherent in business decisions. The research interests and capabilities of VMASC include: simulation methodologies, mathematical modeling, simulation inter-operability, verification and validation, distributed simulation, computer visualization, immersive virtual environments, human factors, social behavior, performance analysis, intelligent systems, decision support and collaboration methodologies, and modeling and simulation systems integration.

The Frank Reidy Research Center for Bioelectrics (FRRCB) is internationally recognized as a leader in the understanding of the interaction of electromagnetic fields and ionized gases with biological cells and the application of this knowledge to the development of medical diagnostics, therapeutics, and environmental decontamination. The center is part of an International Consortium for Bioelectrics that includes universities and research institutes from Japan, Germany, France and the United States. The objectives of the center are to perform leading edge interdisciplinary and multi-institutional research, recruit top faculty and exceptional graduate students, support regional, national and international programs, and increase external funding and institutional visibility. Research conducted at the FRRCB has already attracted substantial federal agency support including multiple grants from the National Institutes of Health, Department of Defense and the National Science Foundation. The FRRCB has expertise in pulsed power technology for biological and medical applications in the subnanosecond to the millisecond range and includes the design and modeling of pulse delivery systems. A wide range of research is conducted at the center including new cancer therapies, wound healing, decontamination, imaging and cardiovascular applications. As one of the first institutions to apply this technology in medicine and biology, Old Dominion University anticipates the potential for proprietary use of the technology with both marketing and licensing opportunities.

The Virginia Coastal Energy Research Consortium (VCERC) is a multidisciplinary research unit charged by the Commonwealth to study and identify alternative solutions to problems arising from overdependence on fossil fuels that is unsustainable and has become the single biggest threat to our environment, economy, and national security. Virginia, with its vast coastline, natural waterways and abundant sunshine, is ideally suited for a number of alternative energy applications. VCERC seeks out and develops new alternative energy research directions and evaluates viable renewable energy sources for Virginia with an initial focus on offshore winds and the conversion of coastal algal biomass to biofuels. At Old Dominion University, VCERC involves faculty researchers from the Batten College of Engineering and Technology and the College of Sciences, and is structured to operate in partnership with a number of Virginia institutions: Virginia Tech – Alexandria Research Institute, Virginia Institute of Marine Science, Norfolk State University, James Madison University, Virginia Commonwealth University, University of Virginia, and Hampton University. This statewide, inter-university network seeks to become a leader in the research and development of numerous alternative energy projects that are of direct benefit to local employment, manufacturing groups, state institutions, the students and staff of Virginia universities, and the public.

## Research and Enterprise Centers

The University has established a number of research and enterprise centers. Please check the web pages of the Office of Research [www.odu.edu/ao/research](http://www.odu.edu/ao/research) and those of the individual colleges for information regarding centers in specific areas.

## Research Foundation

The Old Dominion University Research Foundation is a separate, private, not-for-profit corporation chartered under the laws of the Commonwealth of Virginia in 1965. The foundation serves as the fiscal and administrative agent to manage research and sponsored programs and aid in technology commercialization for Old Dominion University. The foundation's purpose is to promote the education, research and public service objectives of Old Dominion University by encouraging, advancing, fostering, and conducting research and sponsored programs in engineering, the physical and life sciences, the humanities, education, and all other branches of learning.

The foundation is the contracting agent for University research grants and contracts with external funding agencies. In fiscal year 2010, the Research Foundation received \$91.4 million in awards for research and sponsored programs. Research and sponsored program activity for fiscal year 2010,

measured by amount of expenditures, totaled \$68.2 million for projects sponsored by federal, state, and local government agencies and a variety of corporations and private foundations.

Technical direction of a sponsored program remains the responsibility of the principal investigator. The foundation supports the University and assists investigators by providing a broad range of administrative and technical support services. Among these services are: financial administration, budget preparation and monitoring, financial compliance guidance, proposal preparation and submission assistance, project payroll and human resources, financial reporting, technical reporting support, intellectual property administration, procurement and equipment inventory control.

## University Card Center

All students who are officially registered for one or more credit hours in the current semester at Old Dominion University are eligible to receive a free student ID card. Student ID cards are issued at the University Card Center located in Room 1056 Webb Center. If the ID card is lost or stolen, there is a replacement fee. Spouses and dependents of students are not eligible to receive an ID card.

The University ID card is an official form of identification. The ID card lists the bearer's first name, last name and middle initial, University identification number (UIN) and status with the University. Each student can possess only one valid ODU ID card at a time. The ID card must be carried at all times when at Old Dominion University and presented upon request to University officials. Any misuse of the University ID card will result in disciplinary actions.

Not only is the University ID card an official form of identification, it also serves many other functions. Students can use their card to check out books from the library, participate in University events, purchase either parking or HRT bus passes, access their residence hall, use their meal plan, and make purchases from their Monarch Plus account. For more information, visit the website at [www.odu.edu/cardcenter](http://www.odu.edu/cardcenter), email [cardcenter@odu.edu](mailto:cardcenter@odu.edu) or call 757-683-3508.

## University Libraries

The University Libraries consist of the Patricia W. and J. Douglas Perry Library, the Elise N. Hofheimer Art Library, and the F. Ludwig Diehn Composers Room. Collections of 3.8 million items in all fields of research and instruction include online journals, e-books, print books and journals, microforms, government publications, maps, musical scores and recordings, and other media. The Libraries' website at <http://www.lib.odu.edu> links students to the library catalog and the online academic journals and research databases provided by the University Libraries and the statewide Virtual Library of Virginia (VIVA) program. The University Libraries serve as a repository for United States and Commonwealth of Virginia government publications. Library special collections house manuscript collections, Tidewater collections, University Archives, and contemporary classical composers' manuscripts and scores. Through the Virginia Tidewater Consortium, students and faculty have borrowing privileges from the other academic libraries in the region. All three facilities offer study space, and wireless network connectivity is available for laptop computer use throughout each facility.

**The Elise N. Hofheimer Art Library:** Diehn Fine and Performing Arts Center, Room 109, 683-4059. The Hofheimer Art Library collections contain over 10,000 specialized books, journals, electronic resources, audio-visual resources and other materials for students and faculty in the visual arts. Reserve materials for Art Department classes are available at the service desk. Individual and group study space, computer workstations, DVD/VHS viewing monitors, a scanner and a network printer/copier are available. Visit the Art Library web site at <http://www.lib.odu.edu/hofheimer/index.htm>.

**The Diehn Composers Room:** Diehn Fine and Performing Arts Center, Room 189; 683-4173. The F. Ludwig Diehn Composers Room's Listening Library houses music special collections, scores, music videos, and sound recording collections and a full complement of audio equipment for many formats. Additionally, MIDI, multi-media, DVD, VCR, laser disc player stations, internet stations, a scanner and a network printer/copier are available. Reserve materials for Music Department classes are available at the service desk. The Reading Room offers space for the study of manuscripts and other materials from special collections. The seminar room is available for course-level instruction and is equipped with whiteboards for instructional activities. A Steinway grand piano affords scholars and researchers the opportunity to

play selections from the special collections as desired. Information on services and collections is located at <http://www.lib.odu.edu/diehn/index.htm>.

**Perry Library** offers many services and resources:

**Learning Commons:** The Learning Commons in Perry Library provides research resources and information, technology assistance, advising, tutoring, writing, and other services supporting student success. The Commons provides current technology for digital media and presentation tools in a multi-media innovation lab, a collaborative work environment for group and individual course projects, equipment loan, GIS stations, and other applications to enhance student learning opportunities. A collaborative project of the University Libraries, Office of Computing and Communications Services, and Academic Enhancement, the Commons provides year-round services, and extended hours during fall and spring semesters.

**Circulation and Reserve Services:** 2nd Floor, 683-4154. Students with a valid University ID may borrow and renew books and other materials, as well as check out reserve materials. Group study rooms, laptop computers and other electronic equipment, and graduate student study carrels are also available. Information on borrowing privileges, loan periods, and policies is available at <http://www.lib.odu.edu/libraryservices/borrowing.htm>.

**Interlibrary Loan and Document Delivery Services:** Room 109, 683-4170, 4171. Interlibrary Loan and Document Delivery Services facilitate research by obtaining materials from other research libraries. The University Libraries have access to the holdings of libraries worldwide. A statewide interlibrary loan agreement with Virtual Library of Virginia (VIVA) participants ensures that students and faculty may obtain items located in another Virginia library. Document delivery services provide copies of materials held in the University Libraries' collection to distance learners and other eligible students, faculty and staff. Interlibrary loan and document delivery requests can be submitted online through ILLiad. Online ILLiad registration and request forms are available at <http://www.lib.odu.edu/libraryservices/interlibraryloan.htm>.

**Library Accessibility Services:** The University Libraries offer a variety of services for students with disabilities, including a scanner, voice synthesizer, and specialized programs that read scanned text aloud or enlarge text on any screen. Reference staff are available by appointment to offer in-depth research assistance. Circulation Services will reserve study rooms and offer an on-demand service for patrons who may need special assistance retrieving library materials. Students may inquire about library accessibility services at the University's Office of Educational Accessibility or at the Perry Library's Circulation and Reference Services departments.

**Photocopy Services:** Self-service copiers are available on the second floor of Perry Library. Assistance is available at Circulation Services. Fee-based network printing is available from the public workstations located in Reference and Research Services. A bill changer machine is located on the second floor. Photocopy costs may be charged to department or grant funds with appropriate authorization.

**Reference and Research Services:** 1<sup>st</sup> Floor, 683-4178. As part of the Learning Commons, Reference and Research Services provides students and faculty with services and materials to support instruction, research and student assignments. Research help is provided through direct individual assistance, consultation by appointment for more extensive assistance, telephone, e-mail and live online chat. While most reference resources are available through online subscriptions, the department also houses print reference materials and an extensive collection of print and electronic government publications. Distance learning students may obtain assistance by calling the department or using the *Ask A Librarian* e-mail or chat reference service at <http://www.lib.odu.edu>.

**User Instruction:** Reference and Research Services offers information literacy instruction for academic classes as well as workshops, tours and special programs to assist graduate and undergraduate students with library research. Schedules of library workshops, tutorials, other online research guides, and additional information on instruction services can be found at the Library's web site, <http://www.lib.odu.edu/libassist/classes/index.htm>.

## University Village Bookstore

The University Village Bookstore is the official on-campus bookstore of Old Dominion University – offering products and services to students, faculty and the surrounding community both in-store and online via [shopodu.com](http://shopodu.com). The University Village Bookstore houses 20,000 titles providing the most options to the campus community. The primary purpose is to serve the students of the University by making books and supplies available for courses.

Additionally, the Bookstore serves the campus community by maintaining a wide selection of computer products, alumni apparel, ODU football and basketball gear, gifts and accessories. Furthermore, the bookstore provides

faculty services, a robust used books program, Rent-A-Text, and a growing CafeScribe digital library. The bookstore also hosts events that include book signings and children's events. Store partners include eBooks, Greek apparel, Software Shop and Starbucks.

The bookstore is located at 4417 Monarch Way and is open Monday-Friday, 8:00 a.m. to 7:00 p.m., Saturday 10:00 a.m. to 5:00 p.m. and Sunday 12:00 noon – 5:00 p.m. For additional information please call 757-683-0048.

## **Webb University Center**

Webb University Center is the hub of the campus activities. It houses student activities, student organizations, student government, and a wide variety of student services, health services, dining and catering, ODU Credit Union, and other services.

# Admission to Old Dominion University

## Office of Admissions

The mission of the Office of Admissions is to recruit, admit and enroll students from throughout the United States and abroad who will contribute to the overall collegiate experience. Old Dominion University is open to all qualified students regardless of race, color, religion, sex (including pregnancy), age, national origin, veteran status, disability, political affiliation, sexual orientation or genetic information.

## I. Undergraduate Admission

### Freshman Admission

Freshman applicants are typically under the age of 21 and currently enrolled in high school or who graduated from high school within the past two years and have not attended any regionally accredited college or university (not to include dual enrollment).

Admission to the University does not imply admission to a specific degree program. The following programs require a secondary admission process once the student has been admitted to the University: Cytotechnology, Dental Hygiene, Environmental Health, Medical Technology, Nuclear Medicine Technology, Nursing and Ophthalmic Technology. Please contact the department directly for secondary admission information.

### Requirements

The Office of Admissions will take the following factors into consideration during the application review process.

### Academic Preparation

The University encourages students to participate in a college preparatory program of study. Preference is given to students enrolled in Advanced Placement (AP), college-level dual-enrollment, honors and/or International Baccalaureate (IB) courses.

The most qualified applicants' high school curriculum includes course work in the following areas:

English	4 units
Social Sciences	3 units (World History, United States History and United States Government)
Mathematics	3 units (Algebra, Geometry, Algebra II)
Sciences	3 units
Foreign Language	3 years of one foreign language or two years of two foreign languages

**College of Engineering and Technology Intended:** Students who have taken advanced courses, particularly in math, chemistry and physics, are best prepared for the academic rigor of the Batten College of Engineering and Technology and are more competitive in the admissions process. Students are recommended to complete four units of mathematics that include one unit of higher-level math courses such as trigonometry, analysis, or calculus. Science units should include one unit of chemistry, one unit of physics, and one unit of study in another area of science, such as general science, physical science, environmental science, and anatomy and physiology.

### Academic Criteria

The cumulative high school grade point average and class rank as well as the performance on the Scholastic Assessment Test I (SAT) or the American College Testing (ACT) Program are taken into consideration during the application review. Applicants should consult their high school guidance counselor for test registration procedures.

## Additional Credentials

Applicants may submit a resume, essay, and/or letters of recommendation as part of their application package. These additional credentials, combined with the academic qualifications, provide the Office of Admissions with a comprehensive profile of an applicant's potential for academic success and his or her ability to contribute to the academic community. Students with unique talents and abilities in art, music, leadership, and other endeavors should include this information in their admissions packet.

## Non-Traditional Freshmen

Non-traditional freshman applicants have graduated from high school more than two years ago or received a General Education Development (GED) Certificate. Students who have not graduated from an accredited high school will be considered for admission provided they take the High School Equivalency Test administered by the State Board of Education or the GED. Non-traditional applicants have not enrolled in any regionally accredited college or university (not including dual enrollment).

Gifted high school students with exceptional academic abilities may take classes before completing the full program of high school studies. Students must submit scores from either the SAT I or the ACT and their high school transcript. Additionally, a letter must be submitted from the high school principal supporting the student's early enrollment into college-level courses.

## Freshman Early Action Admission

Freshman applicants who submit the application for admission, fee and all credentials by the early action deadline will be notified of their admission during the second week of January. Early action decisions are non-binding. Students who apply by the early action deadline are reviewed for scholarship eligibility. Please refer to the Office of Admissions web site for deadline dates.

## Freshman Regular Admission

Freshman applicants must submit the application form found on the Admissions Office web page at [admissions.odu.edu](http://admissions.odu.edu), fee and all credentials by the regular application deadline. All applicants who have completed the application process will receive notification on a rolling basis.

All students submitting an application for admission must sign the application certifying it is true and correct. By signing, applicants agree to abide by and support the rules, regulations and Honor Code of Old Dominion University. Please refer to the Office of Admissions web site for deadline dates.

## Freshman Guaranteed Entry and Accelerated Bachelor's/Master's Programs

High-ability freshmen may be guaranteed entry into professional and graduate school in a number of areas.

In the College of Health Sciences, physical therapy, nursing and dental hygiene programs offer this option for freshmen. Accelerated bachelor's/master's programs are also available in environmental health/public health, health sciences/public health, dental hygiene and nursing.

The B.S./M.D. (guaranteed admission to medical school) is available through the College of Sciences. The B.S./M.D. program allows students to begin professional school after three years. In addition, the College of Sciences offers an accelerated bachelor's/master's program in computer science.

A B.S./M.D. program is available for students pursuing undergraduate engineering degrees. The Batten College of Engineering and Technology also offers accelerated bachelor/master and bachelor/Ph.D. programs.

In the Darden College of Education, freshman guaranteed entry is available in special education.

A five-year B.A. or B.S./M.B.A. allows students to combine a Bachelor of Arts or Bachelor of Science with excellent preparation for a career in the business world. These programs are available in the College of Arts and Letters, Business and Public Administration (economics) and Sciences. In addition, the following accelerated bachelor's/master's programs are available in the College of Arts and Letters: applied linguistics/English, communication/humanities, English, history, interdisciplinary studies/humanities, international studies, philosophy/humanities, and women's studies/humanities.

Information on guaranteed entry and accelerated bachelor's/master's programs may be obtained on the University's web site or by contacting the individual programs or departments.



## Advanced Placement and International Baccalaureate Credit

Old Dominion University recognizes the rigor and challenge of the Advanced Placement (AP) and International Baccalaureate (IB) programs. Advanced standing credit is awarded to students who earn qualifying scores in AP and IB subject examinations. (See AP and IB equivalency charts, Office of Admissions website: [admissions.odu.edu](http://admissions.odu.edu).) Most credits awarded for AP and IB courses satisfy individual course requirements in ODU's General Education curriculum.

Course credit will not be awarded until final and official examination scores are received. Students must request their official exam results be sent to Old Dominion University Office of Admissions.

## Transfer Admission

Transfer applicants have attended another regionally accredited college or university after graduating from high school or receiving a GED.

Some academic programs require a secondary admission review. Students should refer to the academic department for additional information regarding additional application requirements.

Applicants must submit official transcripts from all previously attended institutions (including post-secondary institutions outside of the U.S.) regardless of whether or not the transfer credit will apply toward an Old Dominion University degree.

## Guaranteed Admission

Old Dominion University guarantees admission to an applicant who graduates from a transfer-oriented degree program or an articulated applied associate degree program at a Virginia community college with a cumulative grade point average (GPA) of 2.5 or higher on a four-point scale. Submission of the Letter of Intent to Transfer is required for eligibility under this guaranteed admission program. Graduates of an articulated applied associate degree program must have met all degree/course requirements outlined in the specific curriculum articulation agreement.

Some degree programs at Old Dominion University require a secondary admission process; thus, guaranteed admission into Old Dominion University does not imply admission to these specific degree programs. Applicants admitted to Old Dominion University via the Letter of Intent should contact the department directly for information regarding secondary admission requirements.

## Requirements

The Office of Admissions takes the following factors into account during the application process.

## Academic Criteria

The University encourages students to enroll in courses that meet general education and core curriculum requirements. The Admissions Office will consider the cumulative grade point average and grade point average (based on a four-point scale) of the most recent 24 credit hours. Performance on the Scholastic Aptitude Test I (SAT) or American College Testing (ACT) Program will be considered if it has been less than three years since high school graduation and the applicant has completed fewer than 24 semester hours of academic work at a regionally accredited college or university.

## Additional Credentials

Other items taken into consideration during the review process are letters of recommendation, resume and essay. These additional credentials provide a comprehensive profile of an applicant's potential for academic success and individual ability to contribute to the academic community.

## Transfer Early Action Admission

Transfer applicants who submit the application, fee, all official transcripts from any previously attended institution, and all other credentials by the early action deadline will be notified of their admission decision by mid-April. Early action decisions are non-binding.

Students who apply by the early action deadline are reviewed for scholarship eligibility. Please refer to the Office of Admissions web site for deadline dates.

## Transfer Regular Admission

Transfer applicants must submit the application form found on the Admissions Office web page at [admissions.odu.edu](http://admissions.odu.edu), fee, all official transcripts from any previously attended institution, and all other credentials by the appropriate deadline for their intended term of entry. All applicants who have completed the application process will receive notification on a rolling basis. Once a student has been admitted, an evaluation of his or her transfer credit will be available at [www.leonline.odu.edu](http://www.leonline.odu.edu). Please refer to the Office of Admissions web site for deadline dates. Transfer students who do not attend the University within one year of their admitted term must re-apply by submitting a new application and fee.

## Transfer of Credit

In general, the transfer of credit is allowed for course work taken at an institution of higher education that is accredited by a regional accrediting body, such as the Commission on Colleges of the Southern Association of Colleges and Schools. A grade of C (2.00) or above must be earned in the course and must be appropriate to Old Dominion University's degree program. In general, all liberal arts credits and professional and technical courses parallel to those of Old Dominion University are transferable.

Graduate credit will not be accepted to meet undergraduate degree requirements.

## Transfer Policies for General Education Requirements

1. Students wishing to transfer academic credits into Old Dominion University to satisfy the General Education Requirements must apply individual transfer courses to the academic skills, ways of knowing and upper-division categories as listed in this catalog. Students must submit transcripts to Transfer Evaluation Services for evaluation. Decisions regarding the equivalency of transfer courses to satisfy General Education Requirements will rest with the chair of the academic department responsible for the subject matter involved. Students should be aware that even though University General Education Requirements might be met through transfer of courses into the necessary categories, departmental and college requirements must still be met.
2. With regard to the fulfillment of General Education Requirements, students will be able to apply transfer credit on a course-by-course basis rather than hour-by-hour as long as the course is determined to be commensurate with content categories of the curriculum used to fulfill General Education Requirements at Old Dominion University. Questions regarding such equivalency will be directed to the chair of the academic department responsible for the subject matter involved. Any such course transfer will carry the number of academic credits assigned by the institution where the credits were earned. In the case of quarter system credits, the standard conversion of quarter hours to semester hours (3:2) will be used.
3. Students who have received an A.A., A.S., or A.A. and S. from Richard Bland College or the Virginia Community College System (including the A.A. and S. degree in general studies) have met all General Education requirements except those specified as major or college requirements and the upper-division requirement that is met through completion of a second degree or major, a minor, regional and business courses, an approved certification program such as teaching licensure, or upper-division coursework.

Applicants who have received the A.S. degree in general studies offered by institutions whose general studies degrees are recognized as transfer degrees by the State Council of Higher Education for Virginia will be guaranteed acceptance as meeting lower-division General Education Requirements. A.S. degrees in general studies received from institutions whose general studies degrees are not recognized by the State Council of Higher Education for Virginia will be examined individually to determine whether the degrees are university parallel programs and eligible for lower-division General Education requirement waivers.

Students who have earned an Associate in Applied Science (A.A.S.) degree from the Virginia Community College System in specific articulated programs that include the Certificate of General Education have met all General Education requirements except those specified as major or college requirements and the upper-level requirement.\* College-parallel programs at other community colleges or systems (consistent with the degree requirements of degrees from the Virginia Community College System) are also accepted as meeting lower-division General Education requirements and are reviewed by Transfer Evaluation Services.

Students who transfer into the University from a campus of the Virginia Community College System without having completed the A.A., A.S., or A.A. and S. degree may receive credit for General Education courses, even if these courses are not full equivalents of Old Dominion University courses. Similarly, the University evaluates transcripts of all transfer students from regionally accredited two- or four-year institutions at the time of the matriculation and assigns appropriate transfer credit for General Education courses judged as compatible with corresponding Old Dominion University General Education courses. Students must earn a grade of C (2.0) or better in order to receive the credit hours associated with classes taken at other regionally accredited institutions.

Substitutions for General Education Requirements can be made only by the dean of the college offering the General Education skill or way of knowing area.

4. Students earning high school diplomas before December 31, 1985 will be exempted from the General Education foreign language requirement as part of the skills area of General Education at Old Dominion University. This does not waive departmental or major requirements.
5. Students who have earned a baccalaureate degree at another regionally accredited institution but who wish to acquire a second baccalaureate degree from Old Dominion University will be considered to have fulfilled University General Education Requirements for the second degree. Such students will be expected to meet all college, school and departmental requirements as well as complete a minimum of 30 semester hours at Old Dominion University for a second degree. Prior to undertaking the second degree, students must have their accumulated credits evaluated and the second degree program approved in writing by the appropriate chair and dean.

**Special Transfer Credit Policies.** Transfer students admitted to the Department of Art must submit a portfolio for evaluation by the faculty to determine the number of art credits that will be accepted from previous study. Information on portfolio requirements may be obtained from the chair of the department. For more information, refer to the Department of Art section of this catalog.

Transfer students interested in music must have an audition to determine placement and number of credits transferable from previous study. Information on the audition may be obtained from the chair of the department. For more information, refer to the Department of Music section of this catalog.

**Evaluation of Transfer Credit.** After receipt of all required credentials, a formal evaluation of credits is made by Transfer Evaluation Services after admission to degree-seeking status to the University and prior to the student's first registration. Where specific equivalents can be identified, they are indicated in the evaluation. In other cases, only the discipline is listed along with the credit hours accepted. Students should be prepared to provide course descriptions to assist Transfer Evaluation Services in determining equivalency with University course work. If no specific equivalent can be assigned, the student may still receive elective credit for course work.

Associate degrees awarded outside the Virginia Community College System are examined individually to determine whether the degrees are university-parallel programs and eligible for lower-division General Education requirement waivers.

## Appeals of Transfer Credit Evaluations

Students who wish to appeal their transfer credit evaluation should consult with the academic department relevant to the course in question. Course descriptions and/or syllabi are required for departmental review. Once a course equivalency is approved, the department will submit a transfer equivalency form to Transfer Evaluation Services. Students should request a copy of this signed form for their records.

## Second Baccalaureate Degree Admission

Second baccalaureate degree applicants have earned a bachelor's degree from a regionally accredited college or university and wish to pursue an additional bachelor's degree in a different course of study. Second baccalaureate degree applicants must submit the application form found on the Admissions Office web page at [admissions.odu.edu](http://admissions.odu.edu), fee and all official transcripts from any previously attended institution, and all other credentials by the appropriate deadline for their intended term of entry. All applicants who have completed the application process will receive notification on a rolling basis. Please refer to the Office of Admissions web site for deadline dates. Second baccalaureate degree students who do not attend the University within one year of their admitted term must re-apply by submitting a new application, fee and updated credentials.

## Students with Foreign Credentials

U.S. Citizens and Permanent Residents who have attended high school (secondary) and/or post-secondary (college or university) institutions outside of the United States must submit official credentials to the Office of Admissions. Official transcripts are delivered in a sealed envelope and have the official seal and signatures of the issuing institution. Transcripts should be sent directly from the previous institution to Old Dominion University. All transcripts that are not issued in English must be supplemented with a literal (word-for-word) translation. These translations should be official and stamped by a school official or certified by an acceptable translation service. For a list of acceptable translation companies, please visit the Office of Admissions website. Notarized copies are not considered official documents. Old Dominion University will not accept unattested photocopies or documents verified by a local notary public. All submitted documents become property of Old Dominion University and will not be returned. Old Dominion University conducts in-house evaluations of foreign credentials. Evaluations completed by a credential evaluation agency (AACRAO, WES, ECE, etc.) or service may serve as an English translation only.

## II. Nondegree Admission

Nondegree entry is available to applicants who do not choose to apply for admission to a degree program at the time but wish to enroll in course work at Old Dominion University. Federal financial aid is not available for nondegree students, except for those in approved teacher certification programs. The option of nondegree admission is available for the following conditions:

- **Visiting students** – taking course work at Old Dominion University with the intention of transferring the course credit to their home degree-granting institution.
- **Certificate program students** – expanding his or her academic background or seeking teacher certification. For information related to registering for a certificate program, please contact the department directly for guidance. Financial aid is not available for nondegree students, except those in approved teacher certification programs.
- **Adult learners** – students taking courses for personal and/or academic growth.
- **Senior scholars** – High school students taking college-level courses (permission is needed from the high school guidance counselor and parent/or legal guardian).

### Additional Information

- All students taking prerequisites (undergraduate, second degree or graduate) for a degree-seeking program should seek the approval of the academic department before registering for course work as a nondegree student.
- Financial aid is not available for nondegree students, except those in approved teacher certification programs.
- Students under suspension from Old Dominion University or another college or university are not eligible to attend Old Dominion University.

\*The Certificate of General Education is under review by the Virginia Community College System in consultation with the State Council for Higher Education in Virginia; acceptance of the Certificate to meet lower-division General Education requirements is subject to change.

- Traditional freshman applicants who were denied admission to Old Dominion University are not eligible for nondegree admission without a change from the original application type (i.e. attended a community college or have become non-traditional by definition).
- Academic advisors are not assigned to nondegree students, but students are strongly encouraged to contact their academic department of interest prior to registering for courses.
- Undergraduate students are advised to take no more than 24 semester hours as nondegree students.
- All students, degree and nondegree alike, must meet the continuance requirements as stated in the current Undergraduate Catalog. Failure to meet these requirements will subject students to probation or suspension.
- Non-native speakers of English must provide evidence of English language proficiency.

### Nondegree Admission Procedures

Nondegree applicants must submit the nondegree application form found on the Admissions Office web page at [admissions.odu.edu](http://admissions.odu.edu) and fee. For the student's convenience, official credentials may not be required at the time of registration; however, unofficial records or a personal interview may be requested for admission purposes. It is understood that all student information stated on the application is truthful. Deliberate falsification of application information will result in immediate withdrawal and a potential forfeiture of credits. By submitting an application, applicants agree to abide by and support the rules, regulations and Honor Code of Old Dominion University.

Nondegree students who do not attend the University within one year of their admitted term must re-apply by submitting a new nondegree application and fee.

### III. Admission Reactivation

Continuing applicants are students who have previously attended Old Dominion University on a degree-seeking basis and left the University. A student who has left the University in good academic standing for more than a year is required to complete a reactivation/readmission form available on the Office of Admissions web site.

If the separation from the University was longer than five years, the applicant will need to resubmit all official transcripts and necessary credentials. The deadlines to apply for admission reactivation are as follows:

- Fall semester – second Friday in August
- Spring semester – third Friday in December
- Summer semester – second Friday in April

Reactivation forms submitted after the deadline will not be considered. Students must resubmit the reactivation form and required credentials by the next deadline.

Students who are returning from academic suspension must participate in the Academic Continuance Experience for Success (ACES) program prior to the start of classes for the returning semester. Failure to participate will result in a deferment of admission until the next semester, at which time the ACES program must be completed. More information about readmission from suspension can be found at [www.uc.odu.edu/continuance/readmission](http://www.uc.odu.edu/continuance/readmission) or by contacting the Office of Advising and Transfer Programs in Academic Enhancement (also see Undergraduate Continuance Regulations and Adjusted Resident Credit information in this Catalog).

### IV. Graduate Admission

Refer to the Graduate Catalog.

### V. English Proficiency Requirements for Non-Native Speakers of English

Admission to the University is contingent upon successful completion of English language proficiency requirements. Non-native speakers of English can provide evidence of English language proficiency through a variety of options. Please note that Bridge Program students, undergraduate and graduate, must satisfy English proficiency requirements within twelve months of their enrollment in the program. An application to the English Language Center and subsequent enrollment in English language courses at the center does not imply admission to the University. Further information for non-native speakers of English is available from the Office of Admissions (permanent residents and

naturalized citizens) and from the Office of International Admissions (all non-immigrants).

Fulfillment of any one of the following will satisfy English language proficiency requirements for admission to Old Dominion University:

#### Undergraduate Students

1. Submission of one of the following: a TOEFL score of 550 (paper) or 79 (Internet-IBT), a 480 Verbal critical reading SAT score, a GCSE or GCE "O" level pass in English language, an IELTS overall band score of 6.5, a CPE grade of A, B, C.
2. Possession of a bachelor's or master's degree equivalent from an accredited institution located in a country where English is the native language.
3. Successful completion of two university- or college-level English courses at a regionally accredited U.S. institution. These courses must be equivalent to the University's English composition course and any other advanced composition or technical writing course. Successful completion is defined as obtaining a minimum grade of C (2.00) in each of these courses.
4. Successful completion of two semesters in Old Dominion University's Undergraduate Bridge Program. Successful completion is defined as satisfying the following two criteria:
  - a. Securing a minimum grade of B and demonstrating 85% attendance in each English Language Center class for two semesters; and
  - b. Securing a minimum grade point average of 2.50 in academic courses taken during the Bridge Program.

Students who choose to satisfy University English proficiency requirements through the TOEFL will be placed according to their results on the test. Students admitted to the University whose TOEFL scores are between 500-550 or IBT scores are between 61-78 will be placed in a comprehensive Undergraduate Bridge Program, including academic course work and semi-intensive English Language Center courses. Those students with TOEFL scores below 500 or IBT scores below 61 will be enrolled in full-time intensive English Language Center courses.

Students whose native language is not English and who have satisfied English language proficiency requirements through one of the avenues detailed above are exempt from fulfilling the foreign language requirement for general education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Department of Foreign Languages and Literatures to obtain a waiver of the 200-400 level courses.

Transfer credit is not granted for English composition classes taken at an institution located in a non-native English-speaking country. Exceptions to this policy may be made in instances in which the University has entered a formal agreement with an overseas institution.

All undergraduate students take a University writing exam (called the Writing Sample Placement Test) to determine proficiency in writing. An Exit Examination of Writing Proficiency is also required in order to graduate. This exam may be taken during the junior year.

### VI. International Student Admission

All international applicants (Undergraduate, Graduate or Non-degree) seeking or holding a non-immigrant visa should apply through the Office of International Admissions. Applicants can apply online or via the paper application, which is available as either a pdf or hard copy by request. Along with the application and fee, official academic records and evidence of English language proficiency (if the applicant's native language is not English) must be submitted.

Academic decisions regarding University admission are determined without bias to personal or family finances; however, a student will be unable to maintain or obtain an F-1 or J-1 student visa without adequate financial support. Sufficient funding must be demonstrated to both Old Dominion University and the U.S. consulate. Funding includes tuition and living expenses for the first year of study in addition to a reasonable expectation of funding for the remaining years. Old Dominion University issues forms I-20 (F-1) or DS-2019 (J-1) for the nine-month academic year.

Photocopies, notarized copies, or faxed copies of required official documents will not be accepted. Certified translations by a licensed or professional translator must accompany academic documents not written in English. Translations of official documents completed by the student will not be accepted.

Additional information required by graduate departments is specified in the International Graduate Application. All applicants, undergraduate and graduate, should read the application prior to applying to insure they understand the

admissions process. Following the application instructions will ensure a prompt admission decision.

Applicants outside the United States are recommended to apply to Old Dominion University six to eight months prior to their desired date of enrollment to allow time for the exchange of correspondence, evaluation of all necessary documents, and the settling of financial, immigration, and housing matters. Application and credential deadlines are as follows:

<b>Term of Entry</b>	<b>Application/Credentials Deadline</b>
Fall Priority (August)	February 15
Fall Final (August)	April 15
Spring (January)	October 1
Summer (May)	February 1

All new international students are required to attend International Orientation, which precedes each fall and spring registration. Organized by the Office of International Student & Scholar Services (ISSS) and the Office of Intercultural Relations (OIR), the program gives students information critical to maintaining their non-immigrant status, in addition to an overview of campus life and services, employment/internship opportunities and general cultural adjustment.

All admissions correspondence such as applications, academic records, financial documents, examination results, translations, and course descriptions are to be addressed to:

The Office of International Admissions  
Old Dominion University  
2102 Dragas Hall  
Norfolk, Virginia, USA 23529

Tel: (757) 683-3701

Fax: (757) 683-3651

E-mail: [intladm@odu.edu](mailto:intladm@odu.edu)

Web site: <http://admissions.odu.edu/international>

## **Transfer Credit**

The determination of the appropriate amount of transfer credit to be awarded for work completed at a foreign institution is based on information concerning the grading scale, credits assigned per class (or number of hours per week spent in class) and the duration (in weeks) per class. It is the responsibility of the student to provide this information to the University. Descriptions of courses must be provided in English.

Please note that the Office of International Admissions will attempt to have a complete and accurate transfer evaluation prior to the student's enrollment. In some cases, however, the final transfer credit evaluation and determination of course equivalency at Old Dominion may take additional time.

## **Deferments**

International students are eligible to defer their admission or application for up to one academic year beyond the original term of entry via the online international deferment request. Requests beyond this allotted time will require the student to re-apply with transcripts and application fee. **Students in F/J status must submit updated financial documents and return all unused I-20 or DS-2019 forms to International Admissions.**

# Tuition, Fees, and Financial Information

The tuition and fees outlined below have been approved for 2011-2012. Tuition and fees are always subject to change, and while the University is unable to notify each student individually of changes to fees, this information is widely publicized in the media on campus, locally, and statewide.

## Tuition

As used by the University, the term tuition refers to a comprehensive fee that includes payment of instructional programs, academic services, student services and activities, recreational sports, and intercollegiate athletics. All fees are subject to approval and/or change by the Board of Visitors.

The comprehensive fee includes a student activity fee of \$95.20 per credit hour for the Norfolk campus courses and \$55.90 per credit hour for Higher Education Centers, TELETECHNET and off-campus courses to support student services programs, recreational sports, and intercollegiate athletics and a capital fee of \$15.00 per credit hour for out-of-state students.

Information related to the comprehensive tuition can be found on the website for the Office of Finance, [www.odu.edu/af/finance/](http://www.odu.edu/af/finance/).

## Comprehensive Tuition Per Semester—2011-12 Academic Year\*

	Virginia Resident	Non-Resident
<b>Fall, Spring and Summer Undergraduate</b>		
Tuition and Fees—per credit hour	\$263.00	\$741.00
<b>Graduate</b>		
Tuition and Fees—per credit hour	\$379.00	\$961.00
Teaching Assistant	\$379.00	\$379.00
Research Assistant	\$379.00	\$379.00
<b>Clinical Psychology Joint Psy. D. Program</b>		
Returning Students		
Tuition—per semester, full-time rate	\$4,824.00	\$12,132.00
Internship—per semester	\$200.00	\$200.00
Graduation Fee	\$150.00	\$150.00
New Students Fall 2010		
Tuition—annual, full-time rate (three semesters)	\$15,000.00	\$15,000.00
Internship—per semester	\$200.00	\$200.00
Graduation Fee	\$150.00	\$150.00
<b>Health Service Fee—per semester</b>		
Full-time undergraduate (12 or more semester hours) and graduate students (9 or more semester hours)—mandatory	\$68.00	\$68.00
Part-time undergraduate (11 hours or fewer) and graduate student (8 hours or fewer) and students taking all courses off campus—optional	\$68.00	\$68.00
Summer sessions, undergraduate and graduate students—optional	\$50.00	\$50.00
Transportation Fee—per semester (Mandatory for all students, fall and spring, taking on-campus courses)	\$50.00	\$50.00
General Service Fee—per semester (Mandatory for all students)	\$9.00	\$9.00
Asynchronous Nursing Program		
Tuition Rate	\$270.00	\$270.00
<b>Higher Education Centers, TELETECHNET and Off-Campus Offerings within or outside Hampton Roads:</b>		
Undergraduate	\$263.00	\$741.00
Graduate	\$379.00	\$961.00
<b>TELETECHNET USA (Distance Learning Outside Virginia):</b>		
Undergraduate	\$263.00	\$263.00
Graduate	\$379.00	\$379.00

Students who are eligible to enroll in a combination of undergraduate and graduate courses in any given semester must pay tuition for the courses at the appropriate levels as prescribed. Graduate hours are available at graduate tuition rates, and undergraduate rates apply for undergraduate hours.

## Housing Charges—2011-12 Academic Year\*

Average room and board per year .....\$8,218.00

## Applied Music Fees—2011-12 Academic Year\*

Individual Instruction (2 or 3 credits, one hour of instruction) .....\$250.00  
 Individual Instruction (1 credit, one-half hour of instruction) .....\$175.00  
 Group Instruction (class piano or voice) .....\$75.00

## Laboratory Fees—2011-12 Academic Year\*

ARTS 202,203,211,231, 271, 279, 304 .....\$30.00  
 ARTS 241, 251, 252, 253, 254, 261, 263, 281, 291 .....\$50.00  
 BIOL 108N, 109N, 115N, 116N, 126N, 127N .....\$20.00  
 BIOL 404, 420, 473, 504, 520, 573 .....\$25.00  
 BIOL 103 .....\$30.00  
 BIOL 250, 251 .....\$35.00  
 BIOL 314 .....\$40.00  
 BIOL 315 .....\$45.00  
 BIOL 405W .....\$10.00  
 BIOL 407, 507 .....\$100.00  
 CEE 335 .....\$20.00  
 CET 345W .....\$30.00  
 CHEM 106N, 108N, 122N, 124N, 138N, 322 .....\$50.00  
 CHEM 212, 214, 332W, 334W .....\$75.00  
 CHEM 442W/542 .....\$100.00  
 CS 101, 120G, 121G, 149 .....\$30.00  
 CS 150 .....\$40.00  
 CYTO 428 .....\$45.00  
 DNTH 303 .....\$40.00  
 DNTH 301, 317 .....\$50.00  
 ECE 287, 387 .....\$25.00  
 ECE 407, 507 .....\$30.00  
 EET 125, 315, 325, 335 .....\$30.00  
 ENGN 110, 111 .....\$45.00  
 GEOG 402, 404, 502, 504 .....\$25.00  
 HTEC 305 .....\$45.00  
 MATH 211, 212, 312 .....\$10.00  
 ME 203, 225, 305 .....\$25.00  
 ME 441 .....\$30.00  
 MEDT 310, 312, 319, 320, 325, 326, 327, 331 .....\$45.00  
 MEDT 307 .....\$50.00  
 MET 387 .....\$20.00  
 MET 200, 400, 415 .....\$30.00  
 MLRS 501, 601 .....\$45.00  
 NURS 302, 351 .....\$50.00  
 NURS 619, 658, 659, 660, 665, 672, 673, 674, 675, 764, 767 .....\$250.00  
 OEAS 106N, 107N, 126N, 127N .....\$20.00  
 OEAS 110N, 111N, 112N .....\$30.00  
 OEAS 440, 441, 442W .....\$35.00  
 PHYS 103N, 104N, 111N, 112N, 126N, 127N, 226N, 227N, 231N, 232N .....\$30.00  
 PT 627, 628, 826, 827 .....\$150.00  
 STEM 110T, 221, 231, 241, 350, 360 .....\$20.00  
 THEA/COMM 341, 370, 380, 385, 446, 483, 486 .....\$25.00

## Nonrecurring Charges and Fees—2011-12 Academic Year\*

Application Fee \*\* .....\$50.00  
 Late Penalty Fee .....10% of past due amount  
 Payment Plan Processing Fee (nonrefundable) .....\$40.00  
 Returned Check Processing Charge .....\$50.00

\* All fees are tentative and subject to final approval by the Board of Visitors and/or the President. Those listed are in effect as of 2011-12 and are subject to change.

\*\* Does not apply to Old Dominion University full-time faculty and staff and their full-time dependents and former Old Dominion University students seeking readmission who have not attended another institution since leaving Old Dominion.

Collection Fees .....	25%
Transcript Processing Charge (per copy) .....	\$5.00
Thesis, Dissertation Binding Service Charge .....	\$50.00
Additional Copies .....	\$16.50
Ph.D. Dissertation	
Microfilming .....	\$65.00
Copyrighting .....	\$65.00

## Residency

To be considered a Virginia resident for tuition purposes for any given semester, it is necessary that the applicant be domiciled in the Commonwealth of Virginia for at least one year immediately preceding the beginning of that term. Domicile is a technical legal concept and is defined as the place (state) where a person resides with the unqualified intention of remaining indefinitely, with no present intention of leaving. Domicile is generally evidenced by such things as payment of income, real estate, and personal property taxes, voter and automobile registration, and driver's license. Residence in Virginia for the purpose of securing an education does not qualify a person for classification as a Virginia student for tuition purposes.

The General Assembly of Virginia has enacted several special provisions for active duty military, spouses and dependents. Please refer to [www.odu.edu/registrar](http://www.odu.edu/registrar) for current guidelines.

A student who meets the criteria for resident tuition during his or her course of study at Old Dominion University is not automatically reclassified to such status. He or she must request such classification, using an appeal form available from the Office of the University Registrar. By law, appeals of classifications must be submitted before the start of classes for the term in which a change is sought. Copies of the Virginia statute and guidelines issued by the State Council of Higher Education for Virginia are on reserve in the University Library and are available at [www.schev.edu](http://www.schev.edu) (search for "domicile"). Because of the length of those requirements, they are not printed in this catalog. Additional information may be obtained from the Office of the University Registrar.

Students who fail to complete the Tuition Rate Determination Form are classified at the out-of-state tuition rate.

Student residency records may be audited for compliance with the Code of Virginia residency. Students may be required to submit proof of domicile following audit. Documentation may include driver's license, motor vehicle registration, etc.

## Billing Cycle

Through the act of registration, either by registering online or by registration form, students accept responsibility for charges incurred. All University charges are due and payable by the established deadlines. The total amount due must be received by 5:00 p.m. on the deadline date shown on the statement to avoid financial penalties. Students unable to pay the total due may opt for participation in the University payment plan (fall and spring only). If charges remain unpaid 30 days after the due date, a 10% late payment penalty is assessed. Once the account is 90 days past due, it is forwarded to a collection agency and assessed an additional 25%.

## Billing Statements

The University sends debt notification by e-mail. It is the student's responsibility to activate the ODU.EDU e-mail address issued to all admitted students. Please refer to Leo Online for specific types of notification covered. Approximately 30 days before the payment due date, advance billing statements for tuition and fees are sent to students who have preregistered. Students are expected to access account information through the secured access site on the web at [www.leonline.odu.edu](http://www.leonline.odu.edu). Any student who registers or adds classes after any advance billing may be issued a statement by electronic mail during the next billing cycle, and charges will be subject to late payment fees. Failure to receive a reminder bill confirming charges does not waive the requirement to make payment when due, and financial penalties may accrue.

## Failure to Pay Tuition

Students' registrations will not be canceled for failure to pay tuition. Nonpayment will not release students from the financial obligation for tuition charges. Students are strongly encouraged to follow University procedures and meet published deadlines to officially drop classes and be released from charges. Stopping payment on a tuition draft does not constitute a cancellation of the student's registration.

## Payment/Cashiers Office

Students may pay for classes with personal checks, money orders, cash, or charge cards (VISA or MasterCard only). Cash payments should be made at the Cashiers Office ONLY. Payments may be mailed to Accounts Receivable/Cashiering, Old Dominion University, Alfred B. Rollins, Jr. Hall, Norfolk, VA 23529-0045. Personal checks will be accepted for the exact amount of fees and/or other amounts owed the University. Third party payments are accepted upon submission of authorization documents. Payments on all financial obligations to the University will be applied on the basis of age of the debt. The oldest debt will be paid first. Postdated checks are not scrutinized and will be deposited upon receipt. The Cashiers Office does not cash checks or make cash refunds. Checks must be provided in US dollars. Checks written in excess of assessed fees or other amounts paid the University will be accepted and processed, but the excess will be refunded to the student by mail at a later date.

## Third-Party Payment Authorizations

The financial guarantee for payment of tuition and fees must be addressed specifically to Old Dominion University, Accounts Receivable, and printed on agency letterhead, purchase order, or voucher. Payments must be unconditionally guaranteed and made by the due date specified on the University's invoice. Amendments to the financial guarantee are required in writing. Prior to the University processing authorizations, students may receive an individual billing statement. Students must provide the third-party billing authorization or government training voucher to the Office of Finance before the student's individual payment due date. Failure to submit the authorization by the established deadline may result in a student billing, assessment of late fees and a financial hold on the student's account. An agency with a past due balance may have billing privileges terminated. Sponsoring agencies and students being sponsored by these agencies should be aware that the student is ultimately responsible for any defaults in payments by the sponsoring agency. A student whose employer or sponsor reimburses him or her for tuition after receipt of grades is not considered a third party. A student must pay in full upon registration or by the stated due date to avoid financial penalties. Contact the third-party billing coordinator for billing requirements or check the University web site.

## Student Account Inquiry

The University reserves the right to request information on the student identification number and/or a photo identification when releasing information or conducting other financial transactions. Specific account information will be released only to the student. Each student account can be viewed using any Internet browser. Students are strongly encouraged to access records directly through their secure access site on [www.leonline.odu.edu](http://www.leonline.odu.edu). Students are expected and required to assume responsibility for their own financial matters and to abide by the laws of the Commonwealth and the rules and regulations of the University. Failure to read and comply with University regulations will not exempt students from whatever penalties they may incur.

## Delinquent Accounts

The University will not issue a degree, diploma, transcript of grades, grade report, or permit a registration for future terms to any student who has not paid all debts in full. Students with account holds are permitted to drop classes to reduce debt or withdraw to prevent academic penalty.

## Collections

Virginia State law requires that the University make every attempt to collect past due amounts owed to state agencies. If, after 90 days, full payment of a debt has not been received, the account will be placed with a collection agency. Account holders are responsible for any collection costs incurred at a rate of 25% of the total due. Several other actions may be taken including the following: the account can be listed by the Credit Bureau as a bad debt; a delinquent account can be collected in full from income tax refunds, lottery winnings or other refunds due from the state (for Virginia residents); and the account may be turned over to the Virginia Attorney General's Office for litigation. Timely payment is strongly encouraged so that collection efforts can be avoided.

## Set-off Debt Collection Act

The University pursues debt in accordance with the guidelines set forth by the Commonwealth of Virginia in the Virginia Debt Collection Act. Under the provisions of this act, an individual's Virginia income tax refund, lottery winnings or other refunds due from the state will be subject to the University's claim for any unpaid balance of tuition and fees. Any communication disputing an amount owed must be submitted in writing to the accounts receivable manager, Alfred B. Rollins Jr. Hall.

## Dishonored Checks and Charge Cards

A \$20.00 fee will be charged for each returned check or charge. If collection action is necessary, students will be liable for all collection agency costs. Stopping payment on a tuition draft does not constitute a cancellation of the student's registration.

## University Payment Plan (not available on past due balances)

The University offers a payment plan during fall and spring semesters ONLY. Payment plan agreements are administered by the Office of Finance and are established for a specified four-month period each semester (refer to the Office of Finance website). Payment plans are established on the student's total charges for tuition and/or housing. There is a \$40.00 non-refundable processing fee to establish the plan each semester. Students must be in good standing with their student account to be eligible to participate. Payment plan forms are available on the University's web site. Failure to pay on time may prevent students from using the payment plan process to defer payments in future terms. If any payment is 30 days past due, the entire payment plan balance will be due and payable. A 10% late penalty will be assessed on the entire balance if a payment is 30 days past due.

## Tuition Refund Policy

The total tuition is considered fully earned by the University once scheduled classes have begun in any semester or summer session. Failure to attend the course after registering is not justification for elimination of charges.

For refund purposes, the beginning date of class is defined as the first official class date for the term. Students desiring to drop or withdraw from the University must formally notify the University using the official procedures set by the Office of the University Registrar. Refunds will be computed based on the actual withdrawal date certified by the Office of the University Registrar. Refunds will not be made to students who do not attend classes and have not completed the required withdrawal procedure. Refunds are issued by check for all payments, including credit cards. Please refer to the Office of Finance website at [www.odu.edu/af/finance/](http://www.odu.edu/af/finance/) for refund dates.

## Tuition Differentials

In accordance with the refund periods, a full or partial refund of the difference between tuition paid and the new tuition charges will be granted if the per credit rates differ. In those instances where the revised tuition charges are greater, the additional tuition charges will be assessed.

## Drop and Add

No refund or additional tuition charges are assessed for students who drop and add an equal number of credit hours on the same day within the same semester/session if the per credit tuition rates are the same.

## Special Situations

Administrative drops, as in the case of classes canceled by the University or the case of academically suspended students, entitle the student to a full refund of tuition.

## Refund Policy on Financial Aid Funds

Federal regulations mandate the treatment of refunds for financial aid recipients. Financial aid funds are returned to the government when charges were paid by financial aid and a refund is given a student who fully withdraws from the University. Financial aid recipients may request more detailed information from the Financial Aid Office as federal refund guidelines are subject to change.

## Tuition Appeal Policy

Students who must withdraw (with a grade of W or WF only) after the end of the refund period may appeal for a refund under the Tuition Appeal Policy. The purpose of the tuition appeal policy is to provide an opportunity for students to explain mitigating circumstances that prohibited them from course completion. All appeals are written and are reviewed by the Tuition Appeal Committee. The Tuition Appeal Committee may approve a refund or a release of financial charges under pre-approved conditions or recommend an exception. Committee decisions are final.

Students have the responsibility to submit an appeal within one year of the tuition due date for which charges are being appealed and to demonstrate compliance with the policy. Documentation is required, especially in cases of illness, death, and changes in employment shifts or military orders. Depending on the complexity of the appeal and the receipt of all supporting documentation, processing time on appeals can vary from two to four weeks. Late fees and collection fees are not appealable charges.

Tuition appeals will generally be approved for the following reasons as long as the appropriate supporting documentation on official letterhead with original signature is provided: extended periods of physical illness, extended periods of physical or mental illness of the student's immediate family member, death of a student's immediate family member, mandatory job transfers outside of Hampton Roads or extended campus site, involuntary changes in employment schedule or military deployment, or a statement from the Office of Student Affairs authorizing an administrative withdrawal for medical reasons.

Students are strongly discouraged from submitting appeals that are based on lack of awareness of University policies and procedures, changes in personal circumstances or decisions, dissatisfaction with academic progress, or personal errors in judgment, including not attending class or the acceptance of new employment, as they will not be considered for approval. Issues related to the dissatisfaction with course content, delivery of instruction, or dissatisfaction with an advisor or instructor should be addressed with the chair of the academic department rather than through this appeal process.

Tuition appeal forms are available from the Office of Finance web site.

## Employee Fee Waiver

Full-time faculty and staff registered for on-campus courses may have the transportation fee waived provided a faculty/staff parking decal has been purchased. Accounts are adjusted after the end of the drop/add period.

## Senior Citizen Tuition Waiver

An educational benefit under the Code of VA 23-38.54-60, Senior Citizen's Higher Education Act of 1974, a senior citizen shall be permitted, under regulations as may be prescribed by the State Council of Higher Education:

- To register for and enroll in courses as a full-time or part-time student for academic credit if such senior citizen had a taxable individual income not exceeding \$15,000 for Virginia income tax purposes for the year preceding the year in which enrollment is sought;
- To register for and audit courses offered for academic credit; and
- To register for and enroll in courses not offered for academic credit in any state institution of higher education in the Commonwealth of Virginia.

Such senior citizen shall pay no tuition or fees except those established for the purpose of paying for course materials, such as laboratory fees, but shall be subject to the admission requirements of the institution and a determination by the institution of its ability to offer the course or courses for which the senior citizen registers.

Senior citizen eligibility terms require that individuals must:

- Be at least age 60 before the beginning of the semester.
- Have had legal domicile in the Commonwealth of Virginia for at least one year before the first day of classes.
- Enroll in no more than three courses in a given semester with a tuition waiver.
- Register only on or after the first official day of classes. (Eligible students may submit the form found at [www.odu.edu/registrar](http://www.odu.edu/registrar), but staff will not process the form prior to the first day of classes for the semester.)
- Have a taxable individual income not exceeding \$15,000 for Virginia income tax purposes for the preceding year in order to be exempt from tuition for credit-bearing classes.

Senior citizens may be admitted to a course only on a space-available basis after all tuition-paying students have been accommodated.

Audited classes (no credit) are tuition-free for all senior citizens domiciled in VA.

## Perkins Loan Exit Interviews

The Perkins Loan Program requires that all recipients attend an exit interview before graduating, leaving the University, or attending less than half-time for the semester enrolled. During the interview session, the student is informed of his or her rights and responsibilities, including grace period, deferments and how they work, and cancellation privileges. Students are notified of exit interviews by mail. If a student fails to attend the exit interview or return the required materials, a hold is placed on the student's account, transcript and/or diploma until the University has received all the proper paperwork required to meet federal regulations. The Federal Direct Student Loan program is a distinctly separate loan program and has another exit process. For information on the Federal Direct Student Loan exit interviews, please contact the Office of Financial Aid.

## Deferments

Old Dominion University offers two types of deferments: financial aid and veterans. A deferment is an extension of the payment deadline for students whose financial aid funds or veterans' benefits are not available by the tuition deadline. Generally, the deferment period extends the date of payment until the specified date shown below or until funds become available, whichever comes first. Deferments are a separate program and should not be confused with other University payment arrangements.

**Financial Aid:** Students who have officially accepted a financial aid offer through the Office of Financial Aid may be granted a deferment automatically for tuition and housing charges. Some types of aid cannot be deferred. For example, federal work study is ineligible since funds are earned as wages throughout the year. Students are responsible for paying any outstanding balance not covered by the amount of aid deferred by the tuition deadline. Financial aid deferments expire on October 1 for fall and March 1 for spring. No financial aid deferments are offered for summer sessions.

**Veterans:** Students participating in educational programs through the Department of Veterans Affairs may qualify for a deferment of tuition only. Interested students should contact the Office of the University Registrar for more information. Deferments are only granted prior to the tuition deadline for each semester, provided all past due debts are satisfied. Veterans' deferments expire on November 1 for fall and April 1 for spring. No VA tuition deferments are offered for summer sessions.

## Balance of Aid Refunds

Grants, scholarships and loans are credited to the student's account in the order received. After all charges are fully paid, refund checks will be issued as

excess payments are credited to the account. Expected installment payments are deducted from the account prior to the release of the refund. All refund checks (except Plus Loan refunds) are made payable to the student and are mailed to the student's permanent home address. The refund check will be mailed five to seven business days after the refund entry is made on the account. Due to security reasons, checks are not available for pick up.

## Replacement Checks

Checks that are lost, mutilated or destroyed can be replaced. Mutilated or expired checks should be submitted for replacement. For checks that are lost, 10 business days from the date the original check was issued must expire before a written request for a replacement check will be accepted. The ten-day period allows for the original check to be forwarded by the postal service or returned to the University. A "stop payment" of the original check requires two-four business days to process at the bank. Once the stop payment has been confirmed by the bank, a replacement check can be issued. Expect a minimum of an additional two-four business days to process a replacement check. Please note that international checks will take longer.

## Education Tax Credits

The Taxpayer Relief Act (TRA) of 1997, enacted by Congress, created two tax benefits for families who are paying for higher education. On January 31 of each year, all eligible students are issued a 1098T form for the prior calendar year. Students are directed to consult a tax professional or the Internal Revenue Service for matters related to tax credits.

## Contact Information

Information related to tuition and fees, billing, refunds, payment options and related forms may be directed to Customer Relations located in the downstairs lobby of Alfred B. Rollins, Jr. Hall, Local (757) 683-3030 Toll-free (800) 224-1450, e-mail [tuition@odu.edu](mailto:tuition@odu.edu). Payment address: Office of Finance, Old Dominion University, Alfred B. Rollins, Jr. Hall, Norfolk, VA 23529.

## Fees for Noncredit Programs

The fees for noncredit programs vary according to the activity. Noncredit courses are free to all senior citizens on a space-available basis.



# Student Financial Aid

The Office of Student Financial Aid supports the mission of the University by assisting students and their families in reducing or eliminating financial barriers that might prohibit their participation in the degree programs offered by Old Dominion University. The office administers need-based financial aid programs funded by Federal, State, University, and private sources in the form of grants, Federal Direct Subsidized loans, Federal work-study programs, and both merit-based and need-based scholarships. In addition, the office administers the William D. Ford Federal Direct Unsubsidized Loan program and the Federal Direct PLUS loan program, both of which are non-need-based federally-supported sources of funding. Alternative loan options are also available.

Regulations governing the administration of student financial aid are subject to unanticipated change. Information provided herein is as accurate as possible on the date of printing. For additional and updated information, students and interested parties are invited to visit the office's web site at <http://web.odu.edu/af/finaid/finaid.htm> or Old Dominion University's home page, <http://www.odu.edu>.

## Scholarships, Grants, Loans, and Student Employment

The University offers a variety of awards each year to qualified students who have been accepted for admission into degree programs. Some of these awards are available only to Virginia residents, while others are awarded without regard to state residency. Student assistance is offered on the basis of scholastic achievement and/or established financial need. Financial need is defined as the difference between the cost of education/attendance at Old Dominion University and the amount of money an applicant and his or her family are expected to make available from their income and assets to meet the expenses of that education. The eligibility for non-need Federal Direct Unsubsidized loans and Federal Direct PLUS loans is determined by a combination of factors, including dependency status, student classification (undergraduate/graduate, grade level), cost of attendance, and aggregate amount borrowed to date, to name a few.

To be eligible for assistance from the major student aid programs, a student must be a citizen or an eligible non-citizen. A student must be admitted and enrolled as degree seeking in an eligible program; must be registered with the Selective Service (if required); must not be in default or owe a repayment or refund on a federally guaranteed loan or grant; and must be in good academic standing (making satisfactory academic progress) to be eligible for financial assistance. Certain aid programs require a student to maintain a full-time status. There is one exception to the requirement that students be admitted on a degree-seeking basis: students who are admitted only for purposes of teacher certification may qualify for a William D. Ford Federal Direct Loan.

Financial aid eligibility is determined on an annual basis, for one academic year (Fall, Spring, Summer) only, and is determined for succeeding years upon re-application and continued eligibility. Applications for Old Dominion University-administered financial aid should be submitted as early as possible in January for consideration in the following academic year. Awards are offered on a first-come, first-served basis. Priority awards of grants funded by the Commonwealth of Virginia as well as for the Federal Supplemental Educational Opportunity Grant (FSEOG) Program are awarded to eligible students whose Free Application for Federal Student Aid (FAFSA) is received by the federal processing agency no later than February 15 preceding the academic year of interest.

To be considered for the Annual and Endowed Scholarships administered by the University, an Admissions application or the Scholarship Application for Continuing Students must be received by the University by February 15 preceding the academic year of interest. All admitted students are automatically considered.

An entering student must be accepted for admission into a degree-seeking program before receiving a financial aid eligibility notification letter; however, a student who has not yet been accepted for admission may apply for financial assistance. Once admitted into an eligible degree program, the student will automatically receive a notice of tentative financial aid eligibility. Announcements of financial aid eligibility for early applicants are generally made before May 1. The applicant will be notified by the Office of Student Financial Aid. In addition, the admitted student is encouraged to monitor the status of his/her application for aid and its subsequent processing by accessing his/her records on the University's secure online site, LEO Online. Students

may be notified by e-mail to their Old Dominion University e-mail accounts throughout the year. Alerts, reminders, and student-specific information are mailed through the University's secure e-mail system throughout the year, and students are responsible for reading and responding to these communications.

The information regarding financial aid contained in this catalog is subject to changes or deletions without notification. Additional information concerning financial aid is available through the Office of Student Financial Aid. The federal Student Guide, which describes the federal student financial aid programs and how to apply for them, is also available free of charge from the Federal Student Aid Information Center (1-800-433-3243). The U.S. Department of Education provides efficient and secure access to information and government services and benefits for students via the Access America for Students gateway web site (<http://www.students.gov>).

## Application Requirements

To be considered for financial aid, a student must complete all documents and submit them as soon as possible after January 1 preceding the academic year for which application is made. (For example, a student planning to attend during the Fall Semester, 2011 would submit a financial aid application in January, 2011.) The documents and deadlines are described below. Note: The Free Application for Federal Student Aid (FAFSA) is required of all applicants for financial aid.

**Document 1: The Free Application for Federal Student Aid (FAFSA).** Submitting a completed and signed FAFSA initiates the process of applying for financial aid. The information provided by the student (and his/her parents) is used by the University and other awarding agencies to determine financial need and general financial aid eligibility. Because the FAFSA must reflect income for the calendar year preceding the academic year aid is being applied for, it cannot be signed until after January 1. When completing the FAFSA, use Old Dominion University's Title IV Institution Code (003728) in Step Six. Old Dominion University encourages students to take advantage of the electronic FAFSA option (FAFSA on the web, <http://www.fafsa.ed.gov/>), which is a secure and convenient method for completing the application process. All applicants and parents of dependent applicants should apply for a pin number with the Department of Education to sign the FAFSA application electronically.

**Document 2: Student Aid Report (SAR).** Once the FAFSA is received and processed, the federal processing center will e-mail the Student Aid Report (SAR) to the applicant. Students are strongly encouraged to keep their SARs and all other financial-aid-related documents for future reference. The SAR contains valuable information as well as a unique data release code. Students should also keep copies of all documents used to complete the FAFSA, as they may be requested by the Office of Student Financial Aid as part of the federally-required verification process.

**Document 3: Employment Eligibility Verification (Form I-9).** Students who are eligible to participate in the federal work study program will be required to submit certain documents. The Immigration Reform and Control Act of 1986 requires all employees of the University to complete an Employment Eligibility Verification (Form I-9). Student employees who wish to work on or off campus must be prepared to complete the I-9 Form before they begin working.

The I-9 Form cannot be completed unless the employee provides documents to verify both identity and employment eligibility. The following documents will satisfy this requirement:

- A U.S. passport
- A certificate of U.S. citizenship (INS Form N-560 or N-561)
- A certificate of naturalization (INS Form N-550 or N-370)
- An unexpired foreign passport bearing an unexpired endorsement by the U.S. Attorney General for work in the U.S.
- A resident alien card or registration card with a photograph, which authorizes employment
- A temporary resident card (INS Form I-688)
- An employment authorization card (INS Form I-688A)

If one of the previously referenced documents is not available, an applicant or employee must submit both a document verifying employment eligibility and a document establishing identity. Documents that verify employment eligibility include:

- A social security card (unless on its face it shows that its issuance does not authorize employment in the U.S.)
- An unexpired reentry permit (INS Form I-327)
- An unexpired refugee travel document (INS Form I-571)
- An employment authorization document issued by the Immigration and Naturalization Service
- A native American tribal document

- A U.S. citizen identification card (INS Form I-197) or identification card for use of resident citizens in the U.S. (INS Form I-174)
- A U.S. birth certificate issued by the Department of State (Form FS-545)
- A certificate of birth abroad issued by the Department of State (Form DS-1350)
- An original or certified copy of a birth certificate issued by a state, county, or municipal authority bearing a seal

Documents establishing identity include:

- A photo driver's license or other state-issued identification document. If the driver's license or identification card does not include a photograph, it should provide identifying information, such as name, date of birth, sex, height, color of eyes, and address.
- A school identification card with a photograph
- A voter registration card
- A U.S. military card or draft record
- An identification card issued by federal, state, or local government agencies or entities
- A military dependent's identification card
- A U.S. Coast Guard Merchant Mariner card
- A driver's license issued by a Canadian government authority

**Document 4: Consortium Agreement and Dual Enrollment Forms.**

Students attending classes at a distant site may be required to submit these forms. These students should consult with their site director and their financial aid counselor to determine if these forms are required.

## Satisfactory Academic Progress for Financial Aid Eligibility

### The Policy

Maintaining Satisfactory Academic Progress is one of many federally mandated criteria viewed in determining a student's eligibility for continued receipt of financial aid. Progress is measured by PACE (the number of credits earned in relation to those attempted), Qualitative (GPA) standard and Allowable time (the maximum time frame allowed to complete the academic program). Students must also demonstrate a progression toward completion of their degree program within an established timeframe. Failure to maintain Satisfactory Academic Progress will result in loss of financial aid eligibility. Progress is reviewed annually, at the end of the academic year.

#### A. PACE

Undergraduate

In order to maintain financial aid eligibility, an undergraduate student is required to complete 75% of the total credit hours attempted.

How to calculate PACE

**Cumulative number of credit hours student successfully completed**

**Cumulative number of credit hours student attempted**

#### B. QUALITATIVE

Qualitative Satisfactory Academic Progress for students is evaluated in accordance with the following table.

Undergraduate Hours Earned	Minimum G.P.A.
1+	2.0

#### C. ALLOWABLE TIME

**The maximum allowable time to be eligible for most financial aid programs for a full time undergraduate student is five years or 10 semesters. Students attending less than full-time will be eligible for aid for semesters registered, not to exceed the equivalent of 10 full-time semesters.**

Undergraduate students at Old Dominion University may attempt a maximum of 180 credit hours. Undergraduates working on a second degree will be given an additional 90 hours to earn their second degree. \* Note: Transfer credits are included.

### Satisfactory Academic Progress Review

The Office of Student Financial Aid will conduct a review of Satisfactory Academic Progress at the end of each academic year. Email notifications of Satisfactory Academic Progress standard(s) not met will be sent to the student's ODU email account.

Please note that students who have not received financial aid in previous years but are applying for financial assistance for the first time will also be held to the requirement of maintaining Satisfactory Academic Progress. Satisfactory Academic Progress is reviewed for all semesters of a student's enrollment regardless of whether the student was eligible for financial assistance during a term. **If students exceed the maximum allowable time, they are not meeting Satisfactory Academic Progress; thus, all aid will be suspended.**

**Financial Aid suspension does not prohibit students from continuing their education at Old Dominion University. It does prohibit students from receiving financial aid until they again meet the standards for Satisfactory Academic Progress.**

### Financial Aid Suspension

Students who fail to meet Satisfactory Academic Progress are placed on financial aid suspension. Students have the option to appeal this suspension. An appeal must be based on significant mitigating circumstances that seriously affected academic performance. The decision of the appeal will be sent via email to the student's ODU email account. **\*Note: Please make sure the student email account is activated.**

### Financial Aid Probation

For students who are successful in their appeal, aid will be reinstated; however, the student will be placed on probation for one payment period/term. Emails will be sent to students on financial aid probation advising them of the conditions needed. At the conclusion of the probation term, the student must be meeting the University's Satisfactory Academic Progress standard in order to qualify for further Title IV Funding.

### The Appeal Process

The appeal form may be downloaded from the Student Financial Aid website at <http://www.odu.edu/af/finaid/forms/sapform2011.pdf>

The basis for an appeal includes:

- 1) Death of a relative
- 2) Student/parent injury or illness
- 3) Other special circumstance (example, divorce/separation, natural disaster, etc.)

Directions for filing an appeal for reinstatement of eligibility for financial aid are as follows:

**1. Students should use the SATISFACTORY ACADEMIC PROGRESS APPEAL FORM to write the appeal.**

State clearly why the condition(s) cited were not met.

Attach documentation if necessary.

State what has changed that will allow demonstration of Satisfactory Academic Progress at the end of the next evaluation period.

To confirm extenuating circumstance(s), students must attach documentation from an objective third party (e.g. physician, counselor, lawyer, social worker, teacher, religious leader, academic advisor).

Documentation submitted will remain confidential. Appeals will be reviewed only by financial aid personnel.

**2. Students should meet with their academic advisor or the dean of their college to complete the REQUEST FOR WRITTEN EVALUATION OF ACADEMIC PERFORMANCE form.**

NOTE: If the appeal is submitted without the advisor or dean's evaluation, it will not be considered.

**3. Students should submit the complete appeal packet and all supporting documents within 14 days of receipt of notification.**

Failure to submit the complete packet will result in cancellation of aid.

**ALLOW TWO WEEKS** for the review of the appeal and receipt of the decision notification. If the appeal is approved, the decision notification will outline the conditions of the student's contract for reinstatement of aid eligibility. The contract is binding and academic progress will be reviewed at the end of the enrollment period specified. If the appeal is denied, the decision notification will specify the conditions for future consideration for financial aid eligibility.

**The decision of the financial aid review committee is FINAL and cannot be appealed.**

If the appeal is unsuccessful, an email notification will be sent notifying students of the decision and informing them how to re-establish eligibility if

applicable.

### Re-establishing Eligibility

Students may re-establish their eligibility for financial assistance by achieving the satisfactory progress standards. This will be **at students' expense as they are ineligible for financial aid**. Sitting out a semester at Old Dominion University will not assist in re-establishing eligibility. Once students have earned the required grade point average or completed the required credit hours, they must contact the Office of Financial Aid to request the reinstatement of their financial aid eligibility.

Students not making Satisfactory Academic Progress at the end of the second year, but at the end of the subsequent grading period, come into compliance with the University's graduation requirements; they will be considered to be making Satisfactory Academic Progress beginning with the next grading period.

### Withdrawing from Courses

Withdrawing from courses may impact financial aid awards. Before withdrawing from class, students should contact the Financial Aid Office to determine the consequences.

### Withdrawing from the University

Students who totally withdraw from the University and receive aid may owe the University money. Before withdrawing from the University, students should contact the Financial Aid Office to determine the consequences.

Withdrawing from all courses for two consecutive semesters may result in loss of financial aid eligibility.

### Transfer and Repeat Coursework

Accepted transfer credits must count as both attempted and completed hours.

Repeated coursework will count toward enrollment status when there is no more than one repetition of a previously passed course or any repetition of a previously passed course due to the student failing other coursework in a prior term.

Example:

Student enrolls in four fall courses – passes three and fails one

University required student to retake all four courses

May count the failed course in the next enrollment status

May not count the passed courses

Developmental courses are counted; however, enrichment and English as a Second Language courses ARE NOT taken into consideration.

## Federal Programs

**Students must submit the Free Application for Federal Student Aid (FAFSA) to determine eligibility for all of the following federal financial aid programs.**

**Federal Pell Grant Program.** A Federal Pell Grant, unlike a loan, does not have to be repaid. Pell Grants are only awarded to undergraduate students who have not earned a bachelor's degree. For many students, Pell Grants provide a foundation of financial aid to which other aid may be added.

**Federal Supplemental Educational Opportunity Grant (FSEOG).** Like the Federal Pell Grant, this award assists undergraduate students only and does not have to be repaid. This grant is made to students who demonstrate exceptional financial need (very low expected family contribution, or EFC). Students who meet all other eligibility criteria and whose FAFSAs were received by the federal processing agency by the priority deadline (February 15) are considered for this grant. It is awarded on a first-come, first-served basis. Federal funding for this program is extremely limited.

**Federal Work Study (FWS) Program.** This program provides jobs for undergraduate and graduate students with financial need, allowing them the opportunity to earn money for educational expenses. The FWS program encourages community service work such as tutoring and work related to the course of study. A student who qualifies for FWS is not automatically guaranteed employment and must compete with other FWS recipients for available positions. The Career Management Center, located at 2202 Webb University Center, maintains a listing of available positions on its web site at <http://www.odu.edu/ao/cmc/news.html>.

**Federal Perkins Loan Program.** This low-interest (5 percent) loan is targeted for students with exceptional financial need. A Federal Perkins Loan borrower is not charged an origination fee or an insurance premium. A Federal Perkins Loan must be repaid.

## Federal Direct Student Loan Programs

Old Dominion University participates in the William D. Ford Federal Direct Loan Program and thus receives loan funds directly from the U.S. Department of Education upon disbursement (payment) to eligible students. There are three kinds of loans:

**William D. Ford Federal Direct Subsidized Loans.** The federal government will pay the interest on these loans while students are in school and during deferments (postponements of repayment). Students must demonstrate financial need to receive this type of loan. Both undergraduate and graduate students may be eligible and must be enrolled at least half time. Like all other forms of aid, loans are disbursed to student accounts on a semester-by-semester basis, and eligibility must be re-confirmed prior to release.

**William D. Ford Federal Direct Unsubsidized Loans** are available to eligible students regardless of financial need, but students will be required to pay all interest charges, including the interest that accumulates during deferments.

**The Federal Direct Parent Loan for Undergraduate Students (PLUS)** is available for parents of dependent students who filed the FAFSA and who meet other general eligibility requirements. Applications for this loan must be obtained through the Office of Student Financial Aid. They are not automatically offered but are available upon the written request of the parent borrower. Parents are responsible for all interest charges. PLUS Loan applications are subject to credit approval.

## State Programs

The Virginia Student Financial Assistance Program (VSFAP) was established to assist students with financial need. VSFAP Funds are used for need-based grants to Virginia resident undergraduates or for assistantships and fellowships to graduate students. As funds are limited, they are awarded on a first-come, first-served basis, with students meeting the priority FAFSA receipt deadline (February 15 receipt by federal processing agency) being given first consideration. Specific Satisfactory Academic Progress requirements that are more rigorous than those for federal financial aid eligibility consideration apply. Interested students are encouraged to visit the State Council for Higher Education in Virginia web site at <http://www.schev.edu> for detailed information and program regulations and guidelines.

**Commonwealth Award.** In order to be eligible for a Commonwealth award, a student must be admitted into a Virginia public two or four year college or university, a domiciliary resident of Virginia as defined by the Code of Virginia 23-7.4, demonstrate financial need as determined by the institution (FAFSA required), be enrolled at least half-time in an eligible baccalaureate program, a U.S. citizen or eligible non-citizen, and otherwise eligible for federal financial aid. This is a grant and does not have to be repaid. The actual awards vary by institution and are based on funds available. The awards may not exceed tuition and required fees. Additional restrictions, such as minimum GPA or maximum hours attempted, affecting state grant eligibility may be enacted during the period covered by this catalog.

**Virginia Guaranteed Assistance Program (VGAP).** In order to be eligible for a VGAP award, a student must meet all the Commonwealth award requirements, and must also be a graduate of a Virginia high school, have a minimum cumulative high school grade point average of 2.5 on a 4.0 scale, and be classified as a dependent student for federal financial aid purposes. A student generally enters the VGAP program as a freshman. Renewal of the VGAP grant is dependent upon several factors, including a minimum 2.0 GPA each semester, completion of a minimum of 12 hours each semester (full-time completion), early FAFSA filing, demonstrated financial need, and continuous full-time enrollment (minimum 12 credit hours per semester) from year to year (summer excluded). As with all other aid programs, audited courses do not count toward full-time enrollment. Participation in the VGAP program is limited to the first four years of attendance (fall/spring enrollment for four consecutive academic years). Additional restrictions, such as minimum GPA or maximum hours attempted, affecting state grant eligibility may be enacted during the period covered by this catalog.

**College Scholarship Assistance Program (CSAP).** This grant is awarded to eligible undergraduate students and does not have to be repaid. A recipient must be a Virginia resident working toward a first baccalaureate degree and must demonstrate financial need (FAFSA required), be admitted into a Virginia public institution, be enrolled at least half-time (six credit hours per semester), and have a computed expected family contribution (EFC) that is less than one-half of the total cost of attendance, among other criteria. Awards are comprised of both federal and non-federal funds because CSAP includes Virginia's allotment of the Federal Leveraging Educational Assistance partnership (LEAP).

## Conditions for Disbursement of Financial Aid

The Office of Student Financial Aid publishes a “Statement of Student Responsibility & Conditions for Release of Financial Aid” document each academic year. This statement is included with the initial award notification mailed to the student and is also accessible on the Financial Aid Office page of the University web site <http://web.odu.edu>. When students accept financial aid, they also acknowledge that they have read and agree to comply with the Statement. A limited sample of conditions is as follows:

1. Students are required to communicate immediately with their counselors if they change the number of hours enrolled each semester. Financial aid is based upon full-time, three-quarter-time, or half-time enrollment. If a student's aid has been calculated based on an enrollment level different from the actual enrollment for that semester, the aid will not be released until the student has notified the counselor and the counselor has reviewed and recalculated aid eligibility. Financial aid eligibility changes when enrollment level changes. Students who drop courses are responsible for notifying the financial aid counselor immediately. Aid will be reduced accordingly and financial aid already received will be due back to the University. This also applies to “balance-of-aid” payments made to students prior to dropping.
2. The student is responsible for repayment of any and all financial aid received if adjustments resulting from unreported or misreported information discovered through verification, third-party notices, account reviews, and/or Quality Assurance findings lead to reductions in aid. All students who appear to qualify for a Federal Pell Grant are required to confirm all information submitted on the FAFSA as part of the federal verification process. Documents such as Federal Income Tax returns, W-2 forms, Leave and Earnings Statements, notices of SSI benefits, and Verification Worksheets will be required. Other documents may be requested to confirm marital status or other information provided on the FAFSA during the verification process.
3. The student is responsible for reporting additional educational assistance received through sources other than the Financial Aid Office. Financial aid may be adjusted according to federal regulations as a result of additional educational assistance received and not reflected initially. The student bears responsibility for reporting any additional aid in the form of scholarships from outside sources, Vocational Rehabilitation Benefits, Graduate Tuition Scholarships, Veterans Benefits, Senior Citizen Tuition Waivers, Employer Assisted Tuition Payments, Third Party Payment Agreements involving any outside group or company, and all other forms of assistance. The student must report these external sources of financial assistance immediately to his/her financial aid counseling team.
4. Federal Direct Student Loans and Federal Perkins Loans require Promissory Notes. Federal Direct Student Loan promissory notes may be signed online. Federal Perkins Loan Promissory Notes are produced by the Office of Student Financial Aid after all eligibility conditions have been met. Students must complete and sign the promissory notes and return them to the Financial Aid Office before the loan process can be completed. Entrance loan counseling is required of all first-time borrowers prior to release of loan proceeds.
5. Transfer credit evaluations for new transfer students may result in additional loan eligibility. Students may request an account review once all transfer credits have been evaluated and are reflected on the student's official academic transcript.
6. A tentative or conditional financial aid package assumes a level of federal and state appropriations which are frequently undetermined at the time of preparation. If legislative bodies fail to provide the anticipated funding level, it may be necessary to reduce or cancel certain types of aid, particularly grants. Students will be notified immediately if such changes become necessary.
7. The Office of Student Financial Aid reserves the right to review, modify or cancel financial aid at any time on the basis of new information affecting student eligibility, including but not limited to changes in financial resources, residence, academic status, or changes in the availability of funds.
8. Students who withdraw from all courses are subject to regulations regarding the **RETURN TO TITLE IV FUNDS** requirement. If the date of complete withdrawal precedes the date on which 60% of the academic semester has been completed, a prorated portion of all Title IV student financial assistance will be due back to the federal programs. The University policy regarding tuition refunds following withdrawal is stated in the catalog and is independent of the Return of

Title IV funds regulations. **Students who withdraw from the University before 60% of the semester has elapsed should anticipate repaying a significant portion of Title IV financial assistance. Additionally, students receiving all “F” grades are subject to the same federal guidelines.**

## Scholarships

### Merit-Based Scholarships

All entering fall freshmen and transfer students who submit their admission application and ALL required credentials by the early action/scholarship deadline (freshmen – December 1 and transfer – March 15) are considered for merit-based scholarships offered through the Old Dominion University Office of Admissions. The admissions application serves as the merit-based scholarship application.

Information related to scholarship criteria can be found on the Admissions web site.

### Annual and Endowed University Scholarships

Scholarships at Old Dominion University have been established through the generosity of individuals, organizations and corporations to recognize outstanding academic performance and to assist students in pursuing their educational goals. Scholarship awards are based on a variety of criteria. For some awards, eligibility is entirely determined by academic merit or potential. Other requirements might include demonstrated financial need, field of study, state or city residency, graduation from a particular high school or participation in a specific program, organization or activity. Generally, recipients have earned at least a 3.7 grade point average (on a 4.00 scale) and are full-time, degree-seeking students.

All first-time freshmen and transfer students will automatically be considered for academic and endowed scholarships based on their admissions application. The majority of scholarships offered to Old Dominion University students are based on information already known to the University.

**The Scholarship Form for Continuing and Graduate Students is available for students who are (1) students who began attending Old Dominion University before August 1999, or (2) students who have a change in scholarship eligibility according to the Criteria Check List (included in the Scholarship Form).** Continuing students who meet the above circumstances must complete and submit the form to the Office of Student Financial Aid, 121 Rollins Hall, Norfolk, VA 23529-0052. **The form must be received by February 15 each year to be considered for scholarships for the following academic year.** The information provided on the Form for Continuing and Graduate Students will be maintained and used for scholarship selection for the duration of the student's attendance at Old Dominion University. **It is not necessary to complete the form more than once during attendance at Old Dominion University, UNLESS the required information has changed. To determine eligibility for need-based scholarships (designated by an asterisk (\*)), students must also file the Free Application for Federal Student Aid (FAFSA) PRIOR to February 15 of the appropriate academic year.**

Selection procedures vary for these awards. All scholarships require admission to and enrollment in a degree program at Old Dominion University. For some scholarships, a portfolio, an audition or participation in a specific program may be required. A (♦) denotes that graduate students are eligible for scholarships. The additional steps, if required, are summarized following each scholarship description.

Students will receive written notification of any scholarship for which they have been selected. Most scholarships will be awarded in April and May of each year. All scholarships must be formally accepted in writing.

### Awards for Entering Freshmen

**The Nicholas Andrasz Academic and Social Service Endowed Scholarship** was established by Nicholas Andrasz to assist an entering freshman who has graduated from a Virginia Beach high school. The recipient must have a minimum 3.25 grade point average, minimum 1000 combined SAT score and must have spent a considerable amount of non-paid volunteer time helping to make his/her community a better place.

**The Beta Sigma Phi-Alice Brewer White Memorial Endowed Scholarship** is made possible by an endowment established in 1985. This award assists an entering freshman who is from Southside Hampton Roads. Preference will be given to students with a 3.20 grade point average and Beta

Sigma Phi affiliations, including mother, grandmother or aunt. The student may also be a member of Beta Sigma Phi. Leadership ability and community involvement are factors in selection. This scholarship is renewable.

**The James L. Bugg Scholarship** was established in 1978 by the Old Dominion University Alumni Association to honor this former University president. The award is made to an alumnus' son or daughter who has participated in extracurricular activities and community service and displays top academic achievement.

**The CHROME Scholarships** are funded by the University and awarded to entering freshmen who have participated in a certified high school CHROME club. Recipients must intend to pursue a degree in engineering, mathematics, science, technology or a related field.

**The Claire Virginia Dabel Memorial Scholarship** is funded through an endowment established by Dr. Virginia B. Newbern to assist one or more freshmen students majoring in the field of biology.

**The Peter G. Decker Scholarship** is funded by an endowment established by Peter G. Decker and the estate of Celia Stern. This scholarship is awarded to students who have graduated from the Old Dominion Lambert's Point Summer Program and are admitted to Old Dominion University upon completion of high school.

\***The E. L. Hamm Endowed Scholarship** was established by Edward L. Hamm, Jr. to assist a student who is residing in or has resided in Norfolk Redevelopment & Housing Authority properties. The recipient must be a full-time undergraduate student who demonstrates financial need. (FAFSA)

\***The James W. Ingersoll Memorial Scholarships** are made possible by an endowment given by the Ingersoll family, their friends and the citizens of Portsmouth, Virginia. These awards assist entering freshmen who demonstrate financial need and are graduates of Churchland High School in Portsmouth. (FAFSA)

**The James V. and Donna L. Koch Endowed Scholarship** was established by the Old Dominion University Educational Foundation in 2001 to honor this former University president and his wife. This four-year scholarship assists an incoming freshman with a minimum 1300 SAT score, 3.80 cumulative grade point average and extracurricular involvement. The scholarship can be renewed if the student maintains eligibility criteria.

**The Edgar and Kathleen Kovner Scholarships** for outstanding high school scholars are awarded each year to entering freshmen in the Frank Batten College of Engineering and Technology. The awards are based on performance in a high school curriculum that emphasized mathematics and the sciences. These scholarships are renewable for three years for recipients who remain enrolled full time in the Frank Batten College of Engineering and Technology and maintain a 3.00 grade point average.

**The A. D. Morgan Scholarships** are supported by a trust established in 1968 by Dr. A.D. Morgan and Annye Lewis Morgan. The scholarships assist Old Dominion University students who are U.S. citizens and residents of the greater Norfolk area. Preference is given to the members of the Freeman Street Baptist Church of Norfolk. Recipients are selected by the trustees of the Scholarship Fund and coordinated through the Old Dominion University Office of Student Financial Aid.

\***The Patricia Ann Vaughan Myers '57 Memorial Scholarship** was established by Hugh L. Vaughan in honor of his daughter, Patricia Ann. It assists an entering freshman who is a Virginia resident and a resident of the Tidewater area. The student must demonstrate financial need, academic merit and be a full-time student under the age of 24 who lives at home. (FAFSA)

**Norfolk School Board Scholarships** are funded by the University and awarded to ten entering freshmen graduates of Norfolk public or private schools. Students are selected based on their high school academic achievement. The award equals full in-state tuition (up to 15 credit hours per semester). Recipients are selected by the Director of Guidance of the Norfolk Public School system, in conjunction with the high school guidance counselors. Recipients may qualify for a one-year renewal of the award by maintaining a 2.50 grade point average and completing 24 academic units at the end of the first academic year.

**The Pace Collaborative Endowed Scholarship in Engineering** has been established by PACE Collaborative PC to assist an incoming freshman intending to major in engineering. The student must be a full-time student, have attained a minimum high school GPA of 3.0, and must be a U.S. citizen or Permanent Resident. The scholarship may be renewed up to three academic years if the student maintains a 2.5 GPA.

**The Parents' Association of Old Dominion University Freshman Scholarship** is funded by an endowment by the organization to assist an outstanding entering freshman who has demonstrated academic merit and leadership skills.

**The Parents' Association of Old Dominion University Freshman '90 Scholarship** is funded by an endowment by the organization to assist an

outstanding entering freshman who has demonstrated academic merit and leadership skills.

\***Regional Scholarship** awards are provided by the University in the amount of \$1,200 to entering freshmen from Accomack County, Chesapeake, Franklin, Hampton, Isle of Wight, Newport News, Northampton County, Portsmouth, Southampton County, Suffolk, Surry and Virginia Beach public high schools. Students must demonstrate financial need. Students may qualify for a one-year renewal of the award if they maintain a 2.50 grade point average, complete 24 academic units for the year and demonstrate financial need. (FAFSA)

## Old Dominion University Dominion Scholarships for Entering Freshmen

**The Theodore F. and Constance C. Constant Dominion Scholarship** was established by Theodore F. and Constance C. Constant to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test. The recipient must be a Virginia resident, with preference given to Hampton Roads residents.

**The Mary T. Cooper and Dudley Cooper Dominion Scholarship** was established by Mary T. Cooper and Dudley Cooper to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test. The recipient must also be a United States citizen.

**The Clifford and Ann Cutchins, III Dominion Scholarship** was established by Mr. and Mrs. Clifford A. Cutchins, III to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

**The Robert L. and Geraldine E. Fodrey Alumni Association Memorial Scholarship** Endowment was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

**The Harry H. and Marie Mansbach Dominion Scholarship** was established by Harry H. and Marie Mansbach to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

**The Joseph M. Marchello Dominion Scholars Endowment** was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

**The Clark-Nexsen Dominion Scholarship in Engineering** was established by Clark-Nexsen, PC, Architecture & Engineering and the ODU alumni employees of Clark-Nexsen, PC to assist an incoming freshman who is a resident of Virginia, ranks in the top 10% of high school class, has attained a minimum combined Scholastic Aptitude Test (SAT) score of 1200, and demonstrates potential for leadership.

**The Sam H., Willie Mae, and Herbert L. Sebren Dominion Scholars Memorial Endowment** was established by Mr. Sam H. Sebren, Sr. and Mrs. Lucille Sebren to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

**The William B. Spong, Jr., Dominion Scholar Endowment** was established by the Old Dominion University Alumni Association to assist incoming freshmen who present a minimum 3.8 cumulative grade point average, rank in the top 10 percent of their graduating class, and score 1280 or better on the Scholastic Aptitude Test.

## The College of Arts and Letters

\*♦**The H. Lee Addison, III Scholarship in History** was established by H. Lee Addison, III to assist a full-time undergraduate or graduate student majoring in history who has a minimum GPA of 3.0.

\***The Herbert Altschul Memorial Scholarship** in Humanities is made possible by an endowment given by the family of the late Herbert Altschul, a Norfolk businessman and former owner of Altschul's Department Store. This award assists three juniors who demonstrate financial need, are U.S. citizens and are majoring in the Humanities. (FAFSA)

\***The Bruce T. and Sarah Bishop Endowed Scholarship** was established by Bruce T. and Sarah Bishop to assist a full-time student in the College of Arts and Letters who has a cumulative GPA of 3.0 or better, demonstrates financial need, and demonstrates evidence of involvement in student activities. (FAFSA)

♦ **The Eliot S. Breneiser Memorial Scholarship** was established to assist a full-time music major in either the piano performance program or the music education program with a concentration in piano. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

\*♦ **The Martha Brown Endowed Scholarship** is made possible by the friends of Martha Brown. It is awarded to assist a full- or part-time student in the College of Arts and Letters. The recipient must be a sophomore or junior and maintain a minimum cumulative grade point average of 3.0 pursuing a minor in African American Studies. The student must also demonstrate financial need. (FAFSA)

\*♦ **The Dr. James V. D. Card Scholarship Fund** was established by James V. D. Card to assist an undergraduate or graduate student who is majoring in English. The recipient must demonstrate financial need. (FAFSA)

**The Claire Cucchiari-Loring Memorial Scholarship** was established by the Cucchiari and Loring families in honor of Claire Cucchiari-Loring. A scholarship is to be awarded annually to one or more full- or part-time musically talented students to be chosen by the Director of the Jazz Program. The recipient must be an undergraduate with a major in performance or voice. Preferred criteria include membership in the ODU Jazz Choir, membership in the ODU Jazz Band, and membership in the ODU Madrigal Singers.

**The Marie A. Dornhecker-French Language Endowed Scholarship** is funded by the Marie A. Dornhecker Charitable Trust and was established in 1998. The recipient must be a full-time student living in the Hampton Roads area of Virginia and must be a French language major in his or her junior year of study. The scholarship is to be based primarily on academic merit.

\*♦ **The Drewry Family Endowed Scholarship** was established in 2004 by William B. Drewry to be given to a declared undergraduate majoring in the College of Arts and Letters. The recipient must be academically average with a grade point average between 2.8 and 3.0. Preference will be given to a student with financial aid. (FAFSA)

\*♦ **The Friends of Women's Studies Scholarship** is funded by an endowment in honor of Carolyn Rhodes for students majoring in women's studies. Two scholarships are awarded: one to a graduate student seeking an M.A. in humanities and one to an undergraduate student. Undergraduate students must demonstrate financial need and have a minimum grade point average of 3.00. Graduate students must have a minimum grade point average of 3.50. Recipients can be full- or part-time students. (FAFSA)

\*♦ **The Barbara M. Gorlinsky Memorial Fine Arts Scholarship** is made possible by an endowment the Gorlinsky family established in memory of their daughter. It is designed to assist students with financial need who are fine arts majors. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO, FAFSA) (757) 683-4047

**The L. Cameron Gregory Scholarship in Journalism** was established by Frank Batten, in memory of Mr. Gregory, to assist a full-time undergraduate student majoring in English with an emphasis in journalism. The recipient must also have a cumulative GPA of 3.0.

**The Eva May Morris Gregory Dance Scholarship** honors someone who emulates Ms. Gregory's approach and perspective regarding dance. The recipient must be a rising senior majoring in dance with a minimum 3.00 grade point average.

\*♦ **The Ralph Jackson and Clara Jackson Kingsbury Memorial Scholarship Endowment** was established by Dr. Ralph Harrison Jackson in memory of his sister and himself. This endowment is to assist one or more undergraduate junior, senior and graduate student(s) majoring in English who has a cumulative GPA of 3.0 or better and demonstrates financial need. (FAFSA)

**The Lee and Bernard Jaffe Family Endowed Scholarship** Fund acknowledges excellence in spoken and written communications using the English language. The recipient must be a rising junior or senior with a declared major in English or Communications with a 3.50 grade point average and recommended by the department chair and dean.

**The Jerome J. Kern Music Prize** was made possible by an endowment from the estate of Jerome J. Kern to assist a student who has declared a major in music. The award is determined by the Department of Music and based on academic merit and musical talent.

**The Jerome J. Kern Music Scholarship** was established by William A. Goldback in memory of his uncle. The recipient must be an undergraduate student of exceptional musical ability who is or plans to be a music major. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

**The Wayne Lustig Endowed Scholarship**, established by Mrs. Elaine B. Lustig, assists undergraduate students in the College of Arts and Letters who demonstrate academic merit and participate in one of ODU's intercollegiate athletic programs.

♦ **The Perry Morgan Fellowship in Creative Writing** established in 2005 by Frank Batten and is awarded to two or more first year full-time graduate students enrolled in the creative writing program. Recipients must maintain a minimum 3.5 GPA.

**The Old Dominion University Dance Program Scholarship** was established to assist a full-time dance major with outstanding ability/potential in dance.

**The James Harrison Parker Scholarship Fund** was established by the Thistle Foundation to assist a student majoring in English with an emphasis in composition. The recipient must be a rising junior and have a minimum cumulative 3.00 grade point average.

\*♦ **The Harvey Ronald Saunders Memorial Endowed Scholarship** was established by Mr. and Mrs. Louis M. Saunders to assist an undergraduate or graduate student majoring in the arts/fine arts with an emphasis in painting or drawing. The recipient must have a 3.00 minimum grade point average, demonstrate financial need and be a citizen of either the United States or Israel. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO, FAFSA) (757) 683-4047

♦ **The Charles K. Sibley Art Scholarship** is funded by an endowment made possible by contributions from the friends and patrons of the former Old Dominion University professor. Awards are to assist graduate or undergraduate students majoring in studio art or art history. Information concerning portfolio requirements is available from the Art Department. (PORTFOLIO) (757) 683-4047

**The Schwetz Scholarship Fund of the Tidewater Jewish Foundation** was established by Ruth F. Schwetz through a bequest in her will to provide a scholarship that will assist a student participating in Hillel at Old Dominion University or a student taking courses in the Jewish Studies major and/or minor.

**The Caroline Heath Tunstall-Elizabeth Calvert Page Dabney Scholarship** is funded by an endowment contributed in honor of two former members of the Old Dominion University English Department. This scholarship is awarded to an upperclassman in the College of Arts and Letters who has obtained at least a 3.50 grade point average.

**The Charles E. and Frieda O. Vogan Music Scholarship** assists undergraduate music students. Information concerning audition requirements is available from the Music Department. (AUDITION, PARTICIPATION) (757) 683-4061

♦ **The Forrest P. and Edith R. White Endowed Scholarship** Fund was established by Edith R. White to provide scholarships to students studying acting in the Old Dominion University Communication and Theatre Arts Department. (AUDITION)

## The College of Business and Public Administration

**The Accounting Alumni Scholarship** was established in 1993 by the Old Dominion University Accounting Alumni. It is awarded to a student who has completed a minimum of 60 semester hours majoring in accounting with a grade point average of 3.00 or above.

**The Agarwal and Yochum Endowed Scholarship** was established by Drs. Vinod Agarwal and Gilbert Yochum to assist an undergraduate student classified as being the best upper-division undergraduate economics major. Preference will be given to the student who is most financially disadvantaged.

\*♦ **The Jeffrey W. Ainslie Endowed Scholarship in Real Estate** was established in 2006 by Jeffrey W. Ainslie to assist a full-time student in the real estate track in the College of Business and Public Administration. The student must have a grade point average of 3.0 or higher and must demonstrate financial need. Preference will be given to the student with the highest GPA and demonstrating the greatest financial need. (FAFSA)

\*♦ **The Bagwell-Jones Endowed Scholarship** was established by Dorothy M. Jones in memory of her parents. The recipient must be a rising senior in the College of Business and Public Administration with the highest grade point average of three prior years at Old Dominion, as well as demonstrate financial need. (FAFSA)

\*♦ **The William R. Conrad Scholarship** was established by William R. Conrad to assist a full-time undergraduate student in the College of Business and Public Administration who has a cumulative GPA of 3.0 or better. The student must demonstrate financial need. (FAFSA)

**The Constant Dominion Business Scholarship** was established as an endowment by Mr. and Mrs. Theodore F. Constant. The scholars selected will be among the best students selected to enter the University's College of Business and Public Administration. The award will be given to at least two Virginia residents each year.

\*♦**The Larry J. and Elizabeth J. Creef Endowed Scholarship** was established as an endowment by Larry J. and Elizabeth J. Creef to provide a scholarship to a student with an interest in pursuing a career with the Federal Bureau of Investigation (FBI), the CIA, the Department of Homeland Security or other security agency of the U.S. government. The recipient must be a Virginia resident and a U.S. citizen, demonstrate financial need, be a full-time student enrolled in the College of Business and Public Administration and have declared a major in accounting. (FAFSA)

\***The Kim and Keith Curtis Endowed Scholarship** was established to assist a student in the College of Business and Public Administration. The recipient must demonstrate financial need, involvement in campus activities, and possess a GPA of 3.0.

\***The Douglas G. and Marianne M. Dickerson Endowed Scholarship in Business** was established by the Douglas G. Dickerson and Marianne M. Dickerson Foundation. The scholarship is awarded to a full-time or part-time undergraduate student who has a declared major in the College of Business and Public Administration and demonstrates financial need with a preference given to students ineligible for the Pell grant. The recipient must have a cumulative GPA of 2.5 to 3.0. The scholarship is renewable. (FAFSA)

**The Joan Gifford Scholarship in Real Estate** was established to assist a full-time undergraduate in the College of Business and Public Administration with a real estate track, who has a cumulative GPA of 3.0 or higher.

\***The Hunter A. Hogan Scholarship** is funded by an endowment established by Robert M. and Eleanor Stanton and Goodman Segar Hogan Inc. on the occasion of Mr. Hogan's retirement as chair of the firm and in recognition of his leadership in the real estate industry. This scholarship is awarded to one or more students who have demonstrated financial need and are enrolled in the real estate program in the College of Business and Public Administration. (FAFSA)

\***The Janet L. Hume Scholarship** is funded by an endowment given by Julien Robert Hume III. This scholarship is provided to assist a junior with a declared major in the College of Business and Public Administration who has demonstrated academic merit. Preference is given to a student at least 30 years old who has demonstrated financial need. (FAFSA)

\***The Dorothy M. Jones Memorial Scholarship** has been given anonymously by a former student to honor Professor Jones, associate professor emeritus in the College of Business and Public Administration. This scholarship is awarded to a junior who has declared a major in the College of Business and Public Administration. The student must be a resident of Eastern Virginia, enrolled full time, in good academic standing and demonstrate financial need. Preference is given to graduates of Matthews High School. (FAFSA)

**The Lori E. Kaplan Real Estate Endowed Scholarship** was established in memory and honor of the late Lori E. Kaplan by Harvey Lindsay, Janet Abraham and Roslyn Kaplan and funded by an endowment given by Harvey Lindsay Commercial Real Estate, friends and family of Lori E. Kaplan and the proceeds of the annual Lori Kaplan Memorial Golf Tournament. Preference is given to students with a declared major in financial management or real estate, a minimum 2.75 grade point average, demonstrated interest in the profession of real estate, demonstrated commitment to the community and those currently employed full or part time.

**The Barry M. Kornblau Real Estate Endowed Scholarship** was established by Barry M. Kornblau for a student who is a junior or senior in the College of Business and Public Administration. A major in financial management with an emphasis in real estate and a grade point average of 3.25 are required.

\***The Gregory Lumsden Endowed Scholarship** was established by Gregory Lumsden in 2005 to assist an undergraduate student in the College of Business and Public Administration. The scholarship recipient must have a minimum cumulative 3.0 grade point average and must demonstrate evidence of involvement in student activities. Recipient must demonstrate financial need. (FAFSA)

\***The McLaughlin Family Endowed Scholarship** was established in 2004 by Dennis McLaughlin and The Atlantic Group, Inc. to assist an undergraduate in the College of Business and Public Administration who is a declared management major. The student must have a grade point average of 3.0 or higher, and the selection will be based on demonstrated financial need. (FAFSA)

\***The Norfolk-Tidewater Chapter of the Society of Financial Service Professionals Scholarship** was established to assist a junior or senior majoring in risk and insurance in the College of Business and Public Administration. The student must be in good academic standing with the University. Preference is given to students who demonstrate a high grade point average, extracurricular activities and financial need. (FAFSA)

♦**The Charles H. and Mary Kathryn Rotert Scholarship** is funded by an endowment established by Mr. and Mrs. Charles H. Rotert Jr. This scholarship

is awarded to a deserving student in the College of Business and Public Administration.

♦**The Tidewater Association of Service Contractors (TASC) Scholarship** was established to assist a full-time undergraduate or graduate student from the College of Engineering and Technology or College of Business and Public Administration degree program. A full-time/part-time master's certification in government contracting program or any other certificate program supporting government contracting within the continuing education departments may also be considered. The scholarship recipient must have a minimum grade point average of 3.0.

♦**The Joseph and Donna Vestal Endowed Scholarship** was established by Joseph Vestal to assist a full-time student in the College of Business and Public Administration who has a GPA of 2.5 or higher and demonstrates financial need. The recipient must also be involved in campus student activities in a leadership program. (FAFSA)

♦**The Rolf Williams Memorial Endowed Scholarship** was established by the Propeller Club of the United States, Port of Norfolk to assist a full-time undergraduate or full-time graduate student in the College of Business and Public Administration. The student must be a rising senior with a declared major in maritime and supply chain management or a graduate student in the Master of Business Administration program with a concentration in maritime, ports, and logistics management. Preference will be given to the student with greatest financial need and at least a minimum cumulative GPA of 3.0. (FAFSA)

**Anne D. Wood Endowed Scholarship Fund** was established by Richard B. Thurmond in 2001 to assist an undergraduate student enrolled in the real estate track in the College of Business and Public Administration. The recipient must have a minimum grade point average of 2.50.

## The Darden College of Education

\*♦**The Coca-Cola Scholars Endowed Scholarship Fund** was established by the Coca-Cola Foundation. The scholarship recipient must be enrolled in a financial aid-eligible program leading to teacher certification, licensure, and/or enhancement. Consideration will be given to all students studying at rural Virginia TELETECHNET sites who have a minimum of 58 credit hours with a 3.00 cumulative grade point average. The recipient must also demonstrate financial need. (FAFSA, ESSAY)

♦**The Sarah E. Armstrong Scholarship Endowment** was established in 2002 in memory of the donor, Sarah E. Armstrong. The recipient must be a full-time student who has been accepted into the College of Education and must have an overall cumulative 3.2 grade point average.

\***The Peggy Ashford Scott Memorial Endowed Scholarship** was established by Simpson Ashford to assist a full-time undergraduate student majoring in elementary education. The student must have a grade point average of 3.0 or higher and a demonstrated financial need. (FAFSA)

♦**The J. Frank Sellew Memorial Scholarship in Education** was established by the friends and family of Mr. Sellew. The recipient must have a GPA of 3.0 and major in any teacher education program. The recipient must also meet all teacher education admission standards established by their program of study and the Darden College of Education.

**The Dr. A. Rufus and Sara Tonelson Scholarship in Special Education** was established by Dr. Stephen W. and Dr. Louis O. Tonelson in memory of their parents whose lives were dedicated to the education of students. Students must be accepted into the Darden College of Education's special education program, enrolled full time and have a minimum GPA of 3.0.

\***The Jessica Rhea Turner Scholarship in Human Services Counseling** was established by Ulysses Turner to assist a full-time student majoring in human services counseling with a minimum grade point average of 2.5. The recipient must demonstrate financial need. (FAFSA)

## The Frank Batten College of Engineering and Technology

**The American Society of Highway Engineers-Greater Hampton Roads Chapter Scholarship in Engineering (ASHE-GHR)** is awarded to a full-time undergraduate civil engineering student with an emphasis in transportation. The recipient must be a U.S. citizen, a rising junior, and have a minimum cumulative GPA of 3.0.

♦**The BBG Incorporated Endowed Scholarship in Engineering** was established by BBG Incorporated for a rising junior or senior majoring in electrical engineering, electrical engineering technology, computer engineering, or computer engineering technology who holds a minimum cumulative GPA of 2.5. The scholarship is also available to a graduate student majoring in electrical engineering or computer engineering with a minimum cumulative

GPA of 3.0. The recipient will also be considered for an engineering cooperative education/intern position with BBG Incorporated.

\***The Civil and Environmental Engineering Visiting Council (CEEVC) William M. Boone Memorial Scholarship** is awarded based on both need and merit to a full- or part-time, junior, civil and environmental engineering student. (FAFSA)

\***The CodeBetter.Com/Devlicio Us Endowed Scholarship in Computer Science** was established by Tiara Dimond and Brendan Tompkins to assist a full-time female undergraduate student majoring in computer science or computer engineering. Student must demonstrate financial need. (FAFSA)

**The Corporate Circle Endowed Scholarship** was established by The Corporate Circle of the Frank Batten College of Engineering and Technology in 2003. Recipients must be rising sophomores with excellent academic credentials and a declared major in either engineering or engineering technology. Preference will be given to someone with membership in one or more of ODU's student engineering societies.

**The John Foster Memorial Endowment** was established by the Virginia Surveyor's Foundation to assist a student enrolled in the surveying program within the Batten College of Engineering and Technology.

**The Edgar and Kathleen Kovner Scholarships** provide several one-year scholarships: (a) for continuing engineering students who demonstrate academic achievement and (b) for engineering students who participate in extracurricular activities.

\***The Toykea S. Jones Endowed Scholarship in Engineering** was established by Toykea Jones to assist a full-time undergraduate (sophomore or above) majoring in civil engineering, who must have graduated from one of the following high schools in Hampton Roads, VA: Lake Taylor, I.C. Norcom, Norview, Booker T. Washington, Maury, or Granby. Student must demonstrate financial need and must have a minimum GPA of 3.0. (FAFSA)

\***The Labelle Endowed Scholarship in Engineering** has been established by William M. Labelle, Jr. to assist a full-time, rising sophomore or junior majoring in electrical and computer engineering. Recipient must demonstrate financial need, be a U.S. citizen and have a GPA of 3.0 or better. (FAFSA)

**The Metts Endowed Scholarship in Engineering** was established by William F. Metts, Jr. to assist a full-time undergraduate in mechanical engineering. The recipient must be a U.S. citizen and have a minimum GPA of 3.0.

\***The Dr. Frankie Gale Moore Endowed Scholarship** has been established by Linda Y. Moore to assist a junior or senior female student majoring in engineering. The recipient must be enrolled full time, demonstrate financial need, and be a resident of Virginia or have attended a Virginia high school or been home schooled in Virginia. The recipient must be a U.S. citizen and have a GPA of 3.0 or better. (FAFSA)

\***The Clarence Lee Ray Endowed Scholarship** is made possible by an endowment established by Clarence L. Ray, Jr. The scholarship is awarded to a full-time undergraduate student in the Batten College of Engineering and Technology who holds a 3.0 GPA or better. The recipient must demonstrate financial need and be a U.S. citizen. (FAFSA)

♦**The Stuart H. Russell Memorial Scholarship** is made possible by an endowment established by the estate of Olive L. Spicer. The scholarship is awarded to a deserving student in the Batten College of Engineering and Technology with particular preference given to a student in the Electrical and Computer Engineering Department with an interest in electronics.

\***The Sue Cotton Smith Endowed Scholarship in Engineering** was established by Sue Cotton Smith to assist a full-time undergraduate student intending to major in civil and environmental engineering. The recipient must have attained a minimum high school GPA of 3.2, be a U.S. citizen or Permanent Resident, and demonstrate need. The scholarship may be renewed for up to four academic years if the student maintains a 3.0 GPA. (FAFSA)

\***The William D. Stanley Scholarship Fund in Engineering Technology** was established by William D. Stanley to assist an undergraduate, engineering technology, transfer student with 58 or more credits at a two-year institution at the time of matriculation at Old Dominion University and a 3.0 grade point average. Recipient must demonstrate need. (FAFSA)

**The Sumitomo Machinery Corporation of America Endowed Scholarship** is awarded to an undergraduate student enrolled in the Batten College of Engineering and Technology or the College of Business and Public Administration with preference given to students with a minor in Japanese. The recipient will be eligible for a work experience in Japan with the Sumitomo Machinery Corporation. The recipient may be eligible for renewal on a semi-annual basis with the approval of the award committee and the maintenance of a 3.00 grade point average.

**The Brent M. Terres Leadership Memorial Endowed Scholarship** was established by Sigma Nu Fraternity Inc., Eta Chi Chapter ("Sigma Nu") to assist an active member of Sigma Nu. The recipient must be a full-time

student, have a minimum cumulative GPA of 2.7, and demonstrate involvement in the community, campus, and fraternity. In the event Sigma Nu may not have an active chapter at ODU, the scholarship must be awarded to a full-time student majoring in computer engineering who has a minimum cumulative GPA of 2.7. The student must also receive a computer engineering faculty recommendation.

\*♦**The Clarke and Susan Vetrone Endowed Scholarship** is funded by an endowment established by Clarke and Susan Vetrone to assist one undergraduate and one graduate student with an intended or declared major in the Batten College of Engineering and Technology. The recipient must be enrolled full time and demonstrate financial need. An undergraduate student must have a minimum GPA of 2.75, and preference will be given to a student with learning disabilities. A graduate student must have a minimum GPA of 3.0. (FAFSA)

**The Virginia Society of Professional Engineers Scholarship**, established in 1991, is awarded to a junior or a senior in the Batten College of Engineering and Technology. The student must have attended high school in southside Hampton Roads, be active in College of Engineering and Technology clubs and societies and be a U.S. citizen. An essay must be submitted to the Engineering Scholarship Committee. (ESSAY)

\***The Benjamin R. Walker Scholarship in Engineering** was established by Stroud, Pence & Associates, LTD to assist a full-time undergraduate engineering student who meets the qualification to be on the Dean's List, is a rising junior or senior who has completed a minimum of 30 semester credit hours while attending ODU, has declared a major in civil engineering with a specialization or concentration in structural engineering, and demonstrates financial need. Student must be a U.S. citizen. (FAFSA)

\*♦**The Edward L. White Endowed Scholarship** was established by Edward L. White, Jr. and Margaret W. Moore to assist a computer engineering student. The recipient must be a Norfolk resident, have a minimum 3.30 grade point average and demonstrate financial need. (FAFSA)

\*♦**The George C. Winslow Scholarship** is made possible by an endowment to assist a graduate or undergraduate student who has demonstrated financial need and has obtained at least a 2.50 grade point average while pursuing a degree in mechanical engineering. (FAFSA)

**The Gordon Webster Zipperer III Endowed Scholarship** was established by the Hampton Roads Chapter of the American Society of Heating, Refrigerating, and Air Conditioning Engineers, Inc. (HRC-ASHRAE) to promote heating, refrigeration, and air conditioning engineering education at Old Dominion University. The recipient must be a full-time undergraduate student studying mechanical engineering or mechanical engineering technology. The student must have a minimum cumulative GPA of 2.5 and be a rising senior or in the senior year. Preference is given to student membership in the ODU Student Chapter of ASHRAE.

## The College of Health Sciences

\***The Amerigroup Leadership Endowed Scholarship** is made possible by the Amerigroup Corporation. The scholarship is awarded to a student who is enrolled at least half-time as an undergraduate junior or senior in the College of Health Sciences with an interest in nursing. Priority is given to students who have dependent children. The recipient must demonstrate financial need. (FAFSA).

♦**The Thomas Charles Auclair ('78) Scholarship** is made possible through an endowment given by Mr. and Mrs. George E. Auclair in memory of their son. The scholarship supports a student pursuing studies in environmental health.

**The Captain Kenneth B. Austin USN and Mrs. Virginia Frank Keller Austin Scholarship for Nursing Students** was established by Captain Kenneth B. Austin to assist a full-time student with junior status who has been accepted into the School of Nursing. The recipient will be selected based on merit and demonstrated leadership experience.

\***The Dr. Tapan K. Chaudhuri Endowed Scholarship** was established by Dr. Tapan K. Chaudhuri to assist a full-time junior or senior who has been admitted into the Old Dominion University nuclear medicine program. The recipient must demonstrate financial need and have the highest GPA amongst those eligible for the scholarship award. (FAFSA)

\*♦**The Chesapeake Regional Medical Center Nursing Endowed Scholarship** was established by the Chesapeake Regional Medical Center to assist a full-time undergraduate or graduate student enrolled in Old Dominion University's nursing program. The student must demonstrate financial need and must agree to accept 120 clinical hours at Chesapeake Regional Medical Center, or its successor. (FAFSA)

\*♦**The Friends of Dental Hygiene Endowed Scholarship** was established by Mrs. Linda Fox Rohrer in 2004. Recipients must be either full-time



graduate or undergraduate students. The scholarship will be awarded to a deserving student in the School of Dental Hygiene. The recipient must also demonstrate financial need. (FAFSA)

\*♦**The Gene W. Hirschfeld Scholarship** is supported by an endowment given by the former chair of the Department of Dental Hygiene and Dental Assisting. The scholarship is awarded to undergraduate or graduate students who demonstrate financial need and are enrolled in the dental hygiene program. (FAFSA)

\***The LifeNet Health Medical Technology Endowed Scholarship** was established by LifeNet Health to assist full-time seniors enrolled in the Old Dominion University medical technology program who possess an interest in microbiology. The recipient must agree to a 1-3 week internship at LifeNet Health or its successor (School of Medical Laboratory and Radiation Sciences will coordinate/supervise), and the internship must be completed before graduation. The student must demonstrate financial need. (FAFSA)

\***The Eugene Michael Yura and Eli Petrun Memorial Endowed Scholarship in Nursing** was established by Dr. Helen Yura Petro and Joseph Petro to assist a full-time senior or junior majoring in nursing. The student must demonstrate financial need. (FAFSA)

\***The Marilyn Frakes Quinn Endowed Undergraduate Nursing Scholarship** was established by Dr. John Nunnery to assist a full-time junior or senior student enrolled in Old Dominion University's nursing program. The student must demonstrate financial need. (FAFSA)

\***The TOWN Foundation Scholarship Awards** were established to encourage students with academic ability who lack sufficient financial means to attend the Old Dominion University School of Nursing. Each recipient must meet the normal admission standards of the Old Dominion University School of Nursing and demonstrate substantial financial need. (FAFSA)

**The George and Susan Petro and Michael and Anna Yura Endowed Scholarship** was established by Dr. Helen Yura Petro and Joseph Petro in memory of their parents, George and Susan Petro and Michael and Anna Yura. The scholarship is to be awarded to a full-time senior or junior majoring in nursing, with a minimum GPA of 3.0.

\***The Lettie Pate Whitehead Nursing Scholarship** is made possible by an endowment given by the Lettie Pate Whitehead Foundation, Inc. It is awarded to deserving females demonstrating financial need. (FAFSA)

## The College of Sciences

**The Clifford L. and Lillian R. Adams Scholarship** is made possible by an endowment established by Mr. and Mrs. Adams. Mr. Adams, the former director of the Research Foundation and department chair, taught in the Department of Physics at Old Dominion University for many years. The scholarship is awarded to a full-time undergraduate with a declared or intended major in physics.

♦**The Sarah E. Armstrong Science Scholarship Endowment** was established in 2002 in memory of Sarah E. Armstrong. The recipient must be a full-time student who has been accepted into the College of Sciences and must have an overall cumulative 3.2 grade point average.

**The Robert Bock Memorial Endowed Scholarship Fund** was established by the Bock family to assist a resident of Accomack or Northampton County. The recipient must be a junior or a senior majoring in the biological sciences with a cumulative grade point average of 3.00. Priority is given to residents of Chincoteague.

\***The CodeBetter.Com/Devlicio Us Endowed Scholarship in Computer Science** was established by Tiara Dimond and Brendan Tompkins to assist a full-time female undergraduate student majoring in computer science or computer engineering. Student must demonstrate financial need. (FAFSA)

**The Nancy Ferguson Frye Award** was established in 1990 by her family and friends. The recipient of the award must be a senior majoring in the geological sciences with a minimum grade point average of 3.25.

\***The Dr. James M. Kiernan Memorial Endowment** is made possible by an endowment given by Margaret and Charles Wildermann. The scholarship recipient will be chosen based on financial need. The student must be a declared physics, math, or computer science major and have earned at least a 2.5 grade point average. The recipient must be a citizen of the United States. Preference will be given to a junior or senior or a student who transferred to Old Dominion from a community college. (FAFSA)

**The Sree Taposh Kumar and Sreemati Bulu Rani Chowdhury Memorial Scholarship** was established by Dr. Tapan Chaudhuri, Dr. Tuhin Chaudhuri, Dr. Tandra Chaudhuri, Dr. Tarun Chaudhuri, Dr. Triptesh Chaudhuri, Mr. Tanmay Chowdhury, and Mrs. Tripti Bhaduri. The scholarship will assist a full-time student enrolled in the College of Sciences who is completing the prerequisites for medical school with the intention of working in the field of medicine. The scholarship will be awarded to the student with the highest GPA of the pool of potential recipients.

**The Science Museum of Eastern Virginia Prize** was established by the Science Museum Association of Eastern Virginia in 1998. The award is given to one or more junior students majoring in biology, chemistry, computer science, geology, math, oceanography, physics or psychology. The recipient(s) must have at least a 3.25 grade point average.

\***The A. Kenneth Scribner Science Scholarships** are made possible by the family of the late Mr. Scribner, former president of Virginia Chemicals, Inc. and a former member of the Old Dominion University Board of Visitors. Established in 1978, the scholarships assist students majoring in science or a science-related field who have demonstrated financial need and show capability and industry in scientific studies. Preference is given to graduates of Hampton Roads public schools. (FAFSA)

**The C. S. Sherwood III Scholarship** is made possible by an endowment from the family and friends of the late Calder S. Sherwood, III, former professor emeritus at Old Dominion University. This scholarship is to assist one rising senior majoring in either geology or chemistry (on an alternating basis).

**The Elzie Glenn Whitlock Endowed Scholarship in Math** is funded by an endowment established by Elzie Glenn Whitlock to assist a student who will be enrolled full time with a declared major in math. The recipient must have a GPA of 3.0 or higher.

## The Honors College

**The Honors College Scholarships** are awarded to a select group of entering freshman who, on the basis of their academic achievement, are chosen to participate in the program. The scholarship may be renewed for three years (six semesters) provided students continue to meet program participation standards. Recipients are selected by the Dean of the Honors College (Separate Application Required: <http://www.odu.edu/ao/honors/>) (PARTICIPATION) (757)683-4865

**The Brock Foundation Endowed Honors Scholarship** was established by The Brock Foundation to assist students enrolled in the Honors College. The recipients must be juniors or rising seniors in good standing in the Honors College and willing to volunteer with ACCESS.

**The Cranmer-Skinner Scholarships** are funded through an endowment established by Mr. and Mrs. Jay G. Cranmer in recognition of the contributions to the University by Dr. Richard Skinner, first director of the Honors College. They are awarded to Honors College participants whose academic performance, extracurricular activities and potential for leadership exemplify ideals of scholarship, personal integrity and citizenship. The endowment also provides financial support to bring prominent persons to campus to interact with the honors students. (PARTICIPATION)

**The Claire Nesson Academic Honors Scholarship** is made possible by Mrs. Claire Nesson to assist an entering or continuing student who participates in the Honors College. (PARTICIPATION)

## Military Awards

**Army Reserve Officer Training Corps (AROTC)** participants may qualify for scholarships. More information on application procedures and program requirements is available from the faculty of the Department of Military Science. (PARTICIPATION) (757) 683-3663

**Naval Reserve Officer Training Corps (NROTC)** participants may qualify for full or partial scholarships. More information on application procedures and program requirements is available from the faculty of the Department of Naval Science. (PARTICIPATION) (757) 683-4744

**The Vice Admiral Samuel L. Gravely Scholarship** has been established by the University to honor a member of the Naval community. Two recipients will be selected by the Hampton Roads Naval ROTC unit from among the College Program Candidates who have met the July 15 application deadline. The recipients must be full-time students with 3.00 minimum high school grade point averages and 1000/22 SAT/ACT test scores.

\*♦**The Lucille D. Thompson Memorial Scholarship** is sponsored by the American Legion Women's Post No. 118. The scholarship is awarded to an honorably discharged veteran who demonstrates financial need. (FAFSA)

\***The Theodore N. Turley Memorial Scholarship** assists an Army ROTC participant with financial need who has achieved junior status and has obtained a minimum 3.00 cumulative grade point average at the end of the first semester of the junior year. (PARTICIPATION, FAFSA)

**The Matthew Wallace Patriot Scholarship** was established to assist incoming freshman students who may be a relative of a United States service man or woman (Army, Air Force, Navy, Marines) wounded or deceased (KIA) or related to a service member who participated in Operation Iraqi and Enduring Freedom or any future operation thereafter. The scholarship is

renewable. The recipient must be in good academic standing, enrolled at least half time and maintain at least a 2.5 GPA. A 500 word essay, based on a specific topic determined by the scholarship selection committee, is required. (Essay) (757) 683- 3663

## Other Awards (General)

◆ **The Bannon Foundation Quasi-Endowed Scholarship** was established to assist four students of the Eastern Shore of Virginia with their commuter expenses.

◆ **Birshtein Family Scholarship Endowment** was established by Ms. Frances Levy Birshtein. Two scholarships per year will be awarded, The Mayer Isaac 'Easy' Birshtein Scholarship and The Oscar Brandeis Birshtein and Frances Levy Birshtein Scholarship. Recipients must be undergraduate students who have graduated from a high school in Norfolk, Portsmouth or Virginia Beach, have a cumulative grade point average between 3.00 and 3.50 and demonstrate financial need. (FAFSA)

\*◆ **The Opie and Peggy Bittle Memorial Endowment** was established in 2001 by Charles and Margaret Bittle Wildermann to assist a student who demonstrates financial need. (FAFSA)

\*◆ **The John R. Burton Jr. Scholarship** is made possible by an endowment given by John R. Burton Jr. This scholarship assists students who demonstrate financial need. Preference is shown to high school graduates who have been reared in the Hope Haven Children's Home. (FAFSA)

\*◆ **The Robert Claytor Memorial Scholarship** is funded by an endowment from the friends of Robert Claytor for a student who demonstrates financial need, according to federal needs analysis. (FAFSA)

**The Coalition of Black Faculty and Administrators' Endowed Scholarship** is funded by an endowment established by the Coalition of Black Faculty and Administrators to assist a student who is a graduate of one of the following high schools in Hampton Roads, VA; I. C. Norcom, Hampton, Bethel, Maury, Indian River, Norview, Booker T. Washington, Oscar Smith, Kecoughtan, Granby, Deep Creek, Menchville, Salem, Denbigh, Tallwood, Lake Taylor, Bayside, Phoebus, Western Branch, Churchland, Ocean Lakes, Kempsville, Great Bridge, Princess Anne, and Green Run. The recipient must be a full-time undergraduate or graduate student and must have an overall GPA of at least 2.5. An essay submission of 500 words is required. The essay topic is the student's commitment and/or involvement in the black community on or off campus.

\*◆ **The Delta Sigma Lambda Glenny Burns Scholarship** is supported by an endowment which assists female undergraduate students 25 years or older who have attended college for a minimum of one year. Delta Sigma Lambda members are eligible for the award. Preference is given to students who demonstrate financial need. Students must complete a separate application, which may be obtained from the Old Dominion University Women's Center. (SPECIAL APPLICATION, FAFSA) (757) 683-4109

**The Ellis Family Endowed Scholarship** was established by Janet A. and John C. Ellis to assist a high school graduate of a Hampton Roads high school. The recipient must be an undergraduate student of good character with financial need. Preference will be given to individuals who participated in the Tidewater ACCESS or Learning Bridge programs.

\*◆ **The Holland Dunston Ellis Jr. Memorial Scholarship** has been established through an endowment gift from Mrs. Lavonne P. Ellis in memory of her husband. The award is to assist a continuing student who is a Virginia resident from either I.C. Norcom or Booker T. Washington High Schools. The recipient must also have a cumulative GPA of 3.0 and demonstrate evidence of community service activities and/or achievement. Must demonstrate financial need. (FAFSA)

◆ **The Charles H. Eure Memorial Scholarship** is awarded to a marine science or engineering student who has a 3.00 grade point average and is of sound moral character. Preference will be given to a STASR (South Tidewater Association of Ship Repairers) company family member.

\*◆ **The Suffridge-Fallon Endowed Scholarship** was established by Patrick J. Fallon and Sandra S. Fallon to assist a full-time student with a minimum GPA of 3.0. The recipient must demonstrate financial need. (FAFSA)

**The Anita Clair Fellman Endowed Service Learning Scholarship** is funded by an endowment established by Dr. Carolyn H. Rhodes to assist one or more full-time graduate or undergraduate students who participate in a service-learning project through the Department of Women's Studies. The recipient will be selected by the chair of the Women's Studies Department and another faculty member in the department.

\*◆ **The Hackworth-Hobbs Endowed Scholarship** was established by Dorothy and Charles Hackworth and Charles Hackworth II to assist an undergraduate student with a minimum 3.2 grade point average who

demonstrates need and has participated in student activities and non-paid volunteer community activities. (FAFSA)

\*◆ **The Haislip-Rorrer Scholarship** was established in 2001 by Wallace G. and Linda Haislip. The undergraduate scholarship recipient must demonstrate financial need and leadership experiences, be a resident of the southside of Hampton Roads and have a minimum 3.00 grade point average. (FAFSA)

\*◆ **The Martin Luther King Jr. Endowed Scholarship** was established in 1987 by an anonymous donor to be given to a graduate of one of the following high schools: Lake Taylor, I.C. Norcom, Norview, Booker T. Washington, Maury or Granby. The recipient must have completed 60 academic credit hours with a major in the Batten College of Engineering and Technology or the Department of Accounting and demonstrate financial need. (FAFSA)

\*◆ **The R.K.T. "Kit" Larson Scholarship** is made possible by an endowment established in memory of Mr. Larson by his friends and colleagues of The Virginian-Pilot newspaper. The scholarship is awarded to a junior or senior with financial need who is enrolled full-time and works on a school, community or University publication. Recipient must be a resident of a Virginia or North Carolina city or county served by The Virginian-Pilot. (FAFSA)

\*◆ **The Lillian Vernon Endowed Scholarship** is funded by an endowment from the Lillian Vernon Foundation. It is awarded to a spouse, child, or grandchild of an active Lillian Vernon employee. Recipient must have a minimum grade point average of 2.80 and demonstrate financial need. (FAFSA)

\*◆ **The Aubrey and Lucille Machen Scholarship** is made possible by an endowment established in 1992 by Robert F. and Nancy M. Wildermann. The award assists a student who meets Old Dominion University's minimum academic requirements and has financial need. (FAFSA)

◆ **The Memorial and Recognition Scholarship** Fund is an endowed scholarship that will be awarded to a student with a minimum grade point average of 3.00 and is able to demonstrate involvement in community service.

◆ **The Steve Russell Morrison Memorial Endowed Scholarship** has been established by the family and friends of Steve Russell Morrison and the Epsilon Beta Chapter of Kappa Delta Rho. This scholarship is awarded to a rising sophomore demonstrating leadership and involvement in campus and community affairs. Preference is given to active members of the Epsilon Beta Chapter of Kappa Delta Rho. (ESSAY)

\*◆ **The Norfolk Southern Scholars Program** was implemented by the Norfolk Southern Foundation for students from the Lambert's Point neighborhood of Norfolk. It is awarded to students who have successfully completed the Lambert's Point Summer Program, are admitted to Old Dominion University and demonstrate financial need. It is renewable for a maximum of three additional years. (FAFSA)

**The Old Dominion University Alumni Association Adam Thoroughgood Scholarship** was established in 2002 to assist a full-time undergraduate student. The recipient must demonstrate strong leadership skills, proven volunteer activities within the community, and a minimum grade point average of 3.0. (INTERVIEW, ESSAY)

**The Old Dominion University Faculty Emeriti Association Scholarship** is made possible by an endowment established by the organization. This scholarship assists full-time undergraduate students entering their junior year of study, who have high academic credentials. Preference is given to dependent children of current Old Dominion University faculty and faculty administrators.

\*◆ **The Old Dominion University Faculty Wives and Friends Scholarship** is awarded to a woman at least 25 years old who is attending college after an absence of at least a year. The award assists a student who demonstrates merit and financial need. (FAFSA)

**The Parents' Association of Old Dominion University Continuing Student Scholarship** is provided by the association to assist a continuing student who demonstrates academic merit.

\*◆ **The James Harrison Parker Memorial Endowed Scholarship** was established for the purpose of providing student educational assistance. The recipient must be a junior or senior degree candidate in environmental engineering, coastal engineering, oceanography or biological sciences. The student must demonstrate financial need and have a minimum grade point average of 3.00. Preference may be given to a student who has been active in the local Boys and Girls Club. (FAFSA)

\*◆ **The Alfred B. Rollins Jr. Scholarship** was established in 1985 by the Old Dominion University Alumni Association to honor this former president of the University. The award assists a student who demonstrates financial need and is in his/her senior year of study. (FAFSA)

\*◆ **The C.S. Sherwood/Portsmouth Community Trust Scholarship** was established by the Distribution Committee of The Portsmouth Community Trust. Recipients must be graduates of a Portsmouth, Virginia public high

school in the upper 20 percent of their graduating class, be of good character and demonstrate financial need. (FAFSA)

\*♦**The Sherwood/Portsmouth Scholarships** are funded annually by a trust established by the late Calder Sherwood III, a professor emeritus in the departments of Chemical Sciences and Physics/Geophysical Sciences. Professor Sherwood served on the Old Dominion University faculty for 38 years. The scholarships are awarded to graduates of public high schools in Portsmouth, Virginia who demonstrate financial need. (FAFSA)

**The John and Grace Staley Memorial Scholarships** are made possible by an endowment from the estate of Grace Staley to assist one male and one female student who successfully completes the University Ladders program. The recipients must have an advisor's recommendation.

**The Brent M. Terres Leadership Memorial Endowed Scholarship** was established by Sigma Nu Fraternity Inc., Eta Chi Chapter ("Sigma Nu") to assist an active member of Sigma Nu. The recipient must be a full-time student, have a minimum cumulative GPA of 2.7, and demonstrate involvement in the community, campus, and fraternity. In the event Sigma Nu may not have an active chapter at ODU, the scholarship must be awarded to a full-time student majoring in computer engineering who has a minimum cumulative GPA of 2.7. The student must also receive a computer engineering faculty recommendation.

♦**The Town-N-Gown Scholarship** has been established by Town-N-Gown, an association dedicated to promoting cooperation between the Hampton Roads community and the University in order to promote better understanding in fulfilling the aims and ideals of each. The scholarship recipient rotates annually from the following: (1) resident of the greater Hampton Roads area, (2) a member of or dependent of active duty military personnel and (3) a dependent of an Old Dominion University faculty or staff member.

♦**The Hugh L. Vaughan Scholarship** has been established by an endowment made by Mr. Hugh L. Vaughan to assist handicapped students. Preference is given to blind students. Recipients must be native-born Virginians.

\***The Wachovia Bank, N.A. Endowed Scholarship** assists an undergraduate student who is a Virginia resident and demonstrates financial need. First preference is given to a student from Lambert's Point neighborhood, second preference is given to a student from the neighborhoods surrounding the Old Dominion University campus, and the third preference to a student from the Hampton Roads area. (FAFSA)

\*♦**The E. C. Wareheim Foundation "Returning Women's" Scholarship** has been established by an endowment to assist one or more returning women from Norfolk, Virginia Beach, Portsmouth, Chesapeake or Suffolk who have demonstrated financial need. Preference is given to students who enroll part-time. (FAFSA)

**The Lewis and Lisa Warren Endowed Student Internship** was established to provide the opportunity for outstanding students to receive a scholarship financing career-oriented work experience, as a supplement to their academic education. The recipient must be a junior or senior majoring in natural sciences or creative arts.

**The Lewis and Virginia Webb Jr. Scholarship** was established in 1975 by the Old Dominion University Alumni Association to honor this former president of the University and his wife. It is awarded to the rising junior with the highest grade point average at the end of his/her sophomore year of study.

\*♦**The Jane L. and Robert H. Weiner International Affairs Scholarship** is made possible through an endowment established by Mr. and Mrs. Weiner to assist a student who will be studying abroad through the International Student Exchange Program (ISEP). Preference will be given to students who will study in a third world or developing country for the purpose of fostering international understanding and peace and who demonstrate academic achievement and financial need. (FAFSA)

\*♦**The Calvert S. Whitehurst Scholarship** is funded by an endowment established by Mr. Robert B. Kendall and augmented by the Whitehurst Scholars Scholarship Foundation. The endowment recognizes the contribution of both Mr. Calvert S. Whitehurst and his son, Professor G. William Whitehurst, former member of the U.S. Congress. The scholarship is awarded to a student with financial need who demonstrates academic potential. (FAFSA)

\***The Friends of Dr. G. William Whitehurst Scholarship** is an endowment established by the friends of Dr. G. William Whitehurst to be awarded to an undergraduate student with a minimum grade point average of 3.0 who is eligible for the Federal Pell Grant. (FAFSA)

\***The Fritz and Marcy Wildermann Scholarship** was established in 1980 by Mr. and Mrs. Robert F. Wildermann to assist a student who meets Old Dominion University's minimum academic requirements and has financial need. (FAFSA)

\***The Robert F. and Nancy M. Wildermann Endowed Scholarship** was established by an endowment in 2001 by Nancy M. Wildermann. The

scholarship will be awarded to a full-time student who demonstrates eligibility to receive the Federal Pell Grant. The recipient must have a grade point average between 2.5 and 2.75 (FAFSA)

**The Frieda Young Science and Engineering Prize** is awarded annually to a female with the highest grade point average who is a rising junior in either the Frank Batten College of Engineering and Technology or the College of Sciences. Some restrictions on majors do apply within each college and the recipient must be a U.S. citizen.

## Other Financial Aid Resources

\***The GATS, Inc. Endowed Scholarship** has been established by the GATS Charity Fund to assist a full-time freshman student majoring in the sciences, engineering, math, or computer science. The recipient must have a high school GPA of 3.0 or higher and demonstrate financial need. (FAFSA)

♦**The Parker Lesley Endowed Fund** has been established for students who demonstrate need for special circumstances. Special circumstances are defined as emergency travel, supplies, equipment, etc. (ESSAY) (757) 683-5524

♦**The James Stamos Scholarships** in Voice and Piano are made possible by a bequest from Mr. Stamos to assist several students who are majoring in either voice or piano. Information concerning audition requirements is available from the Music Department. Contact Mr. Dennis Zeisler, chair of the department. (AUDITION) (757) 683-4061

♦**The Student Activities Scholarships** in music are awarded to students who participate in one or more Music Department activities including concert choir, band, orchestra, Madrigal Singers and brass choir. Information concerning audition requirements is available from the Music Department. Contact Mr. Dennis Zeisler, chair of the department. (AUDITION, PARTICIPATION) (757) 683-4061

♦**The Viburnum Acting Endowed Scholarship Fund** was established by the Viburnum Foundation to provide monetary awards to acting students. (AUDITION)

**The Melvin H. Williams Scholarship for Exercise Science** was established by Melvin H. Williams to assist a student in the exercise science program in the Department of Exercise Science, Sport, Physical Education and Recreation. The recipient must be a rising senior, enrolled full time, and have at least a 3.0 cumulative GPA.

## Veterans and Dependents Benefits

Information about the administration of education assistance under the Veterans Administration may be obtained from the VA website: [www.vba.va.gov](http://www.vba.va.gov). Students wishing to use their VA benefits at Old Dominion University may find further information on the University Registrar's web page: [www.odu.edu/ao/registrar/mss/certification/index.shtml](http://www.odu.edu/ao/registrar/mss/certification/index.shtml).

Contact the Office of the University Registrar for further assistance by phone: 757 683-4425; by FAX: 757 683-5357; or by email to [vaservices@odu.edu](mailto:vaservices@odu.edu).

## Termination of Aid

Failure to remain in good academic standing will result in automatic withdrawal of financial aid by the University. Failure to comply with the conditions of a financial award will cause its termination and the return of any unexpended funds as well as repayment, in some cases, of funds already utilized.

## Financial Aid Deferment

A deferment is an extension granted by the University which allows a student receiving scholarships, grants, or student loans to delay payment of tuition and fees. Fall semester deferments expire on October 1, Spring semester deferments expire on March 1, and Summer semester deferments expire on August 1. Students who have officially accepted an offer of financial aid by submitting a signed award acceptance letter and demonstrating intent to comply with any and all verification requirements and loan eligibility requirements at least one week prior to the first day of classes for the semester will be granted a deferment automatically.

Some types of aid cannot be deferred, including but not limited to Federal Work Study (which must be earned by employment and for which payment is made directly to the student), Federal PLUS loans, room scholarships, book scholarships, board scholarships, and payments by third parties (contractual arrangements, private scholarships, etc.). NOTE: Federal Direct student loan deferments are calculated at the net value of the loan (less the federally-set loan origination fee).

If the amount of the financial aid deferment is less than the student's tuition and other charges for the semester, the student is responsible for paying the excess charges (total bill minus anticipated deferment) by the stated tuition deadline for that semester.

Students are responsible for paying any outstanding balance not covered by the amount of aid deferred. Late charges and other actions may be levied in the event of failure to meet financial obligations. For additional information, contact the Office of Finance.

Regulations governing the administration of student financial aid are subject to unanticipated change. Information provided herein is as accurate as possible on the date of printing.

## **Financial Aid for Graduate Students**

For information on financial aid for graduate students and graduate assistantship guidelines, refer to the Graduate Catalog.

# Synopsis of Degree Programs

COLLEGE	DEGREE*	MAJORS			
<b>ARTS AND LETTERS</b>	<b>Bachelor of Arts</b>	African American and African Studies Art History Asian Studies Communication	Criminal Justice English Foreign Languages Geography History	Interdisciplinary Studies International Studies Music Philosophy	Political Science Sociology Studio Art Theatre and Dance Women's Studies
	<b>Bachelor of Science</b>	African American and African Studies Communication	Criminal Justice Geography	Interdisciplinary Studies Political Science	Sociology Women's Studies
	<b>Bachelor of Fine Arts</b>	Acting	Fine Arts		
	<b>Bachelor of Music</b>	Composition	Performance	Music Education	
	<b>Master of Arts</b>	Applied Linguistics Applied Sociology	English History	Humanities International Studies	Lifespan and Digital Communications
	<b>Master of Fine Arts</b>	Creative Writing			
	<b>Master of Music Education</b>				
	<b>Doctor of Philosophy</b>	Criminology and Criminal Justice	English	International Studies	
<b>BUSINESS AND PUBLIC ADMINISTRATION</b>	<b>Bachelor of Arts</b>	Economics			
	<b>Bachelor of Science in Business Administration</b>	Accounting Decision Sciences Economics	Financial Management Information Systems and Technology	International Business Management	Maritime and Supply Chain Management Marketing Management
	<b>Master of Arts</b>	Economics			
	<b>Master of Business Administration</b>				
	<b>Master of Public Administration</b>				
	<b>Master of Science</b>	Accounting			
	<b>Doctor of Philosophy</b>	Business	Public Administration and Urban Policy		
<b>EDUCATION</b>	<b>Bachelor of Science</b>	Human Services	Speech-Language Pathology and Audiology		
	<b>Bachelor of Science</b>	Occupational and Technical Studies	Physical Education	Recreation and Tourism Studies	
	<b>Master of Science</b>	Occupational and Technical Studies			
	<b>Master of Science in Education</b>	Biology Chemistry Counseling	Early Childhood Education Educational Leadership Elementary Education	English Physical Education Reading	Secondary Education Special Education Speech-Language Pathology
	<b>Education Specialist</b>	Counseling	Educational Leadership		
	<b>Doctor of Philosophy</b>	Community College Leadership Counseling Curriculum and Instruction	Early Childhood Education Educational Leadership Higher Education	Human Movement Science Instructional Design and Technology Literacy Leadership	Occupational and Technical Studies Special Education
	<b>ENGINEERING AND TECHNOLOGY</b>	<b>Bachelor of Science in Civil Engineering</b>			
<b>Bachelor of Science in Computer Engineering</b>					
<b>Bachelor of Science in Electrical Engineering</b>					
<b>Bachelor of Science in Mechanical Engineering</b>					
<b>Bachelor of Science in Modeling and Simulation Engineering</b>					

	<b>Bachelor of Science in Engineering Technology</b>	Civil Engineering Technology	Electrical Engineering Technology	Engineering Technology	Mechanical Engineering Technology
	<b>Master of Engineering</b>	Aerospace Engineering Civil Engineering Electrical and Computer Engineering	Environmental Engineering Experimental Methods	Mechanical Engineering Motorsports Engineering	Modeling and Simulation Systems Engineering
	<b>Master of Engineering Management</b>				
	<b>Master of Science</b>	Aerospace Engineering Civil Engineering	Electrical and Computer Engineering	Engineering Management Environmental Engineering	Mechanical Engineering Modeling and Simulation
	<b>Doctor of Engineering</b>	Aerospace Engineering	Civil and Environmental Engineering	Engineering Management and Systems Engineering	Mechanical Engineering Modeling and Simulation
	<b>Doctor of Philosophy</b>	Aerospace Engineering Biomedical Engineering Civil and Environmental Engineering	Electrical and Computer Engineering	Engineering Management	Mechanical Engineering Modeling and Simulation
<b>HEALTH SCIENCES</b>	<b>Bachelor of Science in Dental Hygiene</b>				
	<b>Bachelor of Science in Environmental Health</b>				
	<b>Bachelor of Science in Health Sciences</b>				
	<b>Bachelor of Science in Medical Technology</b>				
	<b>Bachelor of Science in Nuclear Medicine Technology</b>				
	<b>Bachelor of Science in Nursing</b>				
	<b>Master of Public Health</b>				
	<b>Master of Science</b>	Community Health	Dental Hygiene		
	<b>Master of Science in Nursing</b>				
	<b>Doctor of Nursing Practice</b>				
	<b>Doctor of Philosophy</b>	Health Services Research			
<b>Doctor of Physical Therapy</b>					
<b>SCIENCES</b>	<b>Bachelor of Science</b>	Biochemistry Biology	Chemistry Mathematics	Ocean and Earth Science Physics	Psychology
	<b>Bachelor of Science in Computer Science</b>				
	<b>Master of Science</b>	Biology Chemistry	Computational & Applied Mathematics	Computer Science Ocean and Earth Sciences	Physics Psychology
	<b>Doctor of Philosophy</b>	Applied Experimental Psychology Biomedical Sciences Chemistry	Computational & Applied Mathematics Computer Science Ecological Sciences	Human Factors Psychology Industrial/Organizational Psychology	Oceanography Physics
	<b>Doctor of Psychology</b>	Clinical Psychology			

\*Diplomas will indicate the name of the degree only, not the major

# Registration Requirements and Procedures

## Office of the University Registrar

The Office of the University Registrar provides a wide variety of student services, including registration, verification of enrollment, maintenance of student records and academic history, transcripts, degree certification and diplomas. A calendar of important dates, the examination schedule, and information about various policies and procedures is available at [www.odu.edu/registrar](http://www.odu.edu/registrar).

The Office of the University Registrar also is responsible for determining in-state tuition status, athletic eligibility and registration of students enrolling through the Virginia Tidewater Consortium and the Interinstitutional Study Program with Norfolk State University.

Finally, the Office of the University Registrar provides service to military veterans who are attending the University by processing Veterans Affairs paperwork. Complete information is available to veterans on the Registrar's Office website as well as on the Veterans Administration website [www.gibill.va.gov](http://www.gibill.va.gov).

Self-service is available for most processes online at [www.leonline.odu.edu](http://www.leonline.odu.edu). On the Norfolk campus, walk-up services are available at the office in 116 Alfred B. Rollins, Jr. Hall. Additionally, many services are available at the higher education centers and the distance learning sites located throughout the Commonwealth of Virginia. The office is open Monday-Friday from 8 a.m.-5 p.m. and can be reached at 757-683-4425.

## Academic Calendar and Course Scheduling

The academic calendar consists of fall semester, which begins one week prior to Labor Day Weekend, and ends 16 weeks later. Classes will be held on Saturday and Sunday of Labor Day weekend, but classes are canceled for Labor Day. A Fall Break is scheduled for mid-October (Columbus Day Weekend) and runs from Saturday through Tuesday of that weekend. Thanksgiving break begins after classes on Tuesday prior to the holiday, and classes resume on the following Monday. Graduation is scheduled on the Saturday after exams have been administered.

Spring semester begins one week prior to the Martin Luther King holiday weekend. Classes are canceled for MLK weekend (Saturday-Monday) and resume on Tuesday following the holiday. Spring Break is scheduled eight weeks after the start of classes, from Monday through Saturday. Classes resume on the following Sunday and continue until Tuesday of week 15 into the semester, with the exception of Easter Sunday. A reading day is held the Wednesday after classes end, with exams beginning on Thursday and continuing to the following Thursday. Graduation is scheduled for the Saturday after exams have been administered.

Summer term is 14 weeks, with varying sessions allowing for course durations of one week, two weeks, and so on, up to 14-week timeframes. The term ends no later than mid-August.

Note: Asynchronous courses may or may not follow these terms. The University will determine the duration of each course, and students may opt for self-paced study, based on the concept of anytime/anyplace learning.

## Audit Status

The audit grading status is available for students who would like to enroll in a course for the knowledge gained or personal satisfaction, not for academic credit. Any course that is elected to be carried as an audit will be subject to the normal fees and regulations of the University. Regular attendance is expected, but neither tests nor examinations are required. No grade will be recorded, except that an instructor may assign a grade of W& to a student who misses an appreciable portion of the classes. The student's record will be marked "audit" by the course so elected. A student may not audit a course and subsequently seek advanced placement credit for the same course. A student may audit a course and register for the same course for credit in a subsequent semester. Any course elected for audit cannot be changed to that of credit status after the end of the "add" registration period. Registration for the audit option must be selected by the end of the drop/add period in the given semester. Students

receiving financial aid should be aware that registering for audit status may affect their financial aid eligibility. Selection of the audit status is accomplished through the normal registration procedures.

## Classification of Undergraduate Students

A sophomore must have completed 26 semester hours. A junior must have completed 58 semester hours. A senior must have completed 90 semester hours.

Transfer students will receive classifications based upon credit hours accepted by Old Dominion University.

Classification of students will be determined at the end of each semester.

## Course Numbering

Courses in which the leading number is zero, e.g. 050, are nondegree credit courses primarily in developmental studies.

Courses numbered 100 are primarily for freshmen, 200 for sophomores, 300 for juniors, and 400 for seniors. All 300- and 400-level courses require junior standing or permission of the instructor.

Courses at the 500, 600, 700, and 800 levels are exclusively for graduate credit. Courses at the 500 level are available for graduate credit only and correspond to undergraduate 400-level courses. However, a different grading scale is used for 500-level registrants; additional and higher quality work is required in 500-level courses.

General Education undergraduate courses are designated by the fourth digit in the course number. At the lower division, the following designations are used: for skills courses, C=Composition, F=Language and Culture, G=Information Literacy and Research, M=Mathematics and R=Oral Communication; for Ways of Knowing courses, A=Human Creativity, H=Interpreting the Past, L=Literature, P and E=Philosophy and Ethics, N=the Nature of Science, S=Human Behavior and T=Impact of Technology. Writing intensive courses are designated by a W in the fourth digit.

Topics course numbers include 195, 196, 295, 296, 395, 396, 495, 496, 595, 596, 695, 696, 795, 796, 895, and 896. These numbers are to be used to designate topics courses taught as a class. These courses should be shown in the course schedule with a section designation and room assignment. The particular topic for that semester should also be listed. Where a particular topic is offered more than two or three times, it should be approved as a regular course offering and given its own course number.

Individual and Tutorial course numbers include 397, 398, 497, 498, 597, 697, and 897. These numbers are to be used to designate courses involving individual or tutorial study within a discipline. These individually arranged courses will require prior approval by the department chair and/or instructor, and will be shown in the course schedule with the designation "TBA."

Cooperative Education course numbers are 367, 667, and 867.

Internship course numbers are 368, 668, and 868.

Practicum course numbers are 369, 669, and 869.

Extracurricular Activities course numbers are 377 and 378. These numbers are reserved for departments interested in granting credit for extracurricular activities at the undergraduate level.

Honors course numbers include 126, 127, 128, 226, 227, 228, 387, 388, 487, and 488. These numbers are reserved for departments interested in offering honors courses at the undergraduate level.

Seminar, Colloquium, and Capstone course numbers include 690, 691, 692, 693, 890, 891, 892 and 893.

Research/Project course numbers are 698 for the master's level and 898 for the doctoral level.

The Thesis course number is 699 and is reserved for the master's thesis.

The Dissertation course number is 899 and is reserved for doctoral dissertation courses.

The Continuous Enrollment course number 999 is available for the purpose of maintaining active status at the doctoral level. This may be a discipline-specific 999 course or GRAD 999.

Once a course number has been deactivated it may not be reused for a different course for a period of six academic years.

## Declaration or Change of Major or Minor for Undergraduate Students

Upon entrance to the University, students are assigned either to an advisor in the Center for Major Exploration or to an advisor in their college or department of interest. Distant students work with the site director or distance learning representative as their main advisor, with a college advisor on campus assigned as the final authority. Acceptance of a student for advising purposes does not

guarantee acceptance into the department as a major. Acceptance of a student as a major in a program cannot occur until all requirements for acceptance have been met. These requirements vary depending upon the major. Specific inquiries concerning requirements should be made to the academic college, school or department involved, or the site director or distance learning representative. In all cases a student must successfully complete English 110C before declaring a major.

A student must be accepted as a major in an academic program before the student may become a degree candidate or apply for graduation. Students cannot receive a degree in an academic program unless they have met all requirements for acceptance and have been accepted into that academic program. Nondegree students may not declare majors until admitted to degree status.

Students must contact the department of the intended major or their site director or distance learning representative to formally declare a major. Upon meeting the University, college, and departmental/school requirements for declaring the major and/or minor, the academic advisor, site director, or distance learning representative in the interest area will officially declare the major and/or minor through the Office of the University Registrar.

## Graduate Credit for Old Dominion University Undergraduates

**Undergraduate Students Enrolled in Accelerated Degree Programs.** Students enrolled in accelerated degree programs at Old Dominion University, approved by the provost and listed below, may take up to 21 hours of graduate credit that may be applied toward the undergraduate degree. Of these 21 hours of graduate credit, up to 12 can be applied toward both the undergraduate and graduate degrees, with this option being available only to those students who have satisfied all admission and continuation requirements of the specific accelerated programs. All graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine graduation with honors. Students in accelerated degree programs will be formally admitted to the graduate program following receipt of the baccalaureate degree.

Approved accelerated bachelor's to master's degree programs are as follows.

- Bachelor of Arts or Bachelor of Science to Master of Business Administration
- Bachelor's in Communication to Master of Arts in Humanities
- Bachelor of Arts in English to Master of Arts in English
- Bachelor of Arts in English to Master of Arts in Applied Linguistics
- Bachelor of Arts in History to Master of Arts in History
- Bachelor's in Interdisciplinary Studies (Individualized Integrative Studies) to Master of Arts in Humanities
- Bachelor of Arts in International Studies to Master of Arts in International Studies
- Bachelor of Arts in Philosophy to Master of Arts in Humanities
- Bachelor's in Women's Studies to Master of Arts in Humanities
- Bachelor's in Engineering or Technology to Master's in Engineering
- Bachelor's in Engineering or Technology to Ph.D. in Engineering
- Bachelor of Science in Dental Hygiene to Master of Science in Dental Hygiene
- Bachelor of Science in Environmental Health to Master of Public Health
- Bachelor of Science in Health Sciences to Master of Public Health
- Bachelor of Science in Nursing to Master of Science in Nursing
- Bachelor of Science in Computer Science to Master of Science in Computer Science

**Undergraduate Students with Senior Standing but not Enrolled in Programs with an Accelerated Degree Option.** An Old Dominion University undergraduate degree-seeking student with senior standing and a 3.30 or better grade point average in the major field of study may be allowed to take up to 12 hours of graduate course work for graduate credit, upon approval of the instructor of the graduate course, the chair and graduate program director of the department offering the graduate course, and the chair or chief departmental advisor of the student's undergraduate major department. Up to six hours of graduate credit taken prior to completing the undergraduate degree may be applied toward the undergraduate degree. The graduate credit may be used as a substitution for required undergraduate courses only with the approval of the department chair or chief departmental advisor of the student's undergraduate program. All graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine graduation with honors. The combined

undergraduate and graduate hours taken during any semester must not exceed 18. The proper request form, Request of Old Dominion University Undergraduate to Take Graduate Courses, is available in the Office of the University Registrar. This option is not open to undergraduate students with senior standing at institutions other than Old Dominion University.

## Degree Completion (Graduation) Application

Undergraduate students who have earned at least 102 credits and met other minimal requirements will be reminded via email to the ODU email address to begin the review process and to apply for graduation if eligible.

All students must apply for graduation during the semester prior to the expected completion of degree requirements. The deadline to file the intent to graduate is generally the last day of November, February and June for the following semester. Complete instructions and specific deadlines are published on the Registrar's Office website, [www.odu.edu/registrar](http://www.odu.edu/registrar). Students can apply online at LEO online or use the electronic form available on the Registrar's Office website.

Qualified students should access and download a current copy of the DegreeWorks degree evaluation from [my.odu.edu](http://my.odu.edu) and consult with the academic advisor or site director prior to submission of the application for graduation to ensure that degree requirements are being met. After meeting with the academic advisor and verifying eligibility for graduation, students should submit the application for graduation.

Students who have elected a minor must consult a representative in the minor department to ensure that minor requirements are being met.

Students pursuing two degrees simultaneously should submit a single graduation application listing both degrees. The student's advisors will submit separate degree certifications for each program directly to the Office of the University Registrar.

Students can view their application and degree status in LEO Online, [www.leonline.odu.edu](http://www.leonline.odu.edu). Once the application has been processed, the student's graduation status appears as "pending." The status changes to "awarded" once the degree is conferred. At peak times, coding can take up to four weeks following submission of the application.

Students who do not complete degree requirements as expected must reapply for the next graduation date.

## Graduation Clearance

All degree requirements must be completed no later than the last day of exams for the term in which graduation is anticipated. Students who are attending classes at other institutions should ensure that the course(s) and examination(s) taken at the other institution will be completed no later than the day prior to the date of expected commencement at Old Dominion University. In addition to departmental academic requirements specific to the major, minor, concentration or degree program, prior to conferral of the degree, undergraduate students must receive a passing score on the Exit Examination of Writing Proficiency and complete the senior assessment (survey). Students should also refer to the sections of this Catalog on Overall Requirements for Baccalaureate Degrees and Additional Requirements for Baccalaureate Degrees.

Students are responsible for monitoring their own progress toward degree completion and for meeting all graduation requirements. Students are encouraged to monitor the following specific University requirements: General education, foreign language, transfer work evaluation, and upper-level requirements. Students are also reminded that academic advising in the major department is extremely important to the successful completion of the degree being sought.

## Commencement

Commencement exercises are intended for students who are eligible and reasonably expect to complete degree requirements, graduating from the University within the current or next graduation period.

Commencement ceremonies are managed through the Office of University Events. Information about requirements for participation in commencement ceremonies, the on-line application process for tickets, academic regalia, schedule of events, etc., will be posted to [www.odu.edu/commencement](http://www.odu.edu/commencement). To be eligible to participate in ceremonies, candidates must register for commencement ceremonies according to deadlines posted by the Office of University Events.

Participation in May commencement ceremonies is limited to candidates for May graduation and students who expect to complete studies in the upcoming



August. Participation in December commencement ceremonies is limited to candidates for December graduation and graduates from the preceding August.

Students who expect to attend commencement ceremonies must be coded by the Registrar's Office as "pending" for graduation; otherwise, tickets will not be provided by the Commencement Office. With the exception of doctoral candidates, all students participating in commencement ceremonies remain pending for graduation until the record is evaluated and the degree is conferred, up to four weeks, excluding University holidays, following the date of the commencement ceremony.

Participation in commencement ceremonies does not confirm that a degree has been (or will be) conferred.

## Completion of Requirements for Undergraduate Students (Catalog Year)

Undergraduate students may choose to graduate under the Catalog in effect at the time of their first enrollment (part-time or full-time) or any subsequent Catalog provided that the students graduate within six years from the date of the first enrollment. For example, students beginning in the fall 2011 semester may use any Catalog in effect from fall 2011 through the end of the 2017 summer session, students beginning in spring 2012 may use any Catalog in effect from spring 2012 through the end of the fall 2017 semester, and students beginning in summer 2012 may use any Catalog in effect from summer 2012 through the spring 2018 semester. If students do not graduate within this six-year period, they may choose to graduate under any Catalog in effect within the six-year period preceding the date of graduation. For example, students graduating in spring 2012 may use any Catalog in effect from summer 2006 through spring 2012, students graduating in summer 2012 may use any Catalog in effect from fall 2006 through summer 2012, and students graduating in fall 2012 may use any Catalog in effect from spring 2007 through fall 2012.

**In all cases, students must have been duly admitted to the University and an academic program of study and meet all of the requirements for graduation in one catalog. Students may not "tailor make" their own degree requirements by selecting partial requirements from more than one catalog.**

## Diplomas

Diplomas are mailed to the student's permanent address after the degree has been posted. Mailing will begin at about the fourth week following the commencement ceremony, excluding University holidays, and continue until all diplomas have been distributed. All holds, debts or other obligations to the University must be satisfied before the diploma will be released. Information about holds can be viewed at [www.leonline.odu.edu](http://www.leonline.odu.edu).

The student's legal name (as maintained in the student system) and the degree title (Bachelor of Arts, Bachelor of Science, etc.) appear on the diploma. For a complete listing of degrees, please refer to the "Synopsis of Degree Programs" in this catalog. The student's major does not appear on the diploma, but is published on the transcript.

## Graduation with Honors

**Baccalaureate Degrees.** Baccalaureate degrees with honors are conferred in accordance with the following cumulative grade point averages on work attempted at Old Dominion University:

Honors	Minimum Number of Credit Hours	Minimum Number of Grade-Point Graded Hours
Cum Laude	3.40-3.65	60
Magna Cum Laude	3.66-3.85	60
Summa Cum Laude	3.86-4.00	60

These designations apply only to candidates who have completed 60 or more credit hours of work at Old Dominion University. At least 54 of the hours must be in grade-point graded courses. Honors designations will be posted to students' records and appear on the diploma.

Candidates who transfer to Old Dominion and thus do not qualify for honors designations because they have not completed 60 hours at Old Dominion University but who have 45 or more graded hours at Old Dominion University with a cumulative grade point average of 3.66 or higher will be recognized as

graduates with distinction. This information will be posted to students' records and appear on the diploma.

To determine eligibility for graduation with honors or with distinction, the student's complete record, including grades and hours for courses that have been forgiven using grade forgiveness or adjusted through the Adjusted Resident Credit policy, will be evaluated to calculate the final grade point average. If the student's overall average is sufficient, graduation with honors or with distinction will be posted to the student's record and appear on the diploma.

Credit earned under the Experiential Learning credit options (advanced placement, University exams, departmental exams, external exams such as CLEP and DANES, portfolio review, and training) does not apply to the 60 credit hours required for graduation with honors or the 45 hours required for graduation with distinction.

For students in approved accelerated degree programs, all graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine graduation with honors.

**Departmental Honors.** Undergraduate students may earn the designation of departmental honors on their diplomas. Minimum University standards for departmental honors are:

- Minimum cumulative GPA of 3.25;
- Minimum GPA in the major of 3.50;
- Completion of at least two 300- or 400-level courses designated by the department to be honors courses; and
- Completion of at least 60 credit hours at Old Dominion University, 54 of which must be in grade-point graded courses.

Undergraduate students who meet all the criteria for departmental honors except the credit-hour requirement may earn the designation of with distinction on their diplomas with the completion of a minimum of 45 graded hours at Old Dominion University.

Candidates who have used grade forgiveness or adjusted resident credit should be aware that the enhanced grade point average determined by use of these procedures does not determine eligibility for departmental honors. To determine eligibility for departmental honors, the student's complete record, including grades and hours for courses that have been forgiven or adjusted, will be evaluated to calculate the final grade point average. If the student's overall average is sufficient, departmental honors will be posted to the student's record.

Credit earned under the Experiential Learning credit options (advanced placement, University exams, departmental exams, external exams such as CLEP and DANES, portfolio review, and training) does not apply to the 45 credit hours required for departmental honors.

For students in approved accelerated degree programs, all graduate hours applied to the undergraduate degree will be counted in the undergraduate grade point average, appear on the undergraduate transcript, and be used to determine departmental honors.

Individual departments may set other eligibility standards in addition to the University standards. Interested students should contact the Honors College for more information.

**Contract Honors Courses.** Students with a grade point average of at least 3.25 may transform any upper-division course into an Honors course on an individual basis. With the advice and consent of the instructor, students take one or more courses that can be converted into Honors. No grade below B is accepted for Honors designation. In addition, contract honors courses may be used to meet requirements for departmental honors. Interested students should contact the Honors College for additional information.

## Normal Course Load for Undergraduate Students

The University considers the carrying of 12 or more semester hours to be full time for undergraduate students; 15 hours is considered a normal course load. Students seeking to enroll in more than 18 credit hours must have a 3.00 or better overall grade point average. In addition, they must obtain the recommendation of their advisor and written permission from the dean of the college in which their major program resides. Students without a declared major must obtain the recommendation of their advisor and written permission from the Dean of Academic Enhancement to enroll in more than 18 credit hours. A student on academic warning may not enroll in more than 14 credits per semester of attendance (no more than six credits in the summer sessions, and no more than one course in any single summer session) except under extenuating circumstances and with the permission of the dean or designee of the college in which the student is enrolled. A student on academic probation may not enroll in more than 14 credits per semester of attendance (no more than six credits in the summer sessions, and no more than one course in any single summer session). Otherwise, the actual course load is entirely the prerogative of the student.

During the summer session, an undergraduate student is considered to be full time if he or she is enrolled in nine hours. A student may not enroll in more than nine hours in a six- or seven-week session or four hours in a four-week session. A student on academic warning or academic probation may not enroll in more than six credits in the summer sessions and no more than one course in any single summer session. No student may enroll in more than 15 hours during the summer sessions without written permission of his or her advisor.

## Registration

There are several registration options available to students: registration via the web at [my.odu.edu](http://my.odu.edu), click LEO online, in person, on-campus registration, and off-campus registration.

Eligible students are encouraged to preregister in order to improve the likelihood of obtaining satisfactory schedules of classes. Preregistration is reserved for currently enrolled degree-seeking students. Eligible students will be assigned a "time ticket" four to six weeks prior to preregistration. Open registration begins immediately following the preregistration period.

Complete registration information, important deadlines and the final examination schedule can be found at [www.odu.edu/registrar](http://www.odu.edu/registrar). The course schedule is available at [www.leonline.odu.edu](http://www.leonline.odu.edu) by March 7 for summer and fall semester classes and by October 7 for spring semester classes.

## Class Schedule Changes and Drop/Add Procedures

During the fall and spring semesters, students may drop classes within the first 11 calendar days after the first day of classes for the semester and may add classes up to 11 calendar days after the first day of classes for the semester (for full semester classes).

Once registered, a student must drop or add classes via the secure website at [my.odu.edu](http://my.odu.edu), click LEO online or submit a completed drop/add form to the Office of the University Registrar or to the distance site office (for distance students). The date the form is received in the Office of the University Registrar, the distance site office or processed via LEO determines tuition adjustments, if applicable. If needed, drop/add forms can be downloaded from the Registrar's Office website: [www.odu.edu/registrar](http://www.odu.edu/registrar).

Freshmen are strongly encouraged to seek advising before dropping or adding any class. Students enrolled in degree programs in which sequencing is critical are urged to consult their academic advisors before scheduling changes. In such programs, dropping of courses without prior consultation with academic advisors may necessitate additional time to complete University and/or departmental degree requirements.

See the academic calendar in this Catalog or [www.odu.edu/registrar](http://www.odu.edu/registrar) and click on the link to "calendars" for the dates for adding or dropping classes. For information regarding the refund schedule, see the chapter on Tuition, Fees and Financial Information or go to the Office of Finance's web page ([www.odu.edu/af/finance](http://www.odu.edu/af/finance)).

## Attendance at Other Institutions

Students who are enrolled at Old Dominion University may attend another institution and transfer credit earned there back to a degree program at Old Dominion University. While formal Old Dominion University permission is not required, students should consult the academic advisor to ensure that the credits to be taken at the other institution will transfer to the Old Dominion University program in which the student is enrolled. A complete list of transferable courses that have already been evaluated can be found on the University's home page by searching for Monarch Transformation. If deemed equivalent and the student has earned at least a grade of "C," courses will appear on the Old Dominion University transcript as transfer credit and can be used for general education, major or minor requirements or elective credit. No grade points or hours are calculated into the Old Dominion University grade point average; only hours awarded count toward the total number of credits required for the degree. An official transcript from the other institution must be mailed directly to Transfer Evaluation Services, 108 Rollins Hall, Norfolk, VA 23529.

The other institution may ask the student to provide documentation of good standing or eligibility to continue at Old Dominion. These forms should be submitted to the Office of the University Registrar. Forms that require the student to demonstrate that the course(s) will be accepted for transfer credit at Old Dominion University should be submitted directly to the academic advisor.

## Academic Common Market

Old Dominion University, through a number of its undergraduate and graduate programs, participates in the Southern Regional Education Board's Academic Common Market. Eligible residents of participating states may enroll (following admission to degree status) as Academic Common Market students at in-state tuition rates. Evidence of legal domicile must be presented to the Office of the Registrar, Rollins Hall. Information on available programs can be viewed at [www.schev.edu/students/acmvainstable.asp](http://www.schev.edu/students/acmvainstable.asp).

## Interinstitutional Study Program with Norfolk State University

Old Dominion University students have the opportunity to elect courses at Norfolk State University through a student exchange program agreed to by the two institutions.

The registrar of each institution will register a student for courses at the other institution if the student presents a properly signed form listing the course or courses to be taken at the other institution. The student exchange will be honored both in the regular session and in the summer session and applies to both undergraduate and graduate students. All credits earned by students will be considered as resident credit at the home institution for degree purposes. (Courses taken at NSU under this policy will be considered the same as Old Dominion University courses; all other courses are subject to transfer credit policy limitations.)

Regular bus service is provided between campuses but is not available for evening classes.

## Virginia Tidewater Consortium Exchange Program

Old Dominion University students may also take courses at any of the following Consortium institutions: Christopher Newport University (Newport News), College of William and Mary (Williamsburg), Eastern Shore Community College (Melfa), Eastern Virginia Medical School (Norfolk), Hampton University (Hampton), Joint Forces Staff College (Norfolk), Norfolk State University, Paul D. Camp Community College (Franklin), Regent University (Virginia Beach), Thomas Nelson Community College (Hampton), Tidewater Community College (all campuses), and Virginia Wesleyan College (Norfolk).

Cross-registration is subject to the following regulations:

1. Cross-registration is limited to degree-seeking students with cumulative grade point averages of 2.00 or better.
2. Cross-registration credit is limited to 30 semester hours.
3. Cross-registration in major courses requires the permission of the department chair.
4. Cross-registration is limited to courses not available to students at the home institution during the current semester. Exceptions to this requirement must be made by the chair of the department offering the course.

For further information, contact the Office of the University Registrar, Alfred B. Rollins Jr. Hall.

## Student-Elected Pass/Fail Course Option For Undergraduate Students

1. The option to select courses for pass/fail credit is open to the undergraduate student who has been accepted by a department as a major.
2. Courses within the student's major or minor, or courses necessary to meet a departmental, school, or college requirement, or University General Education Requirement, may not be taken under this option.
3. A maximum of 12 hours of student-elected pass/fail credit may be applied to the student's baccalaureate degree unless in teacher education programs. Majors in teacher education programs may apply only three hours of student-elected pass/fail credit.
4. Instructors will have knowledge of which students in their courses are enrolled for pass/fail credit.
5. A student receiving a P will receive credit for the hours, but will not receive grade points, and the hours will not be counted in the computation of the grade point average. A student receiving an F will not receive credit for the course and there will be no penalty, although the failure will appear on his or her transcript.
6. A student electing the pass/fail option for a particular course cannot change his or her registration and elect to take the course for grade

point credit after the end of the “add” period. Similarly, courses cannot be elected as pass/fail after the end of the “add” period.

7. All prerequisites must be met for any course taken under the pass/fail option.

## Summer Sessions

Old Dominion University offers a 13-week summer program, including two six-and-one-half week sessions, two five-week sessions, and one 13-week session, starting in the middle of May and ending in the middle of August. The exact dates are listed on the Registrar’s Office website at [www.odu.edu/registrar](http://www.odu.edu/registrar). More than 1,500 graduate and undergraduate classes are offered on campus and off campus during the summer months.

## Transcripts

Transcripts are provided by the Office of the University Registrar and are issued only upon the written request of the student or upon submission through the secure website at [www.leonline.odu.edu](http://www.leonline.odu.edu) (click on link to student records and then transcripts). They should be requested at least five business days before the date needed to allow for processing and delivery. Students picking up transcripts must present valid identification.

No transcripts will be issued if the student has an outstanding debt at the University. All grades, academic standing, degrees received, and degree honors are included on the transcript.

An official transcript carries the University Seal and an authorized signature. Official transcripts are usually mailed directly to educational institutions, employers, etc. Any transcript mailed to or given directly to a student will be marked, “Issued to Student.” Partial transcripts are not issued; each transcript must include the student’s complete record at Old Dominion University. A transcript of work completed at any high school or at any college other than Old Dominion University must be obtained directly from that institution.

There is a charge of \$5.00 for each transcript issued. Additional fees are charged for expedited delivery services. Students may access and print unofficial transcripts for personal use through [my.odu.edu](http://my.odu.edu), click LEO online or [www.leonline.odu.edu](http://www.leonline.odu.edu) at no charge.

## Withdrawal From Classes or From the University

### Policy for Dropping and Withdrawing From Classes

**Dropping Classes.** Prior to the start of and during the first 11 calendar days of the semester, a student may drop a course; this means no grade will be assigned and no reference entered on the student’s permanent academic record. Please refer to [www.odu.edu/registrar](http://www.odu.edu/registrar) and click on the link to “calendars” for the dates to drop classes in nonsemester courses.

**Withdrawal from Classes.** After the first 11 calendar days of the semester, a student may withdraw from any course through the end of the tenth week of a regular semester. Please refer to [www.odu.edu/registrar](http://www.odu.edu/registrar) and click on the link to “calendars” for the dates to withdraw from classes in nonsemester courses. A grade of W will be assigned during this period. Students who withdraw through the end of the tenth week are encouraged to contact their instructor, advisor, site director, or distance learning representative, and financial aid counselor to discuss the implications of withdrawing.

Withdrawal from a course after the tenth week of a regular session (or its equivalent in a nonsemester course) is usually not permitted. However, in the event of an illness or other severe hardship beyond the student’s control, the student should submit, no later than the last day of classes, a written petition for permission to withdraw to the instructor and the chair of the department offering the course. If permission is granted by both, a grade of W will be recorded. If permission is not granted by both, the student will not be allowed to withdraw from the course. Any appeal of decisions should be brought to the dean of the college offering the course.

A student who stops attending classes without withdrawing from the course will receive a grade of WF, except if the student’s performance was an F at the time the student stopped attending class, in which case a grade of F will be assigned. The grade of WF will carry no grade points, and will be computed in the grade point average as a grade of F.

**Drop and Withdrawal Deadlines.** Specific deadline dates for dropping and withdrawing from classes are found at the Registrar’s Office website, [www.odu.edu/registrar](http://www.odu.edu/registrar), by clicking on the link to “calendars”

## Administrative Withdrawal From the University

During the course of any semester, there will be situations, such as severe illness, death in the immediate family, or disciplinary actions, which will require that the University initiate an administrative withdrawal from the University to assist a student or to implement a University-imposed sanction. The following procedures will be used.

1. The request for withdrawal is initiated either by the student because of an extenuating personal situation or by the University because of a disciplinary situation.
2. This action will normally be handled by the Chief Student Affairs Officer and Dean of Students or designee. If the student initiates the withdrawal, the Office of the Chief Student Affairs Officer and Dean of Students will determine what verification is necessary and document the situation.
3. A request will be submitted to the Office of the University Registrar to withdraw the student from all classes.
4. The student’s instructors will be notified. If the student is withdrawing after the last day to withdraw from classes without penalty, part of this notification will include the opportunity for the faculty member to raise objections if the student’s classroom performance is such that a withdrawal (W) would not be appropriate. If a faculty member objects, the faculty member will inform the University Registrar and the student will receive an “F” in the class.
5. The request for withdrawal must be initiated by the student within one calendar year counting from the first day of classes of the term for which administrative withdrawal is sought. Requests for withdrawal that have the necessary documentation but are received after the one-year deadline may be reviewed by an appeals committee consisting of at least three members and including both faculty and administrators, to be convened by the Student Ombudsperson in Student Affairs. These requests must include clear and convincing evidence explaining the student’s inability to submit the request within one calendar year.
6. Tuition refund appeals are handled separately and must be submitted to the Office of Finance. Students submitting requests after the one-year deadline are not eligible for a tuition appeal.
7. Students receiving financial aid should consult their financial aid counselor prior to submitting a tuition refund appeal.

## Sudden Withdrawal and Prolonged Absence Due to Military Mobilization

The following guidelines are provided for students whose service in the uniformed services has required their sudden withdrawal or prolonged absence from enrollment at Old Dominion University.

The following definitions are provided in connection with these guidelines:

“Service in the uniformed services” means service (whether voluntary or involuntary) on active duty in the Armed Forces, including such service by a member of the National Guard or Reserve, for a period of more than 30 days under call or order to active duty of more than 30 days.

“Tuition” means the actual price of education charged to a student for the term in which service in the uniformed services caused his or her sudden withdrawal or prolonged absence from enrollment at a Virginia institution of higher education.

“Reinstatement” means the readmittance and reenrollment of a student whose service in the uniformed services has caused his or her sudden withdrawal or prolonged absence from enrollment.

“Sudden withdrawal” means leaving an institution after a semester has begun or after the tuition and required fees for a term have already been billed to or paid by the student.

## Policies and Procedures

All active duty military students who are unable to complete course requirements due to change in employment duties, work schedule or deployment to a duty assignment may be administratively withdrawn from current semester courses. Students are required to furnish a copy of their military orders to the Office of the University Registrar. Upon receipt of the copy of military orders, the student will be withdrawn from all courses and refund of tuition will be processed following an audit of the student’s account and returned to the appropriate party. In addition, the University Registrar will notify the following offices so that additional refunds can be processed as appropriate: Housing and Resident Life, University Card Center, Parking Services, and Old Dominion University Bookstore. Students who are deployed while actively attending the University should make an effort to notify the

University Registrar as soon as possible so that records can be updated, providing a copy of military orders or verification of a new duty assignment.

**University Housing and Dining Services** – Upon notification by the University Registrar, the Executive Director of Office of Housing and Residence Life will authorize a refund based on prorated charges for the semester calculated on the days in residence. If the student is deployed prior to the start of the semester, but has made a formal commitment for University housing, the student will be released from the housing agreement without penalty and the deposit will be fully refunded.

**Dining/Monarch Plus Card/Parking Services** – Upon notification by the University Registrar, prorated refunds will be made for partially used meal plans. Funds remaining on the Monarch Plus card will be refunded to the student. Refund of payment for a parking decal will be prorated based on percentage of use.

**Textbooks** – Upon notification by the University Registrar, the Old Dominion University Bookstore will allow for full refunds/and or exchanges of textbooks for any student called to official active military duty as long as the book is in resaleable condition.

**Deposits for Admission** – Freshman students who are new applicants for admission to the University but who have not registered for classes may receive either a refund of the admission deposit or defer admission up to one year by submitting a request to the Office of Admissions.

**Preview Fee** -- Students who have paid but have not attended Preview will receive full refund of the fee.

**Academic Credit** – If the student has begun attending classes and sufficient time has passed in the semester, the incomplete grade policy may apply.

A grade of I indicates assigned work yet to be completed in a given course or absence from the final examination and is assigned only upon instructor approval of a student request. The I grade may be awarded only in exceptional circumstances beyond the student's control, such as illness, and only after 80% of the time allocated for the course has elapsed and substantial progress has been made toward completion of course requirements with the exception of courses that do not fit within the traditional semester calendar. In cases of exceptional circumstances beyond the student's control, it is the responsibility of the student to approach the instructor to request an I grade and to provide documentation, including a written statement of when the work will be completed, to support the request. The authority to award an I grade rests with the instructor whose decision is final. Students whose requests for I grades are approved must not re-register for the class until the I grade has been resolved. The I grade becomes an F if not removed through the last day of classes of the following term (excluding the exam period) according to the following schedule: I grades from the fall semester become F's if not removed by the last day of classes of the spring semester; I grades from the spring semester and the summer session become F's if not removed by the last day of classes of the fall semester. An I grade may be changed to a W only in very unusual circumstances and when the student's situation has changed since the I grade was awarded. In these cases, the request for a change to a W must be in writing, documented, and approved by the instructor, department chair and dean. Students will not be allowed to graduate until all grades of I have been resolved.

In the case of courses that do not fit within the traditional semester calendar, the faculty member assigns the I grade. The time periods for the removal of I grades before they become grades of F are the same as those stated in the previous paragraph.

Extension of the I time limitation normally will not be approved except for reasons beyond the student's control and only if the supervising faculty member is available and willing to supervise the work beyond the normal time limit. Students should submit the request to the instructor, who should submit approval, via the chair, to the University Registrar in order to retain the I. The approval from the instructor should designate the expiration date of the extension.

If the student is unable to complete the incomplete grade because of prolonged deployment the student should provide justification and documentation directly to the course instructor. At the instructor's discretion, the course instructor can authorize the University Registrar to administratively withdraw the student using this policy. The student will be withdrawn from the course, a grade W will be posted to the academic record and refund of tuition to the appropriate party will be processed. If the instructor is no longer employed at the University, the student should consult the department chair. In the event of a disagreement about a grade, the normal grade appeal process described in the University Catalogs will apply.

Students who are administratively withdrawn from the University under this policy are strongly encouraged to maintain contact with the University through the Office of the Dean of Students.

**Reinstatement** – As soon as plans are made, returning students should contact the Office of Admissions to verify their student status and to reactivate their record, if necessary, prior to re-enrolling in classes. Students who leave the University in good standing remain eligible to re-enroll. A student who has left the University for more than a year must complete a reactivation/readmission form available on the Office of Admissions web site. If the separation from the University was longer than five years, the applicant will need to resubmit all official transcripts and necessary credentials. There are no additional fees if the student has previously paid the admission fee.

Students who return following a prolonged absence due to military deployment should be aware of the time limits for Catalog election.

**Undergraduate Return to Program** – It is presumed the undergraduate student will remain eligible to return to the same program of study. The student should contact the chief departmental advisor for the major if returning to the same program of study. The content of some programs may require that the student repeat previously passed courses to maintain currency in the field.

If the program of study is no longer available for any reason, the student should seek the assistance of the academic advising unit in Academic Enhancement and access the degree evaluation system, available online as DegreeWorks, to determine a suitable alternative major.

**Undergraduate Time Limits** -- Undergraduate students may choose to graduate under the Catalog in effect at the time of their first enrollment (part-time or full-time) or any subsequent Catalog provided that the students graduate within six years from the date of the first enrollment. Students who have prolonged deployment may be required to elect a more recent Catalog or the Catalog in effect at the term of re-enrollment at the University. Returning students should consult their academic advisors to verify the correct Catalog for graduation purposes. Students should refer to their "general student record" in LEO Online to verify the Catalog selected at the date of first enrollment. The Catalog "year" begins with the fall semester each year.

In all cases, students must have been duly admitted to the University and an academic program of study and meet all of the requirements for graduation in one Catalog. Students may not "tailor make" their own degree requirements by selecting partial requirements from more than one Catalog.

The Office of the University Registrar will maintain records of administrative withdrawals completed under this policy.

# Academic Information, Resources and Policies

## Academic Enhancement

Academic Enhancement partners with faculty, departments, academic colleges, and the Division of Student Engagement and Enrollment Services to promote the academic achievement of all undergraduate students. Programs provide students with individualized assistance and support from skills development and academic coaching to undergraduate research and honors opportunities that foster academic achievement and encourage graduate-level study. Located in the Student Success Center, Academic Enhancement is the home for Peer Educators, Advising and Transfer Student Programs, Experiential Learning and Testing, Academic Skills, Student Support Services and TRIO Federal Grant Programs.

## Academic Advising for Undergraduate Students

<http://uc.odu.edu/advising>

All degree-status undergraduate students are required to have their courses of study approved prior to each registration. This approval may be from a faculty advisor, professional advisor, TELETECHNET site director, or distance learning representative. However, these individuals have the discretion to give approval for selected students to register for several semesters during one advising contact. Entering freshmen and campus transfer students who want to explore majors and careers are assigned an advisor in the Center for Major Exploration (CME) (1500 Webb Center). All freshmen and campus transfer students who are decided on a major are assigned to an academic advisor in their college or department of interest at the beginning of their initial term of enrollment. Campus students who become exploratory after an initial assignment to an advisor are referred to the Center for Major Exploration for advising and major/career counseling assistance. Distant students who are undecided about a major should consult with a site director or campus representative.

Acceptance of a student for advising purposes does not guarantee acceptance into the department as a major. When eligible, students must officially declare the major and be accepted by the department as a major.

Advisors will make every effort to give effective guidance to students in academic matters and to refer students to those qualified to help them in other matters, but the final responsibility for meeting all academic requirements for a selected program rests with the student.

Assistance with registration for the first semester is available at Preview summer orientation for all incoming students. Preview is required for all incoming freshman students and campus freshman-level transfers and is strongly encouraged for all other incoming campus transfer students. Distant students consult with a site director or distance learning representative for assistance with registration for the first semester.

All students are encouraged to contact their advisor regularly to evaluate their academic progress and discuss career and course options for the following semesters. Students are urged to consult with their academic advisor before making any changes to their approved schedules. Students who find themselves in academic difficulty or on academic warning should also consult with their academic advisors.

Student Success Advisors are available to assist students who have grades of C- or below at mid-term each fall and spring semester in 100- and 200-level courses. Students already in academic difficulty who are identified through the Early Alert grading system are contacted directly by the Success Advisor in their college through the University e-mail system for individual consultation and referral to support resources.

The assistant dean for advising and transfer programs in Academic Enhancement (Student Success Center) directs the campus advising system through the college advising coordinators, associate deans, the chief departmental advisors (CDAs), faculty advisors, the Center for Major Exploration, and the director of TELETECHNET advising, in coordination with the Career Management Center.

## The Academic Advising Mission Statement and Goals

In keeping with the University's mission, the primary purpose of the Old Dominion University academic advising program is to empower students to explore, experience, and engage in educational activities that assist them in the development of meaningful educational and career plans to meet their full potential.

### Academic Advisor Goals and Teaching Outcomes:

GOAL 1. To assist students in developing suitable educational plans and programs of study that promote academic success.

GOAL 2. To help students explore and clarify individual academic and career goals.

GOAL 3. To teach students how to select appropriate courses and other educational opportunities that provide the experiences needed to develop their goals.

GOAL 4. To teach students to review and evaluate progress toward established educational goals and completion of requirements within individual programs of study using the degree evaluation system.

GOAL 5. To develop student awareness and understanding that decision-making in the advising process is based on student responsibility and to promote understanding of University values as articulated in the University's mission statement.

GOAL 6. To encourage students to use University support services and related resources as needed (Undergraduate Catalog, Career Management Center, Counseling Services, Educational Accessibility, Writing Tutorial Services, etc.).

GOAL 7. To participate in advisor training sessions, keeping current on University policies and procedures.

### Student Goals and Learning Outcomes in the Academic Advising Process:

GOAL 1. To take full responsibility for learning about opportunities and resources that help formulate academic and career plans and to gather the information needed for the successful completion of all graduation requirements, including, but not limited to, course scheduling, program planning, and understanding the academic advising process.

GOAL 2. To define academic and career goals by exploring options through courses and other educational experiences.

GOAL 3. To be engaged in the course selection process and to actively seek and participate in other educational opportunities that help in the achievement of academic and career goals.

GOAL 4. To read and understand the University's policies and procedures in relation to meeting University, College, and Departmental graduation requirements.

GOAL 5. To be responsible for new information provided through on-line resources and to be prepared with accurate information and relevant materials when contacting the academic advisor.

GOAL 6. To consult with the academic advisor on a mutually agreed upon schedule to review course choices, discuss academic and career goals, and assess progress towards degree completion.

## Academic Testing and Placement

The University Testing Center is part of Academic Enhancement and is located in the Student Success Center. Personnel administer University placement tests, College-Level Examination Program (CLEP) exams, DANTES, the Miller Analogies Test (MAT), and correspondence tests, and coordinate entrance and certification test administrations. For information on testing, please see the web site at [www.odu.edu/testing](http://www.odu.edu/testing).

**Academic Skills Testing.** All incoming students, including transfer students, will be tested for proficiency in writing. The test results determine the appropriate writing course for each first-year student. A passing score on the Writing Sample Placement Test (WSPT) is a prerequisite to registration for English 110C.

All entering undergraduate students, including transfer students (with or without credit for freshman composition), must pass the Writing Sample Placement Test. Transfer students with credit for English 110C will not lose that credit.

A transfer student with credit for English 110C who has not passed the WSPT may not register for a second semester at the University until a plan to correct writing deficiencies, approved by the director of Academic Skills, is in

place. A student who has not passed the WSPT after two semesters as a degree-seeking student at the University will not be permitted to register until the test is passed.

A passing score on the WSPT is a prerequisite to registration for the Exit Examination of Writing Proficiency.

All incoming freshman students and transfer students are eligible to enroll in MATH 101M Math for Critical Thinking or MATH 102M College Algebra. Placement into math courses above MATH 102M will be based on a student's SAT or ACT score. Students who want to enroll in MATH 162M and above and STAT 130M who do not have an SAT or an ACT score must take the COMPASS placement test.

Students can challenge their math placement and/or seek academic credit by making an appointment to take the COMPASS placement test at the University Testing Center. Placements determined by the COMPASS test will be final. Students challenging their placement may take the COMPASS test up to the end of the first week of classes.

All students who have studied a foreign language in high school for three or more years must take a placement exam before continuing in that same language. Students with less than three years of foreign language study in high school may take the placement test if they wish; otherwise, they must begin with the 101F course. This policy does not apply to students who have advanced placement credit. Foreign language courses below the 300 level are not open to native speakers.

Students whose native language is not English and who have satisfied English language proficiency requirements (see the section of this catalog on English Proficiency Requirements for Non-Native Speakers of English) are exempt from the foreign language requirements for General Education, including exemption from foreign language placement testing. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

**Exemptions.** Students may satisfy the requirement for the first semester of General Education written communication based on their performance on one of two national examinations. Three hours of credit for English 110C will be earned if the student receives either: (1) a score of 3, 4, or 5 on the Advanced Placement Examination in English Language and Composition; or (2) a score of 50 or higher on the College-Level Examination Program (CLEP) English Composition with Essay Examination.

Students with superior scores on the COMPASS test receive credit for MATH 162M, or both 162M and 163, thus fulfilling the General Education Requirement. Students desiring credit by examination for STAT 130M should apply to take the DANTES test at the University Testing Center.

Students may be exempt from the General Education Foreign Language requirement (without credit) in one of the following ways: (1) presentation of three high school credits in one foreign language; (2) presentation of two high school credits in each of two foreign languages; or (3) presentation of a score of 490 or above on the CEEB Foreign Language Achievement Test or its equivalent. Credit is granted for scores of 3, 4 and 5 on Advanced Placement (AP) language exams in French, German, Latin and Spanish and literature exams in French and Spanish. No more than nine credits will be awarded if both AP language and literature exams are submitted. Credit is also granted for scores of 4, 5, 6 and 7 on the A2 and B exams in French, German, Latin and Spanish of the International Baccalaureate (IB). Contact the Testing Center for additional information. Students receiving B.A. degrees must demonstrate foreign language proficiency through the 202 or 212 level regardless of high school credits completed.

All placement tests described above are administered by the University Testing Center. Contact information can be found at the center's website at [www.odu.edu/testing](http://www.odu.edu/testing).

**Learning Assessment Lab.** The Learning Assessment Lab administers tests and exams in a proctored environment. Old Dominion University faculty may schedule proctored testing for either an entire class or for a select number of make-up exams.

## Advising and Transfer Programs – Transfer Student Services

Old Dominion University recognizes the unique needs of transfer students who require a wide array of campus resources. The Office of Advising and Transfer Programs assists transfer students with pre-enrollment advising and transition into college after admission to Old Dominion University. A variety of services and programs are offered to new students, and students are encouraged to take advantage of every opportunity - *Explore, Experience, and Engage!*

Students transferring from the Virginia Community College System may view information about Old Dominion University's Guaranteed Admission Agreement, Transfer Degree Plans and Articulation Agreements on the Transfer Student Services website at <http://uc.odu.edu/advising/transfer>. The coordinator of transfer student programming and articulation in Academic Enhancement also assists academic advisors with providing transition, orientation, and programmatic services for undergraduate transfer students from community colleges and other four-year colleges.

## Community College Transfer Programs

Old Dominion University offers a number of programs articulated with the Virginia Community College System. These programs begin with two years of course work at the community college and are completed at Old Dominion University with a baccalaureate degree. In accordance with the State Committee on Transfer Policy, these agreements are designed to minimize loss of credit due to transfer and to take maximum advantage of the lower tuition at the community colleges. See the Guaranteed Admission Agreement between Old Dominion University and the Virginia Community College System for more information on completing the Letter of Intent to Transfer ([admissions.odu.edu/undergraduate.php?page=gaa](http://admissions.odu.edu/undergraduate.php?page=gaa)). The coordinator of transfer student programming and articulation in Academic Enhancement is responsible for the development of these agreements with two- and four-year institutions, primarily within Virginia. Additionally, such agreements are developed with institutions in other states and countries. The coordinator also assists academic advisors with providing transition, orientation, and programmatic services for undergraduate transfer students from community and other four-year colleges. Further information can be obtained from the community colleges or at [uc.odu.edu/advising](http://uc.odu.edu/advising).

## Experiential Learning Credit Options at the Undergraduate Level

Old Dominion University offers a program for assessing college-level knowledge gained through work, life experience and self-study prior to attempting a specific ODU course. Students may initiate assessment of prior learning through a variety of assessment tools, including departmental examinations, portfolios, external examinations, performance assessment, or documented training programs, as determined by academic departments. The program, Experiential Learning, facilitates the assessment of such learning. A student may earn a maximum of 60 semester hours at the undergraduate level through experiential learning credit. However, in unusual situations when a student can demonstrate a more extensive knowledge base that would be applicable to a degree program, the student can apply to the Office of Experiential Learning for an exception to the 60-credit-hour maximum. The director will forward suitable requests to the appropriate department. Experiential learning credit may be granted through the following mechanisms:

- 1. External Examinations.** Satisfactory scores on the College-Level Examination Program (CLEP), Defense Activity for Non-Traditional Education Support (DANTES), International Baccalaureate (IB), Advanced Placement (AP) and professional certification examinations evaluated by the American Council of Education (ACE) for college-level credit. It is strongly recommended that students who wish to challenge particular courses do so through CLEP or DANTES examinations for which Old Dominion University awards academic credit. Qualifying scores through the Advanced Placement Examinations Program or Admissions Testing Program of the Educational Testing Service (ETS) are approved by departments. CLEP, DANTES, AP and IB scores received should be reported to the Office of Admissions.
- 2. Departmental Examinations.** Upon approval of the chair or dean (designee) of the college in which the course is offered, a student may take a comprehensive examination in an academic course in which he or she can demonstrate proficiency and upon passing the examination receive credit for that course. A request for testing should be made through the Experiential Learning Office, which forwards the request to the chair of the department involved. A course may be tested through departmental examination one time only.
- 3. Credit for Training.** Military and professional training is evaluated and recommended for college credit by the American Council on Education (ACE). The relevant academic department will recommend specific academic credit for posting to the student's record.
- 4. Portfolio Development.** Upon approval of the chair or dean (designee) of the college in which the course is offered, a student may develop a

portfolio for a course or courses offered by Old Dominion University to gain college-level credit. Portfolios are submitted to the director of experiential learning.

The following regulations for experiential learning credit will apply:

1. All experiential learning options will be granted with credit.
2. Experiential learning credit will be granted upon the written recommendation of the chair of the department or designated faculty assessor having jurisdiction over the courses involved with the chair's approval.
3. The applicability of experiential learning credit toward specific degree program requirements is subject to departmental approval.
4. A student may not fail a course at Old Dominion University and later receive credit for the same course through an experiential learning option.
5. A student may not enroll in a course for credit or audit at Old Dominion University and subsequently seek credit through an experiential learning option.
6. No letter grades will be entered on the student's transcript for experiential learning credit; this credit will be treated in the same way as transfer credit: a "P" (Pass) will be assigned and it will not count in the student's grade point average.
7. A student must request experiential learning credit as early as possible upon admission to degree status.
8. Experiential learning credit does not count toward the University's residency requirement. A student earning experiential credit must meet the minimum residency requirements of 25 percent of the total number of credits required for the degree at Old Dominion University, which shall include 12 residency hours of upper-level courses in the department of the declared major. The student should be aware that some program residency requirements exceed the University minimum residency requirements.
9. A student in a certificate or endorsement area may earn a maximum of six credit hours through experiential learning credit to apply to a certificate, endorsement or teacher licensure program. Experiential learning hours gained in these programs would be applicable to approved degree programs at Old Dominion University. In an approved undergraduate degree program, a student who has previously earned six credit hours of experiential learning credit for a certificate area may be eligible to attempt additional experiential learning credit toward a degree program.

The privilege of seeking experiential learning credit is available to both full-time and part-time degree status students only. A student should consult with the degree program advisor, site director, distance learning representative, and the Office of Experiential Learning at the beginning of his or her academic career at Old Dominion University to determine how experiential learning may be applicable to the degree. For further information, visit the Experiential Learning web site at [www.uc.odu.edu/elt](http://www.uc.odu.edu/elt).

For information about experiential learning options for graduate students, please see the section of the Graduate Catalog on Experiential Learning Credit Options at the Graduate Level.

## Procedures for Portfolio Development

Students wishing to receive academic credit through portfolio development should do the following:

- A. Consult the Office of Experiential Learning for guidelines on preparing a portfolio documenting "experiential learning" experiences relating to the course for which credit is sought.
- B. Submit the portfolio to the Office of Experiential Learning and include appropriate fees.
- C. The director will review the portfolio and forward it to the appropriate department chair for evaluation.
- D. The department chair, or a designated faculty assessor(s), will examine the portfolio and determine an award of credit. The decision will be forwarded to the director who will then notify the student and the University Registrar of the results.

If the conclusion for the portfolio assessment process results in a negative decision of the award of credit, a student may appeal the decision to the college having the responsibility for the course(s) for which credit is sought. The basis for a portfolio assessment appeal is the student's charge that the assessment decision was awarded through prejudice or caprice. The burden of proof rests with the student.

Students must initiate appeals in writing within three weeks of receiving the completed portfolio evaluation form. The appeal must be written to the director.

The director will forward the appeal letter to the appropriate department chair. The chair will review the student's appeal. The chair will get input from the student and from the faculty assessor and may form an independent committee to review the appeal. The chair makes the decision on the validity of the appeal. If the chair concludes there is no cause for complaint, the student has the right to appeal to the dean of the college.

If the faculty assessor is the chair, the student may go directly to the dean. The dean will follow the procedures as outlined above. The decision of the dean of the college is final.

## Experiential Learning Fees\*

Students participating in the Experiential Learning program are responsible for assessment fees as follows:

1. External Examination
  - Students are responsible for the testing fees for external examinations such as CLEP and DANTES, and should check with the Testing Center at Old Dominion University for fee information. There is no additional experiential learning assessment fee for the granting of academic credit for external examinations.
2. Departmental Examination
  - The experiential learning assessment fee is equal to 30% of the current approved in-state on-campus rate for undergraduate and graduate courses.
3. Training Evaluation
  - The type of training determines the experiential learning assessment fee for training evaluations. For example, Old Dominion University already articulates military training, and therefore, there is no additional experiential learning assessment fee for the granting of academic credit. The assessment fee for training not previously evaluated by Old Dominion University is equal to 20% of the current approved in-state on-campus rate for undergraduate and graduate courses. For information about training programs that have been evaluated by Old Dominion University, see the Experiential Learning web site at [www.uc.odu.edu/elt](http://www.uc.odu.edu/elt).
4. Portfolio
  - A one-time workshop materials fee.
  - Portfolio assessment fee equal to 50% of the current approved in-state on-campus rate for undergraduate and graduate courses.

Fees are based on the credit hours attempted and are not refundable if the student does not receive credit as a result of the evaluation. There is no appeal of the fee charge. The fees must be paid at the time the student submits the completed portfolio, departmental examination or training documentation for evaluation.

For more information call (757) 683-3697, visit the web site at [www.uc.odu.edu/elt](http://www.uc.odu.edu/elt) or email [universitytesting@odu.edu](mailto:universitytesting@odu.edu).

## Orientation

Upon admission to the University, undergraduate students and their parents and guests are invited to attend the University's orientation program, PREVIEW. Students entering the University as new freshmen (including transfer students with less than 24 hours) are required to participate in the PREVIEW Orientation program. PREVIEW is scheduled throughout the summer in a series of one-day sessions for incoming freshmen and transfer students. Fees for PREVIEW are determined each year. For more information, see the web site at [www.odu.edu/PREVIEW](http://www.odu.edu/PREVIEW).

At PREVIEW, students meet with academic advisors to plan and register for fall semester classes, receive an orientation to campus facilities and services, and become acquainted with the University staff, upperclass students, and other new students through informational and social activities. A program for parents and guests is scheduled concurrently.

A PREVIEW is also scheduled in December and January for students enrolling in the spring semester. A program for parents and guests is scheduled concurrently.

## Student Support Services

Student Support Services is federally funded and provides academic support for students meeting the eligibility criteria established by the U.S. Department

\* All fees are tentative and subject to final approval by the Board of Visitors and/or the president. Current experiential learning fees are available on the web site: <http://www.uc.odu.edu/elt>.

of Education. Student Support Services is designed to increase the retention and graduation rates of low-income, first-generation college students and students with disabilities. The following support services are available to students on a continuing basis: academic and financial aid advising, tutorial assistance, small group instruction in writing and mathematics, and study skills. For more information, please call 683-3582 or visit [www.uc.edu/sss](http://www.uc.edu/sss).

## Upward Bound Program

The federal TRIO Upward Bound Program at Old Dominion University is federally funded to serve low-income and first-generation college bound students. The program provides academic support and counseling services to develop the skills and motivation in participants who need assistance in order to complete high school and enter post-secondary school.

The program's services are offered in two phases: an academic year phase and a summer residential phase.

During the academic year phase, students meet on campus on Saturdays to receive small group and individual tutoring in math, English, computer applications, foreign language, social studies, basic skills, and science as well as career, educational, and personal counseling.

The summer residential phase is a six-week experience. Students live on campus and receive classroom instruction in subject areas tutored in during the academic year phase. Cultural enrichment activities are also provided during both phases of the program.

Only students from Norfolk and Portsmouth who meet the program's U.S. Department of Education eligibility guidelines can qualify to participate.

For more information, visit the website at [www.studentaffairs.odu.edu/ub](http://www.studentaffairs.odu.edu/ub).

## Writing Proficiency Program and Policies

### [www.uc.edu/writingcenter](http://www.uc.edu/writingcenter)

In response to a growing concern for the quality of students' writing, a comprehensive writing program was initiated at Old Dominion University in 1978. The program is implemented through Academic Skills as well as by all faculty members, since the University recognizes that an effective writing program is an ongoing process that forms an integral part of the student's overall academic preparation. Academic Skills offers workshops for campus students who need to improve their writing skills. Academic Skills also offers videotapes and materials for check-out by distance learners when requested.

## Undergraduate Writing Program Requirements

**Entrance Examination—Writing Sample Placement Test (WSPT).** All incoming students, including transfer, will be tested for proficiency in writing. The test results determine the appropriate writing course for placement of each first-year student. A passing score on the Writing Sample Placement Test (WSPT) is a prerequisite to registration by campus students for English 110C and English 126. Freshman students who need supplemental work in preparation for college-level writing are enrolled in basic writing courses. Pass/fail grades are assigned in these courses, and credit does not count toward the fulfillment of degree requirements.

With the exception of those students holding baccalaureate or advanced degrees, all entering undergraduate students, including transfer students (with or without credit for freshman composition), must pass the Writing Sample Placement Test. Transfer students with credit for English 110C will not lose that credit. A transfer student with credit for English 110C who has not passed the WSPT may not register for a second semester at the University until a plan to correct writing deficiencies, approved by the director of Academic Skills, is in place. A transfer student who has not passed the WSPT after two semesters as a degree-seeking student at the University will not be permitted to register until the test is passed.

A passing score on the WSPT or an earned baccalaureate or advanced degree is a prerequisite to registration for the Exit Examination of Writing Proficiency.

**Exit Examination of Writing Proficiency.** All students enrolled in undergraduate degree programs, including students acquiring a second baccalaureate degree, must pass the University's Exit Examination of Writing Proficiency. The test is administered under the auspices of the exit exam coordinator, who establishes when the test will be given throughout the year.

Students are strongly advised to take the exam after 58 credit hours have been earned. Therefore, if they need assistance with improving their writing skills, they can be advised of services available to help them attain writing proficiency prior to the anticipated date of graduation. A fact sheet on the Exit Examination of Writing Proficiency is available at Academic Skills, all

academic department offices, and online at [www.uc.edu/writingcenter](http://www.uc.edu/writingcenter). Registration sessions and exam dates are listed online at [www.uc.edu/testing](http://www.uc.edu/testing).

Passing score on the Writing Sample Placement Test or an earned baccalaureate or advanced degree is a prerequisite to registration for the Exit Examination of Writing Proficiency.

**Distance Learners.** Students may contact their site directors for information on the WSPT and the Exit Examination. For those students not associated with an ODU site, please contact the Testing Center website at [www.uc.edu/testing](http://www.uc.edu/testing) or the Office of Distance Learning at 1-800-968-2638.

## The Honors College

The Honors College offers a four-year program where select incoming freshmen, current sophomores and transfer students may enjoy low-enrollment general education courses designed exclusively for them. In their junior year, Honors College students have the opportunity to apply what they have learned at Old Dominion to solving real-world problems in the community by developing a one-credit civic or service learning project in consultation with the Dean of the Honors College. In their junior and senior years, Honors College students work one-on-one with ODU faculty to develop two upper-division courses as contract honors courses. In their senior year, Honors College students participate in a three-credit senior honors colloquium, which provides them with the opportunity to hone their research skills and assess their academic strengths in preparation for graduate school, international scholarship opportunities, and future employment.

The online application for admission into the Honors College is available on the Honors College website: <http://www.odu.edu/ao/honors>.

Being an Honors College graduate is a prestigious accomplishment, one that is viewed favorably by graduate schools and potential employers everywhere. Additional benefits include:

- Honors College students can apply to live in Honors Housing. Applications for Honors Housing must be made directly to the Office of Housing and Residence Life. The Office of Housing and Residence Life prioritizes requests based on the date BOTH the application and housing deposit are received.
- Honors College students enjoy faculty privileges at the library.
- All Honors College students may register for classes on the first day of the registration period.
- Honors College students can apply for travel grants to offset the costs of travel to a national or international conference at which they are presenting.
- Honors College students may apply for up to \$300 to offset the costs of essential equipment and supplies for the completion of research related to a Student Honors Apprenticeship Research Program (SHARP), honors contract course, or a senior honors thesis/project.
- Upon completion of the requirements of the Honors College, students are awarded a certificate, a medal, and a silver tassel.

Competition for acceptance into the Honors College is keen. The criteria used to select the limited number of first-year students admitted annually include high school grade point average and curriculum, Scholastic Aptitude Test scores, class rank, and a written personal statement.

The minimum admission requirements for continuing and transfer students are as follows: a 3.8 college grade point average, the ability to complete at least 48 additional credit hours at Old Dominion University, and two letters of recommendation from college faculty members.

### The Honors College offers two curricular options.

#### Option 1 Requirements

- Four honors general education courses
- Two honors contract courses
- HNRS 387 (Honors Civic Learning Project, 1 credit)
- Capstone (one of the following): HNRS 487 (Senior Honors Colloquium), HNRS 499 (Honors Senior Thesis), Departmental Senior Thesis
- Campus Lectures: Honors College students are required to attend one lecture per semester.

#### Option 2 Requirements

- Four honors courses (either honors general education or honors contract; at least two honors contract courses are required)
- HNRS 387 (Honors Civic Learning Project, 1 credit)
- HNRS 487 (Senior Honors Colloquium, 3 credits)
- Undergraduate Research (two of the following): HNRS 226 (Research Apprenticeship, 3 credits), HNRS 499 (Senior Honors Thesis) or



Departmental Undergraduate Thesis Project (3 credits), Poster or Oral Presentation at an approved regional or national academic conference, successful application for and completion of an undergraduate research grant application.

- Campus Lectures: Honors College students are required to attend one lecture per semester.

**Undergraduate Research Program.** The Honors College also supports the Student Honors Apprenticeship in Research Program (SHARP), which provides undergraduates with hands-on experience working with faculty on a wide variety of research projects. SHARP faculty mentors help students to acquire research skills early in their undergraduate careers. Later in their academic careers, SHARP students use and develop these skills through research-oriented course work, collaborative and faculty-sponsored research, as well as their own independent research projects that can be funded through Old Dominion's Undergraduate Research Grant Program. The Undergraduate Research Symposium and Undergraduate Research Journal provide students with the opportunity to present and publish their work under the supervision of the University's distinguished faculty. Additional information regarding undergraduate research opportunities is available on the Undergraduate Research Program's website: <http://www.odu.edu/ao/honors/academics/research/researchprog.shtml>

For additional information about the Honors College, visit the web site at [web.odu.edu/ao/honors](http://web.odu.edu/ao/honors) or contact: Dr. David Metzger, Dean of The Honors College, Student Success Center, Old Dominion University, Norfolk VA 23529-0076. (757) 683-4865.

## Academic Credit For Extracurricular Activities

Extracurricular activities may be approved for credit for undergraduate students by academic departments, based on objectives, criteria, and evaluative procedures formally determined by the department and the student before the semester in which the activity is to take place. Such credit is subject to the review of the provost and vice president for academic affairs.

### Guidelines

The following guidelines regarding the administration of the policy on granting credit for extracurricular activities will provide universitywide standards on this matter. Within these standards individual departments may establish credit activities appropriate to their particular discipline.

1. A department may grant credit for extracurricular activities that fall within the academic interests of the department.
2. The extracurricular activity for which credit is to be granted must have demonstrable academic value.
3. A student desiring academic credit for extracurricular activity shall, prior to the semester the credit is to be granted, formally petition the chair of the department, describing the proposed project in detail and justifying its academic value.
4. If the department chair considers that a petition has merit, the chair will refer the student to a faculty member with expertise in that area. The student and the proposed faculty supervisor will refine the student's project. The faculty member will then make a recommendation to the chair concerning the validity of the project, the amount of credit to be awarded, and the grading system to be employed (pass/fail or letter grade). The recommended plan will include a description of the nature of the supervision and methods of evaluation to be used.
5. A recommended project approved by the chair will then be sent to the dean for approval.
6. If the project is approved, the student will then register for the appropriate course number and credit hours. Each department interested in granting credit for such activity will establish courses numbered "377, 378" for one to six credits each semester and titled "Extracurricular Studies."
7. After completion of an approved project, the student will submit a report to the faculty supervisor. This report will be retained by the faculty supervisor for examination by the department chair and/or other interested persons.
8. The faculty supervisor will review the results of the project and submit the appropriate grade to the registrar.
9. The burden of justifying a project and documenting the results rests on the student. It is also to be emphasized that credit will not be given retroactively.

## Activity Credits

The University sets a limit of 12 credit hours earned in activity courses that may be applied to any undergraduate degree. The individual college will determine the maximum number of such credits that students may apply in fulfillment of their particular degree requirements. In unusual circumstances, activity credit beyond the established college maximum will require the approval of the appropriate dean. In any case, the total number authorized by the college shall not exceed the limit set by the University.\*

Activity courses are generally defined as those that are not predominantly academically oriented and that are service, skill, recreational, or craft in nature, such as performing ensembles and organizations in music, one-credit health and physical education service courses, theatre arts activity courses, and certain military and naval science courses. All activity courses shall be identified specifically in the catalog and the class schedule and can be recognized by the "+" symbol following the course number.

Activity credits required by a student's major department will not be counted against the credit limitation, nor will the credits earned in courses numbered 377-378 that involve extracurricular studies.

## Assignment Submissions

Coursework is to be delivered to the instructor using the method specified. Electronic and postal delivery may be required.

## Attendance Policy

Regular classroom attendance is expected of all students and individual faculty may require class attendance. Course grades reflect not only performance on written assignments and exams, but also participation during class periods. As discussions cannot be reproduced, many times absences cannot truly be made up. Excessive absences therefore have a negative effect on the student's learning and performance. Students are responsible for all class work, and a student who misses a class is expected to have the initiative necessary to cover properly the material missed. Students must meet all course deadlines and be present for all quizzes, tests, and examinations.

Syllabus information will include a statement of the attendance policy for each course and the effect of nonattendance on grades. Reasonable provisions should be made by the instructor for documented representation at University-sponsored athletic or academic functions, mandatory military training and documented illness. The granting of provisions for other documented absences is left to the discretion of the faculty member.

Due to the nature of asynchronous courses, students are expected to participate in class, but in formats that may not require attendance at regular intervals.

**Extended illness.** The student should notify the Office of Student Affairs when the student is going to be absent from classes for more than one week because of an illness. Student Affairs will notify the student's course instructors of the absence on his or her behalf.

## Class Attendance by Guests

**Statement:** The propriety for non-student presence in the classroom will vary dependent upon the nature of curricular offerings, dangers inherent to certain classrooms and labs, the optimum classroom environment for each class, and the preferences of each instructor. Guidelines specifying whether non-student guests will be permitted in the classroom, which are consistent with departmental policy, will be established for each class by the instructor and included in the syllabus for the course. These guidelines will apply to each site at which the class is offered.

## The Dean's List

The Dean's List is announced at the end of each term. Any undergraduate student taking 12 or more hours of degree credit for grade point credit who attains a grade point average of 3.40 or higher with no grade below C (2.00) is placed on the Dean's list. The student must also receive a passing grade on any nondegree credit courses in which he or she is enrolled. Students who receive grades of I are not placed on the Dean's List.

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\* Students may be counseled but not required either to take or avoid specific activity courses outside their own fields of study. They are further advised to limit the number of activity credits taken until they have ascertained the limitation on such credits set by the colleges in which they propose to major.

## Duplicate Courses

An undergraduate student who has taken two courses that are designated by the department as duplicate may apply only one toward a degree. Courses considered to be duplicate are so designated in the course descriptions found elsewhere in this catalog. For example, a student receiving credit for Biological Sciences 115N cannot receive credit for Biological Sciences 108N.

## Final Examinations

The University firmly believes that a comprehensive evaluation of a student's achievement in a course is a vital part of the educational process. Final examinations, if given, are to be given at the time and in the location given on the Registrar's Office website at [www.odu.edu/registrar](http://www.odu.edu/registrar). Upon request of the instructor, exceptions to this regulation may be made only by the dean.

In the event that a final examination is changed to other than that of the scheduled time, provisions will be made by the instructor for any student who cannot comply with the schedule change.

Any student who has three examinations scheduled in one calendar day and is unable to resolve the problem informally with the instructor or instructors may petition the dean for relief.

All examinations are to be retained for one year by the faculty members. Students have the privilege of requesting conferences with the instructors in regard to their final grades.

Students enrolled in asynchronous, video streaming, CD Rom, or like courses that may not follow the traditional semester timetable will be required to adhere to the examination schedule set by the professor. In addition, students not associated with a distant learning site, higher education center, or with main campus will need to secure a Proctor to administer all tests, quizzes, and final exams. A postal fee will be incurred by the student for this service. For more information on proctoring, contact the Office of Distance Learning at 1-800-968-2638.

## System of Grading

Grade	Grade Points	Undergraduate	Graduate
A	4.00	Superior	Excellent
A-	3.70	Superior	Excellent
B+	3.30	Good	Good
B	3.00	Good	Good
B-	2.70	Good	Fair
C+	2.30	Satisfactory	Poor
C	2.00	Satisfactory	Poor
C-	1.70	Passing	Poor
D+	1.30	Passing	Not Used
D	1.00	Passing	Not Used
D-	0.70	Passing	Not Used
F	0.00	Failing	Unsatisfactory
WF	0.00	Unofficial Withdrawal	Unofficial Withdrawal
P	None	Pass	See below
F(P/F)	None	Fail	See below
O	None	Audit	
I	None	Incomplete	
II	None	Incomplete not Subject to Time Limit	
W	None	Official Withdrawal	
Q	None	Progress but not Proficiency	
Z	None	No Grade Reported	

The use of plus and minus grades is at the discretion of the instructor.

The grade point average is calculated by dividing the accumulated number of grade points earned by the accumulated number of credit hours attempted. Grades of F and WF and repeats are included, but official withdrawals, audits, and grades on noncredit courses, nondegree credit courses, and pass/fail degree courses are not included.

For graduation, an undergraduate student must have a minimum grade average of C (grade point average of 2.00) in all courses taken and a grade point average of at least 2.00 in the major except for those programs requiring grade point averages above a 2.00.

A 3.00 average will be required for the awarding of a graduate degree or certificate. A student whose average falls below 3.00 following six or more graduate hours attempted shall be placed on probation or suspended in accordance with the continuance regulations for graduate students.

Grades in courses accepted for transfer credit are not counted in the computation of grade point averages.

Grades are available to students through the secure website. Grades are mailed to students only if a written request is submitted to the Office of the University Registrar.

**WF and W Grades.** The grades of WF and W indicate withdrawal from a course only under those conditions described in the sections entitled Class Schedule Change Procedure and Grading Policy for Withdrawal From Classes.

**Incomplete Grades.** A grade of I indicates assigned work yet to be completed in a given course or absence from the final examination and is assigned only upon instructor approval of a student request. The I grade may be awarded only in exceptional circumstances beyond the student's control, such as illness, and only after 80% of the time allocated for the course has elapsed and substantial progress has been made toward completion of course requirements with the exception of courses that do not fit within the traditional semester calendar. In cases of exceptional circumstances beyond the student's control, it is the responsibility of the student to approach the instructor to request an I grade and to provide documentation, including a written statement of when the work will be completed, to support the request. The authority to award an I grade rests with the instructor whose decision is final. Students whose requests for I grades are approved must not re-register for the class until the I grade has been resolved. The I grade becomes an F if not removed through the last day of classes of the following term (excluding the exam period) according to the following schedule: I grades from the fall semester become F's if not removed by the last day of classes of the spring semester; I grades from the spring semester and the summer session become F's if not removed by the last day of classes of the fall semester. An I grade may be changed to a W only in very unusual circumstances and when the student's situation has changed since the I grade was awarded. In these cases, the request for a change to a W must be in writing, documented, and approved by the instructor, department chair and dean. Students will not be allowed to graduate until all grades of I have been resolved.

In the case of courses that do not fit within the traditional semester calendar, the faculty member assigns the I grade. The time periods for the removal of I grades before they become grades of F are the same as those stated in the previous paragraph.

Extension of the I time limitation normally will not be approved except for reasons beyond the student's control and only if the supervising faculty member is available and willing to supervise the work beyond the normal time limit. Students should submit the request to the instructor, who should submit approval, via the chair, to the University Registrar in order to retain the I. The approval from the instructor should designate the expiration date of the extension.

A grade of II indicates incomplete work not subject to the time limits described above for I grades. The II grade can be used only in those courses directly related to the research for and preparation of the graduate thesis/dissertation.

**Z Grades.** A grade of Z indicates that no grade has been reported by the instructor and will convert to a grade of F if not removed through the last day of classes of the following term (excluding the exam period) according to the following schedule: Z grades from the fall semester become F's if not removed by the last day of classes of the spring semester; Z grades from the spring semester and the summer session become F's if not removed by the last day of classes of the fall semester. Students will not be allowed to graduate until all grades of Z have been resolved.

**Interim Academic Evaluation.** Faculty teaching 100- and 200-level undergraduate courses will provide specific feedback regarding progress in the course by posting an interim grade via Leo Online by the beginning of the fifth week of classes in the fall and spring semesters. Providing timely information to students on graded work makes students aware of their performance so they can determine whether to seek additional help from the faculty member, tutorial services when available, their academic advisor and/or withdraw from the course prior to the established deadline for withdrawal.

**Mid-Semester Feedback.** The University believes that regular assessment of students and feedback to them is essential to effective teaching and learning. Therefore, faculty members will provide all students with evaluation of their progress in a course prior to midsemester (or equivalent in a nonsemester course) so that students have information about their progress before the withdrawal deadline, which is the end of the tenth week of classes.

## Grade Forgiveness

Under the Grade Forgiveness Policy, undergraduate students seeking a baccalaureate degree may improve their grade point average (GPA) by repeating up to five courses taken previously. Each repeated course must be the

same course as taken previously and must be completed through Old Dominion University. The registrar automatically applies the Grade Forgiveness Policy to all eligible course repeats at the end of each semester. The Grade Forgiveness Policy became effective for the Fall 1997 semester. Courses repeated prior to the Fall 1997 semester are not eligible for grade forgiveness. Grade forgiveness will not be processed after a student graduates.

## Grade Forgiveness Policy

Undergraduate students are subject to the following conditions and requirements.

1. Students who receive a grade of C- or lower (grades of C-, D+, D, D-, F, and WF) may repeat up to five courses to improve the overall grade point average.\* A course may be repeated once with grade forgiveness applied. Grade forgiveness is automatically applied only to the first repeat of a course with an original grade of C- or less, regardless of how many times the student may elect to repeat the course for other reasons. The Grade Forgiveness Policy will not be applied to courses for which a grade of C or higher was ever earned. Additional courses that are not eligible for grade forgiveness include courses taken under the pass/fail option, courses taken under the audit option, courses for which a grade of W was the only grade awarded, courses that currently are incomplete (I grade), or courses for which a grade of F was awarded as a result of an act of academic dishonesty.
2. The Grade Forgiveness Policy applies only to the repeat of the same course (same number, same title, same credit value, and, for topics courses, same subtitle and same credit value). Exceptions will be made where the course number or title is the only change and the change is documented in the Catalog and approved for grade forgiveness by the assistant vice president for undergraduate studies.
3. The Grade Forgiveness Policy will not be extended to courses originally taken elsewhere, including Norfolk State University and institutions with which Old Dominion University has consortia arrangements. In addition, courses repeated at other institutions will not be used to forgive Old Dominion University courses.
4. Students may not be able to repeat a course in the following cases: enrollment is restricted, the student no longer qualifies for admission to a course, the prerequisites are enforced, major or sequence requirements have been changed, or the curriculum has been revised. In such cases the decision of the assistant vice president for undergraduate studies in consultation with the appropriate academic department will prevail. Exceptions are granted only in rare instances. In any course or program where enrollment demand exceeds the resources to offer sufficient openings or sections to meet that demand, the academic unit may give registration priority to students taking the course for the first time.
5. Students may elect to use both grade forgiveness and the Adjusted Resident Credit (ARC) policy. However, students cannot use grade forgiveness for individual courses for which adjusted resident credit already has been applied.
6. Students who have graduated may not use the provisions of this policy to repeat for forgiveness a course taken prior to the date of graduation. Once a bachelor's degree has been awarded, a student may not raise the undergraduate grade point average by repeating a course taken as an undergraduate.
7. Under this policy, only the second grade earned, whether higher or lower than the original grade, will be calculated in the grade point average for the purposes of continuance, graduation, etc. Any repeats of a course after grade forgiveness has been applied will be averaged with other course work. All grades will remain on the student's permanent record, but the record of a previous grade in the course will be marked to indicate that the course has been repeated. Academic suspensions will not be removed from student transcripts and Dean's List status will not be added after grade forgiveness is applied to the student record in cases where the grade point average is improved sufficiently to change the student's status for the semester in question.
8. An enhanced grade point average using the Grade Forgiveness Policy does not determine eligibility for graduation with honors. To determine eligibility for graduation with honors, the student's complete record, including grades (grade points and hours) for courses that have been forgiven, will be evaluated to calculate the final grade point average. If the student's overall average is sufficient, graduation with honors will be posted to the student's record.

\* Only the first five repeated courses will be forgiven. Students are not given an option to select which course might be forgiven.

9. In cases where the student repeats a course in which a grade of C or better was awarded, all grades received, including the original grade, and all hours earned will be used for calculation of grade point averages. The course will count only one time toward graduation certification and degree completion.
10. Students receiving financial aid should consult with their Financial Aid representative to determine how use of this policy may affect financial aid status.
11. Other schools, including professional and graduate schools, may not honor this policy on repetition of courses with forgiveness.
12. Veterans should consult the Office of the University Registrar to determine the impact of course repetition on their eligibility for benefits.

## Grade Appeals

### Grade Appeal Procedure

1. The purpose of the grade appeal procedure is to serve the needs of graduate and undergraduate students who believe that they were unjustly awarded a final course grade by a faculty member through prejudice or caprice. This policy applies to the final grade for the award of academic credit and does not apply to graduate and undergraduate examinations that are administered as part of the degree progression and certification processes (such as comprehensive examinations and candidacy examinations at the graduate level). The basis for a grade appeal is the student's charge that the final grade was awarded through prejudice or caprice. The burden of proof rests with the student.
2. Students must initiate the appeal within the same time limitations that exist for removing a grade of I from a record (see the policy on System of Grading).
3. The student will consult with the instructor first for an explanation of the method of evaluation and to determine whether an error has been made.
4. If the student is not satisfied with the results of the conference with the instructor and the student wishes to pursue the appeal, the case must be presented in writing for a first-level appeal. The student's grade appeal letter should (1) state specific reasons and give examples of faculty prejudice or caprice, (2) show that prejudice or caprice affected the awarding of the final course grade, and (3) be presented as a complete package and include all supporting documentation.
  - A. The student will submit the grade appeal letter to the chair of the department.
  - B. If the instructor is the chair, the student will submit the grade appeal letter to the dean.
  - C. If the instructor is the dean, the student will submit the grade appeal letter to the chair of the department in which the dean is teaching the course.
5. If it is concluded at the first-level appeal that there is no cause for complaint, the person to whom the appeal was submitted will notify the student in writing that the appeal is denied. The student may submit a second-level appeal as detailed below.
  - A. If the chair initially concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the dean. The student should request in writing that the chair forward the grade appeal package to the dean to initiate the second-level appeal.
  - B. If the instructor is the chair and the student has appealed directly to the dean and the dean concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs. The student should request in writing that the dean forward the grade appeal package to the provost and vice president for academic affairs to initiate the second-level appeal.
  - C. If the instructor is the dean and the student has appealed to the chair of the department in which the dean is teaching the course and the chair has concluded in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs. The student should request in writing that the chair forward the grade appeal package to the provost and vice president for academic affairs to initiate the second-level appeal.
6. If the person to whom the second-level appeal is submitted concludes that there is no cause for complaint, the student will be notified in

writing that the grade appeal process is complete and no further appeal is allowed.

7. If during the first- or second-level appeal process it is concluded that there may be valid cause for the complaint, the person to whom the appeal has been submitted should consult with the instructor and student and attempt to mediate the dispute. Among the alternatives available for resolution of the case will be the assignment of the grade of P if the chair, the instructor, and the student express their agreement in writing. If mediation fails, the person to whom the appeal has been submitted will offer to form a committee to carry out an independent investigation and a hearing will be held.
  - A. The person to whom the appeal has been submitted will appoint a committee from the department or college. The committee will consist of two faculty and one student. Both the instructor and the student will have the right to challenge, for valid cause, any or all of the members of the committee, and in that event replacements will be appointed and no further challenge will be permitted. The committee will hear the instructor, the student, and other pertinent witnesses. The hearing will be taped, but the tapes will be erased after one year following disposition of the case. The committee, after careful deliberation, will make its recommendation to the person to whom the appeal was submitted, who will relay the information to the instructor and the student.
  - B. If the committee finds that there is no cause for complaint, the grade appeal process is complete and no further appeal on the merits of the case is allowed. Only one hearing on the merits of the case is allowed.
  - C. If the committee finds on behalf of the student and recommends a change of grade and the instructor refuses to change the grade, then the person to whom the appeal was submitted will consult with the student about the advisability of accepting a P grade. Should the student consent to acceptance of a P grade, the person to whom the appeal was submitted is authorized to change the contested grade and will so inform the registrar. A P grade established under this policy will be given irrespective of the University policy on hours permitted for P grades or restrictions on when a P grade is permissible and will not prevent progression in the degree program or courses for which this course is a prerequisite.
  - D. If either the instructor or the student believes that the established procedures for the appeal of grades have not been followed, an appeal for a rehearing may be to the person identified as the second level of appeal. The only basis for appeal will be the failure to have been provided due process as prescribed by the policy.

## Guidelines and Procedures for Grade Adjustments for Nonacademic Reasons

1. Errors in the assignment of grades (e.g., a C received instead of an A) must be brought to the attention of the faculty member immediately upon receipt of the grade. If confirmed, the instructor will submit a grade change through the chair to the University Registrar. An online process for grade changes is available if the grade to be changed is not older than two semesters. In these cases, the instructor of record makes the change online. The chair is notified by email of the change and may at that time deny the change of grade. If the grade to be changed is older than two semesters, then the instructor submits an Academic Record Change Form (H-1002) to the chair, who forwards it to the University Registrar if it is approved, and notifies the instructor of reasons for denial if it is not approved.
2. Administrative errors (e.g., drop/add submitted but not processed) should be brought to the attention of the University Registrar immediately upon receipt of the grade.

## Repeating Courses

Normally, undergraduate students may not repeat courses in which they have previously earned a C or better or in which they have received transfer credit. Exceptions to this should be made by the department chair or, in the case of graduate students, by the dean of the college in which the graduate student is enrolled, and should be allowed only under the following conditions:

1. A student has a long delay (usually more than five years) between an introductory course (or the first half of a two-course sequence) and subsequent study, so that repeating the course is advisable for future success in the field.
2. A department requires that grades higher than C be earned in particular courses and requires a cumulative grade point average greater than 2.00 and stipulates that students who earn less than the desired grades or grade point average retake the courses.

None of the credit hours earned in courses that have been repeated for credit under these conditions will be applicable toward the total hours required for the degree. Grades earned in both the original course (if C or above) and the repeated course will, however, be used in the calculation of the cumulative grade point average.

The Grade Forgiveness Policy does not apply when courses are repeated in which a grade of C or higher was earned originally nor does the Grade Forgiveness Policy apply to transfer courses. Please refer to the Grade Forgiveness Policy in this Catalog for information about repeating courses in which grades below C were earned.

## Regulations for Continuance: Undergraduate Students

### Notification of Academic Status

It is the responsibility of every student to determine his or her academic status on-line at [www.leoonline.odu.edu](http://www.leoonline.odu.edu). The University makes every reasonable effort to notify undergraduate students who are not in good standing of their academic status. A first class letter is mailed to the permanent address of each undergraduate student (degree and non-degree seeking) placed on academic warning, academic probation and suspension. Additionally, an email containing the same information will be sent to the student's Old Dominion University e-mail address in accordance with the Electronic Messaging Policy for Official University Communication. Non-receipt of a letter or e-mail by a suspended student will not be considered grounds for claiming eligibility to enroll for a subsequent semester. All academic status notices appear on the student's transcript and will not be removed.

### Undergraduate Continuance Regulations

At the end of each semester—fall, spring, and summer—the coordinator of academic continuance reviews the records of all students who do not maintain a 2.00 grade point average (GPA) and acts according to the following policies, which are summarized in the table below.

1. **ACADEMIC WARNING.** A student will be placed on academic warning **for one semester** when the student's cumulative GPA falls below 2.0 at the end of a semester, including summer sessions. A student on academic warning may not enroll in more than 14 credits per semester of attendance (no more than six credits in the summer sessions, and no more than one course in any single summer session) except under extenuating circumstances and with the permission of the dean or designee of the college in which the student is enrolled. A student on academic warning must achieve a cumulative GPA of at least 2.0 at the end of the next semester of attendance to be in good standing. Failure to achieve a cumulative GPA of at least 2.0 results in academic probation.

Old Dominion University is committed to assisting students in achieving their academic goals. Therefore, freshman students on academic warning are required to participate in a success program sponsored by Academic Enhancement in their next semester of attendance. Failure to complete the requirements of the success program will result in cancellation of registration for the next fall or spring semester.

2. **ACADEMIC PROBATION.** A student is placed on academic probation when the student's cumulative GPA falls below 2.0 for **two consecutive semesters of attendance**, including summer sessions. Students on academic probation are expected to improve their cumulative GPA by achieving a **semester GPA of 2.0 or better** during each semester of attendance. A student who achieves a **cumulative GPA of at least 2.0** is removed from academic probation and placed in good academic standing.

Students on academic probation are required to meet regularly with their advisor during their next semester of attendance. A student on academic probation may not enroll in more than 14 credits per semester of attendance (no more than six credits in the summer sessions, and no more than one course in any single summer session).

Failure to achieve a 2.0 semester GPA at the end of a fall or spring semester while on probation results in academic suspension. Students who receive a 0.0 GPA for two consecutive semesters (fall, spring) will be suspended immediately.

3. **ACADEMIC SUSPENSION.** Following a semester of academic probation, an undergraduate student will be suspended at the end of the fall or spring semester if the cumulative grade point average remains below a 2.0 AND the semester grade point average falls below 2.0. Old Dominion University does not suspend students at the end of the summer sessions. Students suspended at the end of the fall term must separate from the institution for spring term; students suspended at the end of the spring term must separate from the institution for summer and fall terms.

ACADEMIC STATUS	GRADE POINT AVERAGE REQUIREMENTS	
Good Standing	2.00+ cumulative GPA	
Academic Warning (1st occurrence)	1.99 or less cumulative GPA	Initial term of academic difficulty; student eligible to continue
Academic Probation (1st occurrence)	1.99 or less cumulative GPA	Second consecutive term of academic difficulty; student eligible to continue
Academic Probation (2nd and subsequent occurrences)	Term GPA = 2.0 or above AND cumulative GPA = 1.99 or less	Second consecutive and subsequent term(s) on academic probation; student eligible to continue with a minimum 2.0 term GPA
First Suspension (see below)	Term GPA AND cumulative GPA = 1.99 or less	After two consecutive semesters, one on academic warning and one on academic probation, first term of academic difficulty in which cumulative and term GPA are below 2.0; student NOT eligible to continue
If suspension occurs during the: Fall term Spring term		Student must separate from ODU for the: Spring term Summer and fall terms
Second suspension	Term GPA AND cumulative GPA = 1.99 or less	After academic warning, academic probation and first suspension occur, second term of academic difficulty in which cumulative and term GPA are below 2.0; student NOT eligible to continue

All academic status notices appear on the student's transcript and will not be removed.

### **Guidelines for filing a suspension appeal for continuous enrollment:**

#### **2011 – 12 Suspension Appeal Deadlines:**

Suspension Posted	Appeal Application Deadline	Appeal Decision Posted
December 2011	January 3, 2012	January 5, 2012
May 2012	May 14, 2012	May 16, 2012

1. All students have the right to appeal their suspension if extenuating circumstances warrant such action. All appeals must be submitted in writing with the Suspension Appeal Form or on-line at [www.odu.edu/advising](http://www.odu.edu/advising) by the deadline posted above. Suspension Appeal Forms must be delivered to the coordinator of academic continuance. Late appeals will not be reviewed.
2. Appeals must be based on circumstances pertinent to the semesters in which academic difficulty occurred that were beyond the control of the student and for which official withdrawal from the course(s) was not

an option. Appeal letters must be legible and authored by the suspended student. In order to be reviewed, an appeal letter must:

- Document the extenuating circumstances such as work, poor study environment, finances, illness, or personal relationships that have adversely affected performance: i.e. statement or letter from physician, employer, family members, faculty, academic advisor, Counseling Center, Educational Accessibility.
- Explain how the extenuating circumstances caused each semester of grades below the 2.0 minimum grade point average.
- State reasons why official withdrawal was not requested.
- Present a plan of action for subsequent enrollment, should the appeal be granted.

Appeal letters must provide sufficient detail and explanation regarding the aforementioned points because there is no face-to-face meeting with appeal committee members. The decision of the appeals committee is final.

3. Students who do not file a suspension appeal may not reenroll until the suspension period has been served and readmission has been granted.
4. Students suspended for a second time who do not file an appeal for continuous enrollment may submit an appeal by the published deadline for subsequent enrollment. Students suspended for a second time whose appeals are denied are no longer eligible to attend Old Dominion University or any of its satellite campuses.
5. If the student has pre-registered for a subsequent semester, all registration will be administratively dropped if the suspension appeal is denied. The Office of Finance will audit the accounts of students whose appeals are denied, and a tuition refund, if appropriate, will be issued. Students who choose not to appeal the academic suspension will be dropped from all courses before the tuition deadline.

### **Returning from Academic Suspension**

1. All students returning from suspension must submit an application for readmission from suspension at [www.uc.odu.edu/continuance](http://www.uc.odu.edu/continuance) in order to reenroll and must submit all necessary documentation. The student must include a formal letter explaining the circumstances that put the student in academic difficulty and what plans the student has made to ensure success. The deadlines to reapply for admission are as follows:  
Fall semester – second Friday in August  
Spring semester – third Friday in December  
Summer semester – second Friday in April  
Readmission requests received after the deadline will not be considered. Students must resubmit the application by the next deadline. No readmission application will be reviewed without the letter.
2. Each student returning from suspension must earn at least a 2.00 GPA for each semester. If the 2.0 semester GPA is not met, the returning student will be suspended again. Students returning from suspension should acquaint themselves with the options available under the Adjusted Resident Credit (ARC) policy and should note that use of the ARC policy requires a separation from Old Dominion University for at least one calendar year.
3. All students readmitted after serving a suspension must attend a workshop conducted by the Office of Continuance prior to the start of classes to complete the readmission process. Students who fail to attend a workshop will be dropped from all classes if they are registered and their readmission will be revoked for the semester. Students in this situation will be eligible to reapply for the next semester, but must begin the readmission process again.
4. Students who are suspended while under non-degree admission status, and who reapply and are readmitted, should be aware that they are readmitted to the non-degree status. Non-degree students are not eligible for financial aid.
5. Students readmitted to the University from suspension or due to a successful suspension appeal do not automatically qualify for financial aid. Please refer to the Financial Aid section of the catalog for the Financial Aid Continuance policy. All students who are suspended should contact their financial aid counseling team immediately to discuss their options. It is important that students are aware from the outset that a minimum of six credit hours with a GPA of 2.00 or more is a prerequisite to the appeal to re-establish financial aid eligibility. The six credit hours must be completed during one term (semester).

### **Credits Earned While Under Suspension**

Credits earned at another accredited institution at a grade level of C (2.00) or better while an undergraduate student was under suspension from Old

Dominion University will be accepted upon receipt of official transcripts following readmission.

## Adjusted Resident Credit

Any undergraduate student who leaves Old Dominion University for at least one calendar year will be given the option of requesting a grade-point-average status equivalent to that of a student admitted as a transfer according to the following conditions and regulations.

The following conditions governing eligibility will apply:

1. Prior to the one year's absence, the student must have a cumulative grade point average less than 2.00. Upon returning to the University, the student must earn a minimum of 30 credits at Old Dominion University to be eligible for a degree. This must include twelve hours of upper-level courses in the department of the declared major.
2. The student must have separated from the institution for at least one calendar year. A term in which the student received W grades cannot be counted as part of the calendar year separation.
3. Upon return, a full-time student must have attained a 2.00 grade point average for all work attempted in the first semester or upon completion of the first 12 semester hours, if part-time. Nondegree credit work shall not be counted toward fulfillment of this requirement.
4. Upon satisfying the above requirements, the student must submit the application for Adjusted Resident Credit, at which time a 2.00 grade point average for all work attempted since his or her return must have been earned.
5. This option will be available only once during the student's career at Old Dominion University and must be elected by the end of the second semester following qualifications as described in paragraphs 3 and 4 above. In all cases, the Adjusted Resident Credit option must be elected and the student's record adjusted prior to graduation. Upon written petition by the student and recommendation of the department chair, waivers of the time limit to elect Adjusted Resident Credit and the requirement that students have less than a 2.00 grade point average can be made by the dean of the college in which the student's major program resides. Waivers of the requirement that students have less than a 2.00 grade point average can be made only in those programs that require greater than a 2.00 for admission.
6. Consultation and approval by the appropriate department and approval of the dean(s) of the college(s) in which the student's major program resides will be required. Once an application is approved and submitted, the student will not be permitted to change status for the purpose of computing the cumulative grade point average or application of credit toward graduation.
7. All grades received at the University will be part of the individual's official transcript and will be used to determine honor awards. However, computation of a new grade point average for graduation and continuance will be based on work performed subsequent to reinstatement.
8. Under this option: (1) eligible students will receive degree credit only for those courses in which grades of C (2.00) or better were earned prior to readmission; (2) likewise, hours attempted for courses in which grades of C-, D+, D, D- or F were received prior to readmission will not be considered in computing the student's new cumulative grade point average; and (3) grade points earned for any course completed prior to readmission will not count in determining the student's new cumulative grade point average.
9. In cases of dual jurisdiction, University continuance regulations will prevail.

Students wishing to avail themselves of this policy may receive procedural information from the Office of the University Registrar.

## Student Technology Skills

It is assumed that students entering Old Dominion University have basic productivity software proficiency, possess e-mail skills, and know how to navigate the Web. Some courses, particularly online courses, will require technology proficiency at levels higher than this. It is the student's responsibility to insure that he or she possesses the technology skills and proficiency required for each enrolled course or program of study.

## Submission of Written Work To More Than One Class

In general, it is not acceptable for a piece of work such as a term paper to be submitted to more than one class for credit. In cases where submission of the same paper is appropriate, prior approval must always be obtained.

An example of a situation in which the same paper might appropriately be submitted would be one in which a student was enrolled in two classes, in both of which a given research topic was not only of interest to the student but was completely appropriate to both classes. In such circumstances, the student would approach the instructors of the two classes and obtain approval to submit the same term paper to both classes, based on prior agreement concerning the depth of the study, amount of material covered, and the length of the paper to be submitted (which should be longer than a paper submitted to one class).

# Requirements for Undergraduate Degrees

## Overall Requirements for Baccalaureate Degrees

A candidate for a baccalaureate degree must present a minimum of 120 semester hours (except where otherwise noted in degree program descriptions). A minimum overall cumulative grade point average of C (grade point average of 2.00) must be made in all courses taken, and an overall cumulative grade point average of at least 2.00 must be attained in the major except in those programs requiring a grade point average above 2.00. Grades in all courses taken, including failing grades (except courses in which grade forgiveness was applied), are counted when calculating a student's cumulative grade point average. Grades in all courses taken in the major, including failing grades, are counted when calculating a student's grade point average in the major. Students completing a minor must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the minor.

A student who seeks a bachelor's degree from Old Dominion University must, in addition to meeting other requirements of the University, earn a minimum of 25 percent of the total number of credits required for the degree (for example, 30 credits in a 120-credit degree program) through on- or off-campus instruction. This must include a minimum of 12 credit hours of upper-level courses in the declared major program. Some program residency requirements exceed the University minimum. The responsibility for meeting the requirements for a degree rests with the student.

## College Requirements

Students should consult with the department of their major for further information regarding the following.

1. Major programs may require specific Skills or Ways of Knowing courses.
2. When requirement hours vary, major programs specify the number.
3. In addition to the University General Education Requirements, college requirements must be met. For example, the College of Arts and Letters and the College of Business and Public Administration require foreign language proficiency at the fourth-semester level (202) for the Bachelor of Arts degree.

## Requirements for Major

Each undergraduate student shall select a major department or option at the appropriate time in his or her curriculum. In consultation with the head of his or her major department or a designee, such as the chief departmental advisor, the student shall select the courses for the major. At least 12 hours of upper-level course work in the declared major program must be taken at Old Dominion University in resident or extension study. All students must complete a writing intensive (W) course in the major at the upper-division level.

## Additional Requirements for Baccalaureate Degrees

A student may not use courses in the discipline of his or her major to fulfill University General Education Requirements in the following Ways of Knowing areas: Human Behavior, Human Creativity and the Nature of Science.

Students should note that credit toward a degree cannot be obtained for material of what is essentially the same course, but offered in various introductory courses for different audiences. For example, a student receiving credit for BIOL 115N cannot receive credit for BIOL 105N or 108N.

**Exit Examination of Writing Proficiency.** All students following undergraduate degree programs must pass the University's Exit Examination of Writing Proficiency. See the Undergraduate Writing Program Requirements section of this catalog for more information.

**Assessment Requirement.** In response to demands by the University's accrediting agencies, including the Southern Association of Colleges and Schools – Commission on Colleges, and the State Council of Higher Education in Virginia, Old Dominion University has developed an institution-wide plan to assess the quality of its academic programs and services. The plan calls for the

assessment of student learning at the beginning, during, and at the end of the college experience.

Upon enrollment in the University and again prior to the completion of degree requirements, all undergraduate students must take one or more measures related to the University's assessment plan. Students will be notified about the requirement to complete the measures through their University email address. The email invitations will contain a link to the University's web-based assessment tool where the measures can be completed at the student's convenience. Assessment results are used for program improvements and thus are not a part of the student's transcript.

**Sanctions for Noncompliance with Assessment Testing Requirement.** All undergraduate students are required to participate in the assessment program. Failure to take assessments when required to do so may preclude the student's right to register for the ensuing semester, or in the case of seniors, receive the baccalaureate degree.

The University will make all reasonable efforts to assure that students have ample opportunities to complete the required assessments. However, certain precautions will be taken to ensure that students submit to the assessment measures and that they take the measures seriously. Further information regarding sanctions procedures is available in offices of college deans and the University Assessment Office.

## University General Education Requirements

All students receiving baccalaureate degrees from Old Dominion University shall complete the University's General Education Program. At the lower division (freshman and sophomore), the program's designed courses develop the Skills (Goals 1-2 below) needed for later study and the Ways of Knowing (Goals 3-4) needed to understand the various approaches to knowledge at work in the University. At the upper division (junior and senior), Options B, C and D provide a multidisciplinary experience to broaden the student's ability to apply the Skills and Ways of Knowing at a more advanced level.

## General Education and Experiential Learning

All lower-level requirements within this program may be met by credit awarded to students who are able to demonstrate appropriate experiential learning that fulfills the objectives of the particular Skills and Ways of Knowing requirements. Though not all learning and experiences are worthy of being recognized with the reward of academic credit, the principle that supports the policy is that many valid learning experiences worthy of such credit do take place outside of the traditional classroom setting. For procedures to meet General Education Requirements in this manner, please consult the section of this Catalog on Experiential Learning Credit Options at the Undergraduate Level and visit the Experiential Learning web site at [www.uc.odu.edu/elt](http://www.uc.odu.edu/elt).

## General Education Philosophy

The General Education program at Old Dominion University represents the common core of the baccalaureate degree. It prepares students for pursuing a major, for broadening their views of life, and for understanding an increasingly global and diverse world. It provides students with the basic skills and intellectual perspectives to engage in the search for knowledge. The General Education program develops analytical and critical thinking skills and the ability to make reasoned judgments. Students will also discover that learning is a complex, multifaceted, and lifelong endeavor.

## General Education Goals and Objectives

The Goals (1-5) and particular objectives of General Education are as follows:

1. Develop and demonstrate effective uses of language.
  - A. Develop written communication skills.
  - B. Develop oral communications skills.
  - C. Develop ability to use a foreign language and learn about another culture.
  - D. Develop written communication skills in the major at the upper-division level.
2. Develop mathematical and information literacy.
  - A. Develop basic mathematical competence.
  - B. Develop information literacy competence.
3. Develop an understanding of the natural sciences and technology and their contributions to human culture.
  - A. Understand the concepts and methods of the natural sciences.

- B. Understand the nature of technology and its impacts on society and the environment.
- 4. Develop an understanding of human behavior, society and culture, with specific attention to technology, international perspectives and issues related to ethnicity, race and gender.
  - A. Develop an understanding of history and the ability to think critically about the past.
  - B. Think critically about beliefs, values, and moral issues that have shaped human society.
  - C. Critically analyze the fine and performing arts and their contribution to culture.
  - D. Critically analyze literature and its contribution to culture.
  - E. Develop an understanding of behavioral, political, economic, and social systems.
- 5. Integrate knowledge at the advanced level.
  - Option A. Complete a minor, second major or second degree.
  - Option B. Complete an interdisciplinary minor.
  - Option C. Complete regional and business courses or an approved certification program such as teaching licensure.
  - Option D: Complete upper-division course work from another college or component (for majors in the College of Arts and Letters) outside of and not required by the major.

Students may not use courses in the discipline of their declared major to fulfill University General Education Requirements in the following Ways of Knowing areas: Human Behavior, Human Creativity and the Nature of Science.

Since the Skills and Ways of Knowing are needed for major courses and Upper-Division General Education, students should meet those requirements during their freshman and sophomore years.

## Transfer Policies for General Education Requirements

Students who have received an Associate in Arts (A.A.), Associate in Science (A.S.), or Associate in Arts and Sciences (A.A. and S.) degree from Richard Bland College or the Virginia Community College System (including the A.A. & S. in general studies) have met all General Education requirements except those specified as major or college requirements and the upper-division requirement that is met through completion of a second degree or major, a minor, an interdisciplinary minor, international business and regional courses, an approved certification program such as teaching licensure, or upper-division elective coursework from another college outside of and not required by the major. Effective Fall 2010, only the A.S. degrees in general studies that are offered by those institutions whose general studies degrees are recognized as transfer degrees by the State Council of Higher Education for Virginia will be guaranteed acceptance as meeting lower-division General Education Requirements. A.S. degrees in general studies received from those institutions whose general studies degrees are not recognized by the State Council of Higher Education for Virginia will be examined individually to determine whether the degrees are university parallel programs and eligible for lower-division General Education requirement waivers. Students who have earned an Associate in Applied Science (A.A.S.) degree from the Virginia Community College System in specific articulated programs that include the Certificate of General Education have met all General Education requirements except those specified as major or college requirements and the upper-level requirement. College-parallel programs at other community colleges or systems (consistent with the degree requirements of degrees from the Virginia Community College System) are also accepted as meeting lower-division General Education requirements and are reviewed by Transfer Evaluation Services. Transfer students should be aware that even though University General Education Requirements may have been met, college, school and/or departmental requirements must still be met. Students must earn a grade of C (2.0) or better in order to receive the credit hours associated with classes taken at other regionally accredited institutions.

Policies governing the transfer of General Education Requirements can be found in the Admissions section of this catalog. See the transfer student website for the complete listing of articulation agreements at <http://uc.odu.edu/advising/transfer>.

## Lower-Division Requirements (freshman and sophomore years)

NOTE: Wherever so advised below, students should consult their major program for more specific and timely information: either the students' assigned advisor, the chief departmental advisor (CDA) or the departmental chair.

- I. **SKILLS.** Completion of course work in the skills areas ensures that all students possess the basic tools with which to pursue their major interests.
  - A. **Written Communication**—six hours.  
ENGL 110C and ENGL 211C or 221C or 231C. Students are advised to consult the department of their major program.
  - B. **Oral Communication**—three hours  
COMM 101R, 103R and 112R. Students may meet this requirement by completing an oral communication course appropriate to the student's program of study or through an approved course(s) within the major. Students are advised to consult the department of their major program.  
Majors approved to meet this requirement through major courses are: College of Arts and Letters – communication, foreign languages, foreign languages teacher preparation, music composition, music education, and all theatre concentrations except digital filmmaking; College of Education - human services; College of Health Sciences - medical technology, nursing, dental hygiene, health sciences health services administration concentration depending on elective choices, health sciences with human services minor depending on elective choices, and health sciences cytotechnology track; and College of Sciences - ocean and earth science, physics, and physics secondary education option.
  - C. **Mathematics**—three hours.  
MATH 101M, 102M, 162M, STAT 130M. For the appropriate course, the major program should be consulted. Some programs require more advanced 200-level courses.  
Students should strive to complete the mathematics General Education requirement within their first 30 hours at Old Dominion University and are expected to have completed the requirement before the end of their first 60 hours at the University. Students should be aware that waivers of the mathematics General Education requirement are not granted, and all students are required to complete this requirement before graduating.
  - D. **Language and Culture**—zero to six hours (does not apply to students earning high school diplomas before December 31, 1985).  
ARAB 111F  
CHIN 111F  
FARS 111F  
FR 101F-102F  
GER 101F-102F  
HEBR 111F  
ITAL 101F-102F  
JAPN 111F  
LATN 101F-102F  
PRTG 101F-102F  
RUS 101F-102F  
SPAN 101F-102F, 121F

111F courses are six credit hours each. Students may meet this requirement by successfully completing the third level in one foreign language or the second level in each of two foreign languages in high school or by completing a single foreign language at the 102F or 111F level or equivalent work from another institution. Students who have had some foreign language experience but are unable to be exempted from this requirement may complete just the 121F course in the case of Spanish or the 102F course in foreign languages if scores on the CEEB Foreign Language Achievement Test so indicate.

The College of Arts and Letters and the College of Business and Public Administration require foreign language proficiency at the fourth-semester level for students pursuing Bachelor of Arts degrees.

Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be

\* The College of Arts and Letters and the College of Business and Public Administration, however, require language and culture proficiency at the fourth-semester level for students pursuing Bachelor of Arts degrees.



certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

American Sign Language courses taken in high school or transferred to Old Dominion University from another institution are accepted by Old Dominion University to meet General Education requirements in language and culture. American Sign Language courses transferred from another institution are accepted to meet the foreign language requirement for B.A. degrees in the College of Business and Public Administration and the College of Arts and Letters except for Asian Studies, foreign languages and international studies.

**E. Information Literacy and Research**—three hours

CS 120G, CS 121G, HLTH 120G, IT 150G, STEM 251G. Students may meet this requirement in the major and are advised to consult the department of their major program.

Majors approved to meet this requirement through major courses are: College of Arts and Letters – African American and African Studies depending on elective choice, Asian Studies depending on elective choice, geography, history, history teacher preparation, international studies depending on elective choice and political science; College of Engineering and Technology - all majors except the general engineering technology concentration; and College of Health Sciences – dental hygiene and nursing.

**II. WAYS OF KNOWING.** Courses in the Ways of Knowing develop the students' critical and analytical thinking abilities. They also develop understanding of the various approaches to knowledge, the contributions various academic disciplines can make to solving specific problems, and the effective use of the English language. Courses in the Ways of Knowing also develop and reinforce written communication skills and include relevant insights into technology. In addition, courses within each Way of Knowing focus on objectives unique to that way of knowing.

**A. Human Behavior**—three hours

The objective of this Way of Knowing is to enable students to learn about human behavior in changing contexts. The courses will address how ideological, scientific, and ethical judgments affect human behavior in Western and non-Western cultures. They will also offer perspectives on the challenges, concerns, and contributions of diverse groups such as women and minorities.

Courses that meet the human behavior Way of Knowing are AAST 100S; ANTR 110S; COMM 200S; CRJS 215S; ECON 200S, 201S, 202S; FIN 210S; GEOG 100S, 101S; POLS 100S, 101S, 102S; PSYC 201S, 203S; SOC 201S; WMST 201S.

**B. Human Creativity**—three hours

This Way of Knowing emphasizes artistic creative endeavor and appreciation and the history of the arts. The courses include field experience with the professional arts community in Hampton Roads as well as with the faculty of relevant departments. The objectives are to foster an appreciation of aesthetic experiences, develop abilities to make reasoned aesthetic judgments and develop an understanding of diverse cultures.

Courses that meet the human creativity Way of Knowing are ARTH 121A; ARTS 122A; COMM/THEA 270A; DANC 185A; MUSC 264A; and THEA 241A.

**C. Interpreting the Past**—three hours

The objective of this Way of Knowing is to provide an understanding of historical analysis for non-history majors.

Courses that meet the interpreting the past Way of Knowing are HIST 100H, 101H, 102H, 103H, 104H, and 105H.

**D. Literature**—three hours

This Way of Knowing emphasizes the contribution of literature to culture. Through critical reading and analysis, students will develop an ability to make effective use of the English language and informed aesthetic judgments about style and content.

Courses that meet the literature Way of Knowing are ENGL 112L, 114L, and FLET 100L.

**E. The Nature of Science**—eight hours

This Way of Knowing requires two semesters of natural science. A student may fulfill the requirement with two non-sequential natural science classes with labs unless a sequence is specifically required for the major. These courses introduce the disciplines and the methods of science and develop the abilities to make reasoned judgments based on scientific considerations.

Courses that meet the nature of science way of knowing are BIOL 105N, 106N, 108N, 109N, 115N, 116N; CHEM 105N-106N, 107N-108N, 121N-122N, 123N-124N, 137N-138N; OEAS 106N, 107N,

110N or 111N, 112N; PHYS 101N, 102N, 103N, 104N, 111N, 112N, 231N, 232N.

**F. Philosophy and Ethics**—three hours

Because of the many decisions students will be called upon to make in their personal and professional lives, they will need an appreciation and understanding of philosophical, religious, and ethical foundations to help them to make informed, intelligent choices. Further, as the pace of change and interdependency in the world accelerates, it is important that students be given an ample opportunity to critically examine philosophy and ethical values and to understand how philosophical and ethical issues affect decision-making in professional disciplines.

Courses that meet the philosophy and ethics Way of Knowing are PHIL 110P, 120P, 140P, 230E, 250E, 303E, 344E, 345E, 441E, and 442E.

Students may meet this requirement in the major and are advised to consult the department of their major program. Majors approved to meet this requirement through major courses are: College of Arts and Letters – interdisciplinary studies concentrations in professional writing and work and professional studies depending on elective choice; College of Education – sport management; College of Engineering and Technology – all majors if ENMA 480 is completed; and College of Health Sciences – dental hygiene, health sciences health services administration concentration depending on elective choices, and health sciences with human services minor depending on elective choices.

**G. Impact of Technology**—three hours

It is important for students to understand not only how a technology functions, but also how technology affects society.

Courses in the impact of technology Way of Knowing are intended to develop students' abilities to make reasoned judgments about the impact of technological development upon world cultures and the environment as well as upon individuals and societies.

Courses that meet the impact of technology Way of Knowing are COMM 372T; CS 300T; DNTH 440T; EET 370T; ENGL 307T; GEOG 306T; HIST 300T, 304T, 389T, HIST 386T/SCI 302T; IT 360T; MUSC 335T; PHIL 383T; POLS 350T; STEM 110T, 370T; WMST 390T.

The impact of technology way of knowing can also be met by major requirements. Students are advised to consult the department of their major program. Majors approved to meet this requirement through major courses are: College of Arts and Letters – communication depending on elective choice, dance education, English teacher preparation, fine arts and studio arts depending on elective choice, foreign languages teacher preparation, geography depending on elective choice, history depending on elective choice, history teacher preparation, interdisciplinary studies concentrations in music business/production and professional writing, interdisciplinary studies early childhood and special education, interdisciplinary studies primary/elementary education, interdisciplinary studies concentration in work and professional studies depending on elective choice, all music majors; theatre education, and women's studies. College of Business and Public Administration—all majors except the B.A. in economics; College of Education—exercise science, health and physical education teacher preparation, all majors in occupational and technical studies; College of Engineering and Technology—all majors except civil engineering technology, general engineering technology and modeling and simulation engineering; College of Health Sciences—health sciences health services administration concentration depending on elective choices, and health sciences with human services minor depending on elective choices; College of Sciences - biology teacher preparation, chemistry teacher preparation, earth science education, mathematics teacher preparation and physics teacher preparation.

NOTE: For General Education requirements that can be met through the major (information literacy and research, impact of technology, oral communication, and philosophy and ethics), students who complete the required courses in their major that meet these requirements and then change to a major that does not meet the requirement through courses in the major will have met the requirement for the new major.

## Upper-Division Requirements (junior and senior years)

**I. WRITING INTENSIVE COURSE IN THE MAJOR.** All students are required to demonstrate written communication skills in the major by taking a Writing Intensive (W) course at the upper-division level.

Criteria for Writing Intensive courses include:

- a. Students will demonstrate, in a series of individual (not group) assignments, their mastery of the subject in a discipline, through the writing of formal documents.
- b. For each writing assignment, the instructor will provide feedback to the student, evaluating content and writing style (organization, development, logic, coherence and mechanics).
- c. Types of documents for writing assignments include essays, laboratory reports, project reports, critiques of performances, research proposals, case studies, journal article reviews, book reviews, creative writing, written interviews, and other forms appropriate to a particular discipline.
- d. A maximum of 10% total of identified graded writing in the form of essays for tests, quizzes, and/or a mid-term examination (not a final exam) may be included. It is to be evaluated for both content and writing style as indicated in (b) above.
- e. Graded writing requirements comprise at least 51% of the overall course grade.

**II. UPPER-DIVISION STUDIES OUTSIDE THE MAJOR.** Students are required to complete Option A, B, C or D to meet the upper-division general education requirement. In addition to the completion of courses in the area of the major field, a candidate for a baccalaureate degree may select Option A, any University-approved minor, second degree or second major. The minor may be chosen to support the major, to offer greater job opportunities to the student on graduation, or to provide academic recognition of study in a second disciplinary area. A baccalaureate degree candidate may also choose an integrative disciplinary experience through the selection of Option B, an Interdisciplinary Minor; Option C, International Business and Regional Courses or an approved Certification Program such as Teaching Licensure; or Option D, six hours of elective upper-division course work from outside of and not required by the student's major and college.

**Option A: Any University-approved minor\* (minimum of 12 hours determined by the department), second degree, or second major.** Students who complete the course requirements for the minor, but who do not attain a 2.00 grade point average in the minor, may request that the course work be approved to meet the upper-division general education requirement. The request may be initiated through the student's advisor and the associate dean of their college and submitted to the assistant vice president for undergraduate studies in the Office of Academic Affairs. Students whose requests are approved will meet the upper-division requirement, but they will not receive credit for the minor.

**Option B: Any University-approved interdisciplinary minor (specifically 12 hours, three of which may be in the major).** Three credit hours in the interdisciplinary minor may be in the major if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor. Interdisciplinary minors require 12 credit hours of 300/400-level courses selected from at least three different disciplines. Course substitutions may be approved by the interdisciplinary minor coordinator.

Approved interdisciplinary minors are as follows.

1. **Administrative Leadership and Ethics for Professional Roles Interdisciplinary Minor** (Dale Miller, Department of Philosophy and Religious Studies, Coordinator): The intent of the Administrative Leadership and Ethics for Professional Roles interdisciplinary minor is to develop management-related skills. The minor is designed to

\* Bachelor of Science in Business Administration majors pursuing a minor or second major in the College of Business and Public Administration (CBPA) must also take six hours of 200-400 level courses outside the CBPA. Students majoring in Economics who pursue a minor or second major in the College of Business and Public Administration fulfill upper-division general education requirements and do not need to take the six hours of 200-400 level courses outside the CBPA.

improve the student's professionalism through an understanding of applied ethics, effective communication, processes in organizations, applied psychology, and legal issues in the workplace. An appreciation for the qualities of leadership, the functions of administration, and a sensitivity for ethical decision making will allow the student to apply for a wider variety of positions.

Course options are as follows: CHP 400, 450, 480; COMM 351; DNTH 416; ENGL 486; ENVH 402W; HLTH 425; MEDT 403W; MGMT 325, 350; MKTG 414; NMED 475W; NURS 480W, 490W; PAS 301; PHIL 303E, 345E; PSYC 303; SMTG 450W.

2. **Biomedical Engineering Interdisciplinary Minor.** (Stephen B. Kinsley, Department of Mechanical and Aerospace Engineering, Coordinator): This interdisciplinary minor is for students who would like to learn about processes encountered in biomedical engineering innovation and enhance their ability to integrate knowledge from different disciplines with principles used in biomedical engineering. The minor offers an opportunity for students to be recognized for study in this growing multidisciplinary field and to enhance competitiveness for job opportunities upon graduation.

Course options are as follows: BME 401 and 402, one elective course chosen from BIOL 446, 460, 490, BIOL/MAE 483, 496, EXSC 322, 417W, ECE 454, 462, MAE 303, MSIM 351, MEDT 324, NMED 331, and NURS 458, and one course from the student's major approved by the minor advisor.

3. **Children's Rights Interdisciplinary Minor.** (Karen Polonko, Department of Sociology and Criminal Justice, Coordinator): This interdisciplinary minor is focused on the exploration of child rights within and across diverse disciplines and in the U.S. and internationally. This perspective challenges approaches in the various disciplines that have in their study of children traditionally denied or failed to recognize children's human rights and dignity. In place of the traditional perspectives, courses in this interdisciplinary minor frame the study of children within the larger framework of human rights, more specifically, children's rights and status as a group within society in social science research and theory, literature, the arts, humanities, education, counseling, law and public policy. Course options are as follows: COMM 427; CRJS 403W; PSYC 351; SOC 402; and TLED 476.

4. **The Designed World Interdisciplinary Minor** (Ken Daley, Department of Art, Coordinator): This interdisciplinary minor explores the interwoven historical, cultural, aesthetic, perceptual, and technical domains of the designed world. That virtually all aspects of the human-built world are designed is a generally accepted belief; however, it is not given the careful scrutiny it deserves. Creative planning and critical analysis of design dynamics are emphasized within the context of these course offerings.

Course options are as follows: ARTH 320W, 435W; ART 439; ENGL 382, 477; GEOG 310, 412; PSYC 344, 413; SEPS 303, 422, 423; STEM 382, 386, 417.

5. **Environmental Issues and Management Interdisciplinary Minor** (James English, Department of Community and Environmental Health, Coordinator): Continuing environmental degradation is a worldwide problem threatening the quality of life and its viability. The problem can only be understood and addressed by drawing upon the resources of multidisciplinary approaches. The multidisciplinary perspective center of this minor focuses on the human dimensions of the human-environment equation and includes geographical and ecological approaches, scientific and technological methodologies, planning and public policy issues, and ethical, political, economic, and legal considerations.

Course options are as follows: CEE 350, 355W, 356, 458; ECON 435, 447W; ENVH 301W, 402W, 420, 421, 422; GEOG 305, 306T, 400W, 420, 422W; OEAS 302, 310; PAS 300; PHIL 344E, 345E; POLS 300, 335, 401; RTS 405; SOC 309, 320, 325, 440; SOC/CRJS 444.

6. **Health and Wellness Interdisciplinary Minor** (Robert J. Spina, Department of Human Movement Sciences, coordinator): The Health and Wellness interdisciplinary studies minor explores personal involvement in and commitment to health and wellness and the factors that influence the health status of individuals and society. This interdisciplinary minor also fosters an appreciation for personal responsibility for health and strategies to enhance and preserve the individual's and the public's health. Societal health and the factors that impact on the health and wellness of a community and the individual's role in health policy are examined. Students gain an awareness of the

cultural, psychological, sociological and ethical issues affecting and effected by the health and wellness of individuals and the society in which they live.

Course options are as follows: CHP 360, 400, 420, 425, 456, 465, 470; CRJS 401; CRJS/SOC 421, 427, 441; EXSC 340, 403, 408, 409, 415; HE 402; HPE 430; HMSV 341W, 491; PE 300, 319; PHIL 345E; PSYC 306, 325, 351, 352, 353, 363, 405, 408, 410, 420, 424, 431, 460, 461; SOC 440; SPED 313.

7. **The Impact of Technology Interdisciplinary Minor** (Philip A. Reed, Department of STEM Education and Professional Studies, Coordinator): This interdisciplinary minor develops a broader understanding of technology and its impact on individuals, societies, and the environment. It provides the social context and the historical and philosophical backgrounds needed by informed students to evaluate technology and its impacts. The minor equips students with skills to make better personal decisions about technology and more appropriate choices for their futures.

Course options are as follows: CHP 360; COMM 340, 372T, 400W, 401, 448; CS 300T, 312; ECON 402, 454W; ENGL 380, 382, 480; ENVH 301W, 302W, 410; GEOG 305, 306T; HIST 304T, 389T; HIST 386T/SCI 302T; IT 360T; MUSC 335T; OPMT 303; PHIL 355; 383T; POLS 350T; SOC 352; STEM 323, 370T, 382, 417; WMST 390T.

8. **The Urban Community Interdisciplinary Minor** (Christopher B. Colburn, Department of Economics, Coordinator): This interdisciplinary minor encourages an interdisciplinary approach to the problems and crucial issues that emerge from urban environments. Students gain an understanding of the issues associated with the convergence of diverse populations in urban locations and acquire an appreciation of the complexities of the interlocking and contingent nature of urban problems. This will be accomplished through an examination of the topical areas of common space, diversity, urban services, disorder, and work.

Course options are as follows: ARTH 435W; CHP 415W; COMM 467; CRJS 323, 325, 355, 441; ECON 402, 445W; GEOG 310, 411, 412; HIST 303; PSYC 431; RTS 433; SOC/CRJS 444.

9. **World Cultures: Values and Visions Interdisciplinary Minor** (Heidi Schlipphacke, Department of Foreign Languages and Literatures, Coordinator): This interdisciplinary minor develops an understanding of human behavior in different cultures. In order to interpret information from other countries and ethnic groups, students need to learn that certain common notions such as perceptions of personhood, the organization of time and space, and the appropriate organization and behavior of social groups vary from country to country. This interdisciplinary minor will also explore different cultural perspectives and value systems. Students should gain a more sophisticated understanding of their own and others' cultures.

Course options are as follows: ANTR 304, 305, 320; COMM 400W; COMM 444/GER 445/FLET 445; ENGL 371W; FLET 307; FLET/JAPN 310; FLET/FR/GER 410W; FLET/SPAN 471; FLET/GER 476; FR 320, 438, 469; GEOG 451, 452, 453, 455, 456; HIST 410; IT 425; MGMT 361; MKTG 411; PHIL 354; POLS 325W; PSYC 420; SPAN 320, 471.

Study Abroad: Any study abroad course at the 300-400 level that offers three credits can fulfill one course requirement for this minor. In cases where a study abroad course fits the themes of another interdisciplinary minor, students may request approval from the minor coordinator to use that study abroad course.

**Option C: International Business and Regional Courses\*\* or an approved Certification Program such as Teaching Licensure.**

The international business and regional courses option requires ECON 450: International Economics and six hours of approved courses from a selected regional focus described below.

**Asian Focus (six hours selected from the following)**

ASIA 460	Major Issues in Asia (interdisciplinary)
GEOG 453	Asia
HIST 332	South Asia Since Independence
HIST 336	The Emergence of New China
HIST 439	Politics and Society in East Asia Since 1945
POLS 338W	Politics of East Asia
POLS 437	International Relations in East Asia

**European Focus (six hours selected from the following)**

GEOG 451	Europe
FLET 410W	Berlin-Paris: Crucibles of European Ideas (also cross listed as FR 410 & GER 410)
HIST 316	Cold War in History
HIST 321	History of Modern Germany
HIST 406	History of European International Relations: Twentieth Century
POLS 314	Western European Politics
POLS 332	Western Europe in World Affairs

**Latin American Focus**

**(six hours selected from the following)**

GEOG 454W	Latin America
HIST 373	U.S. – Latin American Relations
HIST 470	Democracy and Development in Modern Latin America
HIST 371	Modern Mexico
HIST 372	Central America and the Caribbean Since 1800
POLS 337	Latin American Politics
SPAN 321	Spanish American Civilization

For more information contact Bruce M. Seifert, Department of Business Administration.

Option C can also be met through an approved certification program such as teaching licensure. The professional education requirements specified for teaching licensure programs meet this option.

**Option D: Upper-Division Course Work from Another College Outside of and not Required by the Major (6 hours)**

Six hours of elective upper-division course work from outside of and not required by the student's major and college. Transfer courses and study abroad courses may be used for this requirement. Upper-division courses elected to meet the Philosophy and Ethics and Impact of Technology Ways of Knowing areas may also meet the requirement **but they must be outside the college and not required by the major.**

In the College of Arts & Letters, courses are divided into two components: (1) Arts & Humanities and (2) Social Sciences. Arts and Letters majors will be permitted to take upper-division courses in their non-major component for this requirement or courses from another college.

By definition the Arts and Humanities component will include: Art, Dance, English, Foreign Languages, History, Music, Philosophy, and Theatre. The Social Sciences component will include: African-American Studies, Asian Studies, Anthropology, Communication, Criminal Justice, Geography, International Studies, Political Science, Sociology, and Women's Studies.

Students must satisfy all prerequisites before enrolling in any upper-division course.

\*\*All international business majors must take the specific international business and regional courses that have been designated for their region. Refer to the international business and regional courses section of this Catalog or contact the area coordinator for these courses.

## General Education Requirements

### LOWER DIVISION (29-54 Credit Hours)

- I. Skills**
- A. **Written Communication**—six hours  
ENGL 110C and ENGL 211C or 221C or 231C
- B. **Oral Communication**—3 hours  
COMM 101R, 103R, 112R  
Approved course in the major
- C. **Mathematics**—3 hours  
MATH 101M, 102M, 162M, STAT 130M
- D. **Language and Culture**—0-6 hours  
ARAB 111F  
CHIN 111F  
FARS 111F  
FR 101F-102F  
GER 101F-102F  
HEBR 111F  
ITAL 101F-102F  
JAPN 111F  
LATN 101F-102F  
PRTG 101F-102F  
RUS 101F-102F  
SPAN 101F-102F, 121F
- E. **Information Literacy and Research**—3 hours  
CS 120G, 121G  
HLTH 120G  
IT 150G  
STEM 251G  
Approved course in the major
- II. Ways of Knowing**
- A. **Human Behavior**—3 hours  
AAST 100S  
ANTR 110S  
COMM 200S  
CRJS 215S  
ECON 200S, 201S, 202S  
FIN 210S  
GEOG 100S, 101S  
POLS 100S, 101S, 102S  
PSYC 201S, 203S  
SOC 201S  
WMST 201S
- B. **Human Creativity**—3 hours  
ARTH 121A; ARTS 122A  
COMM/THEA 270A  
DANC 185A  
MUSC 264A  
DANC 185A  
THEA 241A
- C. **Interpreting the Past**—3 hours  
HIST 100H, 101H, 102H, 103H, 104H, 105H
- D. **Literature**—3 hours  
ENGL 112L, 114L  
FLET 100L
- E. **The Nature of Science**—8 hours  
BIOL 105N, 106N, 108N, 109N, 115N, 116N  
CHEM 105N-106N, 107N-108N, 121N-122N, 123N-124N, 137N-138N  
OEAS 106N, 107N, 110N or 111N, 112N  
PHYS 101N, 102N, 103N, 104N, 111N, 112N, 231N, 232N
- F. **Philosophy and Ethics**—3 hours  
PHIL 110P, 120P, 140P, 230E, 250E, 303E, 344E, 345E, 441E, 442E  
Approved course in the major
- G. **Impact of Technology**—3 hours  
COMM 372T  
CS 300T  
DNTH 440T  
EET 370T  
ENGL 307T  
GEOG 306T

HIST 300T, 304T, 389T  
HIST 386T/SCI 302T  
IT 360T  
MUSC 335T  
PHIL 383T  
POLS 350T  
STEM 110T, 370T  
WMST 390T  
Approved course in the major

### UPPER DIVISION (Six Credit Hours Minimum)

- I. Writing intensive course in the major
- II. Upper-division studies outside the major
- Option A**—Any approved minor\* (minimum 12 hours), second degree, or second major.\*
- Option B**—Any approved interdisciplinary minor, 12 hours, three of which can be in the major.  
Administrative Leadership and Ethics for Professional Roles  
Biomedical Engineering  
Children's Rights  
The Designed World  
Environmental Issues and Management  
Health and Wellness  
The Impact of Technology  
The Urban Community  
World Cultures: Values and Visions
- Option C**—International business and regional courses\*\* or an approved certification program such as teaching licensure
- Option D**—Upper-division elective course work from another college outside of and not required by the major (6 hours). In the College of Arts and Letters, courses are divided into two components, (1) Arts and Humanities and (2) Social Sciences, for this option.

## Honors Courses that Meet General Education Requirements\*\*\*

- A. Skills**
- Written Communication**  
ENGL 126C
  - Oral Communication**  
COMM 126R
  - Information Literacy and Research**  
CS 126G
- B. Ways of Knowing**
- Human Behavior**  
COMM 226S; CRJS 226S; ECON 226S, 227S;  
GEOG 126S; POLS 126S-127S; PSYC 226S, SOC 226S; WMST 226S
  - Human Creativity**  
ARTS 126A; ARTH 127A;  
COMM 227A; MUSC 126A; THEA 227A
  - Interpreting the Past**  
HIST 126H, 127H
  - Literature**  
ENGL 127L
  - The Nature or Science**  
BIOL 126N-127N  
OEAS 126N-127N  
PHYS 126N-127N, 226N-227N
  - Philosophy and Ethics**  
PHIL 126P, 127P, 227E, 228E

\* Bachelor of Science in Business Administration majors pursuing a minor or second major in the College of Business and Public Administration (CBPA) other than economics or public service (minor only) must also take six hours of 200-400 level courses outside the CBPA, or in economics, or in study abroad. Students majoring in economics who pursue a minor or second major in the College of Business and Public Administration fulfill upper-division general education requirements and do not need to take the six hours of 200-400 level courses outside the CBPA.

\*\* All international business majors must take the specific international business and regional courses that have been designated for their region. Refer to the international business and regional courses section of this Catalog or contact the discipline coordinator for international business.

\*\*\* Courses listed are open only to students in the Honors College.

## Second Major

The University permits an undergraduate student to pursue a second major. A student pursuing two majors must meet all the degree requirements of one major and at least the departmental requirements of the other. (Most professional degree majors require completion of both the departmental/school and the college requirements.) Requirements for both majors must be completed prior to receiving the baccalaureate degree. The student will receive one baccalaureate degree. Both majors will appear on the transcript. The degree awarded will be determined by the major to which University and college requirements are applied. Prior to undertaking the second major, the student must have the program approved by the appropriate chief departmental advisor/chair and dean.

Completion of a second major will meet the upper-division General Education Requirements.\*

Students wishing to earn a second degree rather than a second major should see the "Second Baccalaureate Degree" section of the catalog.

## Second Baccalaureate Degree

The University will permit a student to acquire a second baccalaureate degree, provided that he or she: (1) pursues a different course of study; (2) meets all University, college, school, and departmental requirements (credits earned for the first degree may be applied, if suitable, toward the second degree); and (3) completes a minimum of 30 semester hours at Old Dominion University that are beyond the requirements for the first degree. A minimum of 150 credit hours is required for students earning two baccalaureate degrees from Old Dominion University. If the degrees are to be awarded simultaneously, an application for graduation and degree certification must be submitted through the respective advisors for each degree program.

Prior to undertaking the second degree, the student must have his or her accumulated credits evaluated and the second degree program approved in writing by the appropriate chief departmental advisor/chair and dean. The student is responsible for initiating and coordinating any action relating to the programs, whether pursuing the two degrees concurrently or successively. The University, as a general rule, will not permit a student to pursue more than two baccalaureate degrees.

Students who have earned a baccalaureate degree at another regionally accredited institution but who wish to acquire a second baccalaureate degree from Old Dominion University will be considered to have fulfilled University General Education Requirements for the second degree. Second degree students are not required to take the Writing Sample Placement Test (WSPT), but they must pass the Exit Examination of Writing Proficiency (unless the first degree was from Old Dominion University).

Students earning two degrees from Old Dominion University have also met general education requirements. All second degree students must meet the college/departmental requirements for both degrees even if some of these requirements are also general education courses.

Students who received their first degree from Old Dominion University should be aware that grades in all undergraduate courses (for both the first and the second degree) will be included in the cumulative grade point average.

Students wishing to earn a second major rather than a second degree should see the "Second Major" section of the catalog for information.

## Minors

In addition to the completion of courses in the area of the major field, a candidate for a baccalaureate degree may complete a minor. The completion of a minor is optional. The minor may be chosen to support the major, to offer greater job opportunities to the student on graduation, or to provide recognition of study in a second academic area. Completion of a University-approved minor will meet the upper-division General Education Requirements. Students who complete the course requirements for the minor, but who do not attain a 2.00 grade point average in the minor, may request that the course work be approved to meet the upper-division general education requirement. The request may be initiated through the student's advisor and the associate dean of their college and submitted to the assistant vice president for undergraduate studies. Students whose requests are approved will meet the upper-division requirement, but they will not receive credit for the minor.

For completion of a minor, an undergraduate student must have the following: (a) a minimum of 12 credit hours in a specified minor, normally at

\* Students pursuing two majors in the College of Business and Public Administration may not use the second business major to satisfy the upper-division General Education requirement unless one of the majors is economics.

the 300 and 400 upper-level, (b) an overall grade point average of 2.0 or above in all courses specified as a requirement in the minor exclusive of prerequisite courses,\*\* (c) and six credit hours in the minor from Old Dominion University. No course that is introductory or foundational, or that meets a lower level General Education requirement, may be included, although such courses may be prerequisites for courses in the minor. Minors meeting those requirements may be proposed by departments and programs and must be approved by the appropriate college committee and dean, by Faculty Senate Committee A and by the provost and vice president for academic affairs. Interdisciplinary minors must be reviewed by all colleges and departments involved prior to submission to Committee A of the Faculty Senate. Three credit hours in the interdisciplinary minor may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor. Interdisciplinary minors require 12 credit hours of 300/400-level courses selected from at least three different disciplines.

Specific minor requirements may be found in the section on Colleges, Schools and Departments of Instruction in this catalog.

**Procedures.** Students who wish to pursue a minor must declare the minor with and be advised by the department offering the minor, their site director, or the distance learning representative. Students completing a minor should present the minor for certification when submitting applications for graduation.

Following are approved academic minors:

### Arts and Letters

African-American Studies  
American Studies  
Art History  
Asian Studies  
Communication  
Criminal Justice  
English  
European Studies  
Film and Video Studies  
Foreign Languages and Literatures  
    French  
    German  
    Spanish  
Geography  
Geography—Environment and Resources Specialization  
History  
International Studies  
Japanese Studies  
Jewish Studies  
Latin American Studies  
Middle Eastern Studies  
Music Composition  
Music History  
Music Performance  
Philosophy  
Philosophy—Applied Ethics Specialization  
Philosophy—Religious Studies Specialization  
Philosophy—Political and Legal Studies Specialization  
Political Science  
Political Science—Public Law Specialization  
Sociology  
Sociology—Social Welfare Specialization  
Studio Arts  
Theatre and Dance—Theatre Specialization  
Theatre and Dance—Dance Specialization  
Women's Studies

### Business and Public Administration

Accounting  
Business Administration  
Decision Sciences  
Economics  
Financial Management  
Information Systems and Technology  
Insurance and Financial Services  
International Business

\*\* Only those 300-, 400-, and approved 200-level courses that are designated for the minor will be calculated in the student's grade point average for the minor. All 300-, 400-, and approved 200-level courses designated for the minor and taken by the student will be calculated in the student's grade point average for the minor. For example, if the minor requires four courses at the 300- and 400-level and the student completes five courses, all five courses will be included in the calculation of the grade point average for the minor.

Management  
Marketing  
Military Leadership  
Public Service  
Real Estate

**Education**

Coaching Education  
Exercise Science  
Fashion Merchandising  
Health Education  
Human Services  
Marketing Education  
Recreation and Tourism Management  
Secondary Education  
Special Education  
Speech-Language Pathology and Audiology  
Sport Management  
Therapeutic Recreation  
Training and Development

**Engineering and Technology**

Aerospace Engineering  
Civil Engineering  
Civil Engineering Technology—Construction  
Computer Engineering  
Electrical Engineering  
Electrical Engineering Technology  
Engineering Management  
Environmental Engineering  
Global Engineering  
Marine Engineering  
Mechanical Engineering—Mechanics  
Mechanical Engineering—Thermal Sciences  
Mechanical Engineering Technology  
Military Leadership  
Modeling and Simulation  
Motorsports Engineering

**Health Sciences**

Community Health  
Environmental Health  
Medical Technology  
Occupational Safety

**Sciences**

Biology  
Chemistry  
Computer Science  
Mathematics—Actuarial Mathematics Option  
Mathematics—Applied Mathematics Option  
Mathematics—Statistics/Biostatistics Option  
Ocean and Earth Science  
Physics  
Psychology  
Web Programming

**Interdisciplinary Minors**

Administrative Leadership and Ethics for Professional Roles  
Biomedical Engineering  
Children's Rights  
The Designed World  
Environmental Issues and Management  
Health and Wellness  
The Impact of Technology  
The Urban Community  
World Cultures: Values and Visions

# General Education Transfer Equivalents for Virginia Community College System Courses

## Old Dominion University Lower-Division General Education

### *Written Communication Skills (6 credits)*

ENGL 110C  
and  
ENGL 211C  
ENGL 231C

### *Oral Communication Skills (3 credits)*

COMM 101R  
COMM 103R  
COMM 112R

Requirement can also be met by approved course in the major.

### *Mathematical Skills (3 credits)*

MATH 101M  
MATH 102M  
MATH 162M  
MATH 163  
MATH 166  
STAT 130M

### *Language and Culture Skills (0-6 credits)*

ARAB 111F  
CHIN 111F  
FR 101F and 102F  
GER 101F and 102F  
HEBR 111F  
ITAL 101F and 102F  
JAPN 111F  
LATN 101F and 102F  
PRTG 101F and 102F  
RUS 101F and 102F  
SPAN 101F  
SPAN 102F

Language and Culture Skills I and II (FLP 1REQ and 2REQ)

### *Information Literacy and Research (0-3 credits)*

IT 150G  
CS 120G  
STEM 251G

Requirement can also be met by approved course in the major.

### *Literature Way of Knowing (3 credits)*

ENGL 112L  
ENGL 114L  
Literature Way of Knowing (LITP 1REQ)

FLET 100L

### *Human Creativity Way of Knowing (3 credits)*

ARTH 121A  
ARTS 122A  
COMM/THEA 270A  
Human Creativity Way of Knowing (FPAP 1REQ)

## Virginia Community College System Courses

ENG 111

ENG 112 or 210  
ENG 115 or 131

CST 100, 105, or 110  
CST 111 or 112  
CST 126

MTH 122, 152 or 182  
MTH 158  
MTH 163  
MTH 164  
MTH 166  
MTH 146, 157, 240, 241, or 242

ARA 101 and 102  
CHI 101 and 102  
FRE 101 and 102  
GER 101 and 102  
none  
ITA 101 and 102  
JPN 101 and 102  
LAT 101 and 102  
none  
RUS 101 and 102  
SPA 101 or 105 and 106  
SPA 102 or 107 and 108  
VTN 101 and 102, GRE 101 and 102, HIN 101 and 102, KOR 101 and 102, ASL 101 and 102

ITE 119  
None  
ITE 119

ENG 125  
none  
ENG 236, 237, 241, 242, 243, 244, 245, 246, 251, 252, 253, 254, 255, 256, 267, or 268  
none

ART 100, 111, or 112  
ART 113, 114  
CST 151, 152, or 250  
ART 101, 102, 105, 106, 133, 150, 201, or 202,  
HUM 100, 201, 202, or  
260, MUS 125, CST 231-232

THEA 241A  
MUSC 264A  
DANC 185A

CST 130, 141, or 142  
MUS 121 or 122  
none

*Philosophy and Ethics Way of Knowing (3 credits)*

PHIL 110P  
PHIL 120P  
PHIL 230E  
PHIL 250E

Philosophy and Ethics Way of Knowing (PHIP 1REQ)  
Requirement can also be met by approved course in the major

PHI 100, 101, or 102  
PHI 111, 112, or 115  
PHI 220, 225 or 226  
REL 230, 231, 232, or 237, PHI 260  
PHI 200, 211, 212, 227, 228, 265, or 276

*Interpreting the Past Way of Knowing (3 credits)*

HIST 100H  
HIST 101H  
HIST 102H  
HIST 103H  
HIST 104H  
HIST 105H

Interpreting the Past Way of Knowing (HISP 1REQ)

HIS 112  
HIS 253 or 254  
HIS 101 or 102  
HIS 231 or 232  
HIS 121 or 122  
HIS 203 or 204  
HIS 111

*Human Behavior Way of Knowing (3 or 6 credits)*

AAST 100S  
ANTR 110S  
COMM 200S  
CRJS 215S  
ECON 200S  
ECON 201S  
ECON 202S  
GEOG 100S  
GEOG 101S  
POLS 100S  
POLS 101S  
POLS 102S  
PSYC 201S  
PSYC 203S  
SOC 201S  
WMST 201S

Human Behavior Way of Knowing (SSCP 1REQ)

HUM 220  
SOC 210, 211, or 212  
none  
ADJ 107, 201, or SOC 236  
ECO 120  
ECO 201  
ECO 202  
GEO 210  
GEO 200  
PLS 241 or 242  
PLS 130, 135, 211, or 212  
PLS 140  
PSY 200, 201, or 202  
PSY 230, 231, 232, or 235  
SOC 200, 201 or 202  
SSC 210, HUM 210  
SOC 220 or 255, PLS 120

*Nature of Science Way of Knowing (8 credits)*

BIOL 115N and 116N

Natural Science Perspective (NSCP 1REQ and 2REQ)

Natural Science Perspective (NSCP 1REQ)

BIO 101 and 102  
BIO 106 and 107 or MAR 101 and 102 or  
ENV 121 and 122  
BIO 114, 270, 278, CHM 126, GOL 207 or 225,  
MAR 121, 122, 201, 202, NAS 101, 102, 110,  
111, 112, 120, 125, or 130, PHY 130, SCT 111,  
112

CHEM 105N-106N and 107N-108N

CHEM 121N-122N and 123N-124N

OEAS 110N

OEAS 106N and 107N

OEAS 111N and 112N

PHYS 101N and 102N

PHYS 103N and 104N

PHYS 111N and 112N

PHYS 231N and 232N

CHM 101 or 121 and 102 or 122  
CHM 111 and 112  
GOL 110 (required for teacher ed)  
GOL 111 and 112  
GOL 105 and 106  
PHY 100 or 101 and 102  
NAS 131 and 132  
PHY 111 and 112 or 201 and 202  
PHY 231 and 232 or 241 and 242

The complete transfer course database is available on the Transfer Student website found at [uc.edu.edu/advising](http://uc.edu.edu/advising) under For Students.





# Colleges, Schools, and Departments of Instruction

## College of Arts and Letters

Charles E. Wilson, Jr., Interim Dean  
Janet E. Katz, Associate Dean  
Robert Wojtowicz, Associate Dean for Research and Graduate  
Studies

### Mission

The College of Arts and Letters is committed to the ideals of the liberal arts. Its curriculum is designed to introduce students to the full range of human experiences through the study of cultural heritage, forms of artistic and literary expression, patterns of social and political behavior, and methods of critical inquiry.

The mission of the College of Arts and Letters is to prepare students for rigorous, intellectual and creative inquiry leading to their full development as human beings and to their responsible engagement with society. We accomplish this mission by: 1) Developing the essential skills of critical reading and thinking, effective oral and written communication, and proficient use of technology; 2) Providing foundational knowledge in the arts, humanities and social sciences for all undergraduates; 3) Offering excellent disciplinary and interdisciplinary programs of study and training that expose students to accumulated knowledge, scholarly debate, and innovations in the field; 4) Fostering global awareness and sensitivity to the breadth and diversity of the human condition, which includes acquiring an understanding of the roles of gender, race, ethnicity, and culture; 5) Providing an atmosphere for the free exchange of ideas among faculty and students and by vigorously defending academic and intellectual freedom; 6) Promoting challenging internship opportunities, research projects, and collaborative learning experiences that connect our students to the community and prepare them for the world of work; and, 7) Supporting a broad array of cultural experiences that enrich the lives of students, the University, and the community.

### Overview

Undergraduate programs in the College of Arts and Letters are structured to make possible close personal contact between students and faculty and thus to meet the needs of individual students. Arts and Letters faculty members are dedicated to good teaching, proud of their achievements in research, and committed to enhancing in every way possible the exciting and stimulating environment that is Old Dominion University.

The College of Arts and Letters comprises the Departments of Art, Communication and Theatre Arts, English, Foreign Languages and Literatures, History, Music, Philosophy and Religious Studies, Political Science and Geography, Sociology and Criminal Justice, and Women's Studies; Interdisciplinary Studies; the Institute of Humanities; the Institute for the Study of Race and Ethnicity; the Institute of Asian Studies; the Institute for Ethics and Public Affairs; the Institute for the Advancement of Community Justice; Community Dance Programs; the Old Dominion University Community Music Division; the Social Science Research Center; and the Filipino American Center.

The College offers undergraduate degrees in Acting, African American and African Studies, Art History, Asian Studies, Communication, Criminal Justice, English, Foreign Languages, Geography, History, Interdisciplinary Studies, International Studies, Music, Philosophy, Political Science, Sociology, Studio Art, Theatre and Dance, and Women's Studies.

In addition to the Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, and Bachelor of Science degrees offered by the above departments, the College of Arts and Letters offers a variety of accelerated and graduate degree programs. Accelerated programs allow students to count up to 12 hours of

graduate courses toward both an undergraduate and graduate degree making it possible to earn both a B.A. or B.S. and an M.A. in five years. Accelerated programs are available in applied linguistics, English, history, international studies, and humanities; concentrations in humanities are available in communication, individualized interdisciplinary studies, philosophy, and women's studies.

The College offers graduate degrees in Applied Linguistics, Applied Sociology, Creative Writing, Criminology and Criminal Justice, English, History, Humanities, International Studies, Music Education, and Visual Studies. Please refer to the Graduate Catalog for more information.

### Undergraduate Degree Requirements

Arts and Letters requirements for all undergraduate degrees include all of the General Education Requirements. In addition, all Arts and Letters majors must obtain a minimum grade of C in English 110C before declaring a major and in order to graduate. Arts and Letters majors must also attain a minimum grade of C in the second composition course in order to graduate.

Students earning a Bachelor of Arts degree must also complete the following foreign language requirement: Proficiency established at the fourth-semester level through one of the following:

- Successful completion of the 202 or 212 course at Old Dominion University (or equivalent at another institution). American Sign Language is accepted to meet this requirement in all Bachelor of Arts programs in the college except Asian Studies, foreign languages and international studies.
- Exemption through fourth semester granted for acceptable scores on achievement tests.
- Advanced placement with up to nine hours credit at the 300 level for acceptable scores on the advanced placement test taken at the conclusion of advanced placement courses in high school.
- Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

Students who have taken three or more years of a foreign language in high school but have not been granted advanced placement as explained in item c above must take the College Entrance Examination Board (CEEB) achievement test before continuing in the same language at Old Dominion University. An achievement test score of under 481 normally requires that such students begin with the 121F course in Spanish or the 102F course in other foreign languages.

Additional major requirements are listed under the various departments. The requirements for the Bachelor of Fine Arts and Bachelor of Music degrees are listed under art and music respectively. The requirements for the Bachelor of Science degree with a major in communication, criminal justice, geography, political science, sociology, interdisciplinary studies and women's studies will be found under political science and geography, sociology and criminal justice, communication and theatre arts, interdisciplinary studies, and women's studies.

Students wishing to take a major or minor in the College of Arts and Letters must register with the appropriate department. The College of Arts and Letters allows a maximum of six hours of activity credit. Activity credit beyond the established maximum may be given in unusual circumstances only and will require the approval of the dean of the College of Arts and Letters. Activity credit required by a student's major department will not be counted against the credit limitation.

### Center for Family Violence Education and Research

The Old Dominion University Center for Family Violence Education and Research (CFAVER) is an interdisciplinary group of professionals with a common interest in empowering communities with education and information concerning family violence. The center's aim is to educate and promote an understanding of the various forms of family violence, including child abuse, sibling abuse, partner abuse, and elder abuse. Strategies to increase awareness about these problems include conducting interdisciplinary research focusing on different types of family violence, developing public awareness campaigns to educate members of the public about family violence, evaluating programs and processes used with family violence victims and offenders, and building relationships with various agencies responsible for family violence case care.

## Institute for the Advancement of Community Justice

The Institute for the Advancement of Community Justice brings together an interdisciplinary group of scholars from the University who are interested in community justice issues. The mission of the Institute is to create and sponsor activities and research that promote well-being and quality of life in the community. This is done through the examination of social problems and their contributors and consequences. Issues of interest include: public safety and criminal justice, mental illness, substance use and abuse, education, health care, and economic disadvantage. The Institute's goals are to facilitate discussion and interdisciplinary research among scholars, community leaders, and local agencies, to ensure that the research accurately addresses issues that are important and relevant to the community, and to share knowledge on community justice issues with local agencies, community leaders, and citizens.

## Institute for Ethics and Public Affairs

The Institute for Ethics and Public Affairs seeks to raise awareness and stimulate discussion of the ethical dimension of matters of public concern within the campus community and the larger Hampton Roads community; to strengthen moral community and foster a commitment to ethical ideals in public life; to facilitate reflection on the ethical standards that govern the professions; and to highlight the unique and valuable contribution that philosophical reasoning can make to practical decision making.

## Institute for the Study of Race and Ethnicity (ISRE)

The Institute for the Study of Race and Ethnicity (ISRE) seeks to develop, promote and implement academic, research and public service programs that focus on the study of race and ethnicity in Hampton Roads, Virginia, the nation, and throughout the African Diaspora. The political, social, economic, cultural and historical experiences of African Americans and other communities of color are important dimensions emphasized in the work of the institute. As such, the institute seeks to establish itself as a major archive and research center in the southeast United States focusing on the experiences of African Americans.

The institute promotes high quality teaching and rigorous policy-oriented research emphasizing interdisciplinary and multidisciplinary approaches, as well as the methods of the traditional social sciences and humanities disciplines. New and improved facilities such as a mini-archive, library, reading and meeting areas and a research/resource center for faculty and students are available.

## Minor in American Studies

American studies offers a unique opportunity to explore the culture and society of the United States from a perspective that is inherently interdisciplinary. A minor in American studies provides a structured program to encourage students to cross traditional academic boundaries and to integrate the arts, humanities, and social sciences.

The minor in American studies is an effective program complement for those majoring in the related fields of art, music, dance and theatre; communication, English, and foreign languages; history, geography, and political science; philosophy; sociology, and criminal justice; as well as interdisciplinary majors in women's studies, African American and African studies, and international studies. The minor is also effective for international students, who may wish either to better understand American culture or to acquire an expertise useful in their home countries.

All students minoring in American studies must take AMST 300, crosslisted as ENGL 396 and HIST 396 (Topics: The American Dream), and 12 hours of designated courses divided into two fields (the arts and the humanities, and the social sciences), for a total of 15 hours. Please note that some courses listed below require prerequisites. Students may not use more than one course from the minor to satisfy program requirements in another major or minor.

Designated course listings for the minor in American studies are as follows:

1. AMST 300, Perspectives: The American Dream
2. At least one course (but no more than two from any single department) in the arts and the humanities, chosen from the following:

ARTH 325	American Art before 1865
ARTH 326	American Art after 1865
ENGL 340	American Drama

ENGL 342	Southern Literature
ENGL 345	American Literature to 1860
ENGL 346	American Literature from 1860
ENGL 446	Studies in American Drama
ENGL 447	The American Novel to 1920
ENGL 448	The American Novel 1920 to Present
ENGL 465	African American Literature
ENGL 466W	Asian-American Literature
ENGL 472	America in Vietnam
FLET 473	Contemporary Latina Literature
MUSC 460	History of Jazz
THEA 441	American Theatre

3. At least one course (but no more than two from any single department) in the social sciences, chosen from the following:

COMM 340	Media and Popular Culture
COMM 434	African American Rhetoric
COMM 473	Television and Society
COMM 479W	American Film History
COMM 481	The Documentary Tradition
GEOG 350	Geography of the U.S. and Canada
HIST 345	Native American History
HIST 346	Colonial and Revolutionary America
HIST 348	The Early Republic, 1787-1850
HIST 351	The Civil War and Reconstruction
HIST 353	America's Response to Industrialism, 1877-1929
HIST 355	The United States, 1945-1991
HIST 357	America in the 1960s
HIST 361	African-American History to 1865
HIST 362	African-American History since 1865
HIST 363	Women in U.S. History
HIST 445	History of Early American Thought
HIST 446	History of Modern American Thought
POLS 312	American Political Thought
POLS 407	American Presidency
POLS 408	American Constitutional Law and Politics I
POLS 409	American Constitutional Law and Politics II
POLS 410	African American Politics
POLS 412	Politics of the Civil Rights Movement
POLS 415	Women and Politics in America
SOC 320	Social Inequality
SOC 340	Sociology of Women
WMST 302W	All American Women

The director of American studies can approve other courses not listed above to fulfill the minor, including 400-level topics courses, provided they substantively address some aspect of the creation or perpetuation of an American identity.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

For further information, contact the director of the American studies minor program, Dr. Joseph Cosco, at 683-5473.

## Minors in European Studies, Japanese Studies and Latin American Studies

**European Studies.** The minor in European Studies will focus on different aspects of European culture, language, politics, geography, philosophy, and history. Students may declare a minor in European Studies upon successful completion of French, German, or Spanish 311 or 312W or the equivalent. An additional 12 credits at the 300- or 400-level must be taken from the following program areas: Art, English, Foreign Languages and Literatures, History, Music, Philosophy, and Political Science and Geography (see two options).

### Option 1:

- a. Two courses from the Department of Foreign Languages and Literatures above 312W. One course must be outside the language of proficiency, or can be a FLET course with a European emphasis.
- b. Two courses from related disciplines outside of the Department of Foreign Languages and Literatures.

### Option 2:

- a. Three courses from the Department of Foreign Languages and Literatures above 312W. One course must be outside the language of proficiency, or can be a FLET course with a European emphasis.

- b. One course from related disciplines outside of the Department of Foreign Languages and Literatures.

Credits can also be earned by studying abroad in Europe. The student's course of study will be determined in consultation with an advisor from the Department of Foreign Languages and Literatures.

For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Japanese Studies.** The minor in Japanese Studies will focus on the study of several aspects of Japanese culture, language, politics, geography and history. Students may declare a minor in Japanese Studies upon successful completion of JAPN 311 and JAPN 312 Advanced Japanese Language and Culture I and II (six credits) or the equivalent. JAPN 212 (or equivalent) is a prerequisite for JAPN 311 and does not count toward the GPA required for the minor. An additional six credit hours must be taken from two different disciplines listed below.

ARTH 360 Asian Art  
ASIA 337 or HIST 338 Japan's Era of Transformation  
ASIA 338W Politics of East Asia  
ASIA 353 Asian Religions  
FLET 310 or JAPN 310 Faces of Japan  
HPE 497 Theory of Martial Arts  
MGMT 462 Comparative International Mgmt  
MGMT 463 Management Seminar Abroad  
PHIL 353 Asian Religions  
PHIL 485 Japanese Religion & Philosophy  
POLS 338W Politics of East Asia  
POLS 436 Japanese Politics  
Approved Topics courses\*\*

\*\*Topics course dealing with Japan in any discipline can be applied toward the minor. (Advisor's approval is required.)

Credits can also be earned by study abroad in Japan. The student's course of study will be determined in consultation with an advisor from the Department of Foreign Languages and Literatures.

For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Latin American Studies.** The minor in Latin American Studies will focus on the study of several aspects of Latin American culture, language, politics, geography and history. Students may declare a minor in Latin American Studies upon successful completion of SPAN 311 or 312W or the equivalent. (Proficiency in Portuguese will also be accepted.) An additional 12 credit hours at the 300 or 400 level must be taken from at least three of the following program areas: International Political Science, Spanish, History, and Geography.

Credits can also be earned by studying abroad in Latin America. The student's course of study will be determined in consultation with an advisor from the Foreign Languages and Literatures Department.

For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Middle Eastern Studies

The minor in Middle Eastern studies focuses upon the study of several aspects of Middle Eastern culture, language, politics, geography, and history. The minor consists of 15 hours of course work. Students can elect Track I which would include as a prerequisite three hours of 202-level Arabic, French, Hebrew, Farsi or any other language used in research in the region; this course is not included in the grade point average for the minor. Languages such as Armenian and Turkish could meet this requirement upon the taking of a proficiency examination. Students can also choose Track II, which is a non-language option.

All students must take one core course from the following: GEOG 455, POLS 466 or MIDE 300.

The remaining nine hours for Track I or 12 hours for Track II can be taken from the following list of courses: BIOL 414, COMM 337, 405, MIDE 395, 410, 495, SOC 353, ARAB 311, 312, 395-396, REL 311, 312, 350, 351, 352, HIST 396.

Courses not taken to satisfy the core requirement, topics courses offered in addition to the courses listed above, which focus upon the Middle East, and credit earned by studying abroad in the Middle East may also be included in the minor requirements.

For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. For further information, contact the director of the Middle Eastern Studies minor at 683-3835 or at [fhassenc@odu.edu](mailto:fhassenc@odu.edu).

## Minor in Film and Video Studies

A minor in film and video studies consists of 15 hours of course work taken from a minimum of two academic fields. Courses taken for the minor cannot be used to fulfill other degree requirements. The requirements are as follows.

- COMM/THEA 270A is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor.
- One internationally-oriented course from the following: FLET 300 (Understanding European Film), COMM 471W (International Film History), ENGL 425 (Film Directors in Context), WMST 495 (Women in World Cinema), FR 469 (History of French Cinema), SPAN 469 (Hispanic Film), GER 445 (New German Film), or approved topics courses - three hours
- Twelve hours chosen from the courses listed above or from THEA/COMM 346 (Introduction to Screenwriting), THEA/COMM 370 (The Video Project), THEA/COMM 380 (Video Documentary I), COMM/THEA 479W (American Film History), ENGL 312 (The Film), ENGL 424 (Short Works in Narrative Media), THEA/COMM 480 (Video Documentary II), COMM 481 (The Documentary Tradition), or approved additional courses.

For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. For more information, contact the Department of Communication and Theatre Arts at 683-3828.

## Jewish Studies Minor

Maura Hametz, Academic Director ([mhametz@odu.edu](mailto:mhametz@odu.edu))

The minor in Jewish Studies requires that students take JST/REL 350, Judaism, as well as a three-hour independent study (JST 497) supervised by the coordinator of Jewish Studies, plus an additional six hours of approved course work at the 300-level or above, for a total of 12 hours. Students interested in the Jewish Studies minor are encouraged to take HEBR 111F to fulfill the University foreign language requirement.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor (exclusive of 100- and 200-level courses and prerequisite courses) and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

A list of approved courses is available from the academic director and on the website at [www.al.odu.edu/ijiu/courses.shtml](http://www.al.odu.edu/ijiu/courses.shtml).

## The Institute for Jewish Studies and Interfaith Understanding

Maura Hametz, Academic Director ([mhametz@odu.edu](mailto:mhametz@odu.edu))

The Institute for Jewish Studies and Interfaith Understanding (IJIU) is dedicated to the idea that interfaith understanding involves both an appreciation of Judaism's historic role in the development of western civilization and an understanding of the cross-cultural development of the world's religions. IJIU sponsors programs and activities about religious and ethnic diversity worldwide in support of the University's commitment to open dialogue and to inspire a greater understanding of the issues and challenges that confront us at the dawn of the new century. Truly a collaboration of the University and the community, the institute seeks partners and sponsors to offer a wide array of courses to complement the Jewish studies minor and the religious studies minor and to sponsor cultural programs offered at Old Dominion University.

The IJIU is housed in the College of Arts and Letters. The office is located in the Cooper Room, BAL 2024, in the Batten Arts and Letters Building. For further information on the institute's programs and activities contact: Maura Hametz, IJIU Academic Director. Phone: (USA) 757-683-3946. E-mail: (mhametz@odu.edu).

## Institute of Asian Studies

Old Dominion University seeks to promote an expanded awareness and understanding of the nations and cultures of Asia, to support and encourage research on Asia, and to make resources available to foster better understanding and more effective interaction between organizations and individuals in the Hampton Roads area and those in Asia. To achieve these goals, the Institute of Asian Studies coordinates special programs and administers a major and minor in Asian studies. It also facilitates cooperative relationships with higher education institutions and other organizations within the United States and throughout Asia. The institute director works closely with the Office of International Programs regarding scholarships and study abroad programs and opportunities.

## B.A. or B.S./M.B.A. Five-Year Program

This program allows students to complete B.A. or B.S. and M.B.A. degrees in five years. Students who have been formally accepted into the program complete a business core during their senior year. The business core fulfills the upper-division General Education requirements as a minor. All students interested in pursuing the five-year program should plan their undergraduate course of study with the requirements of the program, as explained below, clearly in mind.

### Entrance Requirements

A potential candidate should have:

1. Achieved a minimum Graduate Management Admission Test (GMAT) score of 550.
2. Completed all lower-level General Education requirements.
3. Completed at least 24 credit hours at Old Dominion University with a grade point average of at least 3.00.
4. Achieved a minimum index of 1200. The index is computed as 200 times the Old Dominion University grade point average plus the GMAT score.
5. Achieved senior standing at Old Dominion University.
6. Completed a calculus course, equivalent to MATH 200 (calculus for business and economics).

### Admissions Procedure

Students interested in the program should plan to take the GMAT at least two semesters prior to the semester in which they plan to enroll. Students planning to enroll in the fall of their senior year should take the GMAT during the fall of their junior year. Applications should be submitted to the M.B.A. Program Office at the beginning of one full semester (fall, spring) prior to planned enrollment.

Students interested in the program should discuss their plans with the M.B.A. program director as early as possible. The M.B.A. program manager will act as their advisor. The M.B.A. Program Office is located in 1026 Constant Hall. The phone number is 683-3585.

### Business Core - M.B.A. Courses

Students accepted into the five-year program must complete the following courses from the M.B.A. core during their senior year: ACCT 601, ECON 604, MGMT 602, MKTG 603, FIN 605, and DSCI 600. These credit hours will count toward the undergraduate degree and will meet upper-level General Education requirements. Students must maintain a 3.00 grade point average in these courses.

### Requirements for the M.B.A.

After students have satisfactorily completed their undergraduate requirements, they must complete 30 hours in the M.B.A. program to include the requirements beyond the core, electives and the capstone course. More specific information about M.B.A. requirements is available from the M.B.A. program.

## Career Advantage Program

The Career Advantage Program (CAP), administered by the Career Management Center (CMC) in partnership with the academic colleges, is the Arts and Letters students' link to career assistance, resources, and experience.

CAP also encompasses a series of career-related events and services designed to include a practical work experience (Guaranteed Practicum) that is the foundation of CAP, an opportunity for students to gain major-related work experience through internships, cooperative education or class related practical experience in or out of the classroom involving real-world, hands-on projects. Classes meeting the specifications for the guaranteed practical experience are noted in the Courses of Instruction section of this catalog as "(Qualifies as a CAP Experience)."

For more information, students should visit the CMC Arts and Letters website ([www.odu.edu/ao/cmc/al](http://www.odu.edu/ao/cmc/al)) or contact the CMC Liaison or Co-op and Internship Coordinator in BAL 1006, the Advising Office in the Batten Arts and Letters Building.

## Career Management Center

Residing within the College of Arts and Letters, is a full-time, full-service Career Management Center (CMC) with staff dedicated to working with Arts and Letters students and alumni. The Arts and Letters CMC staff is available to offer a full array of career assistance, resources, and experience through the Career Advantage Program (CAP) to connect students with resources that will aid in identifying, researching and exploring possible careers and opportunities to link academic and career interests.

The CMC staff serves as a primary outreach to employers and provides coordination of employer recruitment activities for the college. The staff also provides coordination and assistance in conducting college specific seminars and events such as the Communications Alumni Panel, the Sociology and Criminal Justice Career Fair, Graduate School preparation programs, and employer panels focused on issues relevant to students in the College of Arts and Letters.

## African American and African Studies

Melvina Sumter, Program Director

The African American and African Studies (AAAS) program offers the Bachelor of Arts and Bachelor of Science degrees. The program is designed to give students an essential core of basic knowledge and analytical skills, while providing an opportunity to specialize in one of two emphasis areas: African American Studies or African Studies. The African American and African Studies major requires a total of 36 credit hours in African American and African Studies courses, including 15 credit hours of core coursework, 15 hours of coursework evenly distributed between selected upper-division social science and humanities courses, and a minimum of six credit hours of upper-division coursework in African Studies. African American and African Studies majors are required also to take HIST 105H (Africa in a World Setting).

Students can earn either the B.A. or B.S. degree. The B.A. program requires a foreign language through the intermediate level (202). Students seeking the B.S. degree must demonstrate beginning language proficiency (102). Consistent with Old Dominion University's Career Advantage Program (CAP), students majoring in African American and African Studies are required to participate in an appropriate field internship.

## Bachelor of Science and Bachelor of Arts – African American and African Studies Major

### LOWER DIVISION GENERAL EDUCATION REQUIREMENTS

Written Communication (ENGL 110C and ENGL 211C)	6
Oral Communication	3
Mathematics (B.S. requires C- or better in STAT 130M)	3
Language and Culture (B.S. students' competence must be at the 102 level. B.A. students must have competence through the 202 level and competence is not met by the associate degree.)	0-12
Information Literacy and Research (can be met in the major by POLS 308)	0-3
Human Creativity	3
Interpreting the Past (HIST 105H required)	3
Literature	3
Philosophy and Ethics	3

The Nature of Science	8
Impact of Technology	3
Human Behavior	3

The requirements for African American and African Studies majors are outlined below. With the permission of the program director, courses not listed below may be approved as substitutions to fulfill program requirements.

#### Core Requirements (B.A. and B.S., 18 credit hours)

Interpreting the African Past (HIST 105H)	3
Intro to African American & African Studies (AAST 100S)	3
African American Political & Social Thought (AAST 420W)	3
Research Methods (POLS 308 or SOC 337)+	3
Senior Seminar (AAST 4XX)*	3
Africana Intellectual Thought and Economic Development (AAST 410)	3

\*Course undergoing development

+Research methods in African American and African Studies is undergoing development. Students pursuing a B.A. will be able to select an appropriate research methods class in conjunction with the program director.

#### Upper-Division Electives (B.A. and B.S., 15 credit hours, 300 and 400 level courses)

Students majoring in African American and African Studies must earn a minimum of 15 credit hours in upper-division humanities and social science courses related to African American studies. Six credit hours of 300/400 level courses must be from the social sciences and six credit hours from the humanities. The remaining three hours must be taken in either the humanities or social sciences depending upon whether the student is enrolled in the B.A. (humanities) or B.S. (social sciences) program. Courses may be selected from among those listed by category below. *No more than two courses from any one discipline may be taken in any category.* With the permission of the program director, courses not listed below may be approved as substitutions to fulfill program requirements.

#### Upper-Division Social Science Courses

Topics in African American Studies (AAST 395, 396)	3
Blacks, Crime and Justice (CRJS 450)	3
Diversity in Criminal Justice (CRJS/SOC 452)	3
Africa (GEOG 452)	3
Politics of the Civil Rights Movement (POLS 412)	3
Race, Culture and Public Policy (POLS 309)	3
Politics of Africa (POLS 316)	3
African American Politics (POLS 410)	3
African Americans and Foreign Affairs (POLS 451)	3
Psychology of African Americans (PSYC 460)	3
Sociology of Minority Families (SOC 323)	3
Sociology of Minority Groups (SOC 426)	3
Community Justice (SOC/CRJS 444)	3
Internship (AAST 368)	3

#### Upper-Division Humanities Courses

Topics in African American Studies (AAST 395, 396)	3
African American Rhetoric (COMM 434)	3
African American Perspectives in Dance (DANC 391)	3
African American Literature (ENGL 465)	3
African American History to 1865 (HIST 361)	3
African American History Since 1865 (HIST 362)	3
African American Historiography (HIST 455)	3
History of Jazz (MUSC 460)	3
History of Modern Africa (HIST 475)	3
All American Women:	
A Multicultural Approach (WMST 302W)	3
Internship (AAST 368)	3

#### African Studies (300 and 400 level electives, B.A. and B.S., 6 credit hours)

In addition, students majoring in African American and African Studies must earn six credit hours in African Studies courses. Students may select courses from the following list: AAST 305 Africa in Transition, POLS 316 Politics of Africa, HIST 475 History of Modern Africa, or topics courses as approved by the director. Courses taken in this category cannot duplicate upper-division social sciences and humanities courses taken to fulfill program requirements. At the discretion of the program director, substitutions may be approved to satisfy this requirement. The course options in this category will be expanded and/or modified as they become available.

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor; 12 hours specified by the department, three of which can be in the major  
Option C. International business and regional courses or an approved certification program, such as teaching licensure  
Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours). AAST courses and any course listed as an elective choice for the major cannot be used to meet this option.

Graduation requirements include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Minor in African-American Studies

The minor in African American Studies is administered by the Institute for the Study of Race and Ethnicity. Students who wish to qualify for the program must submit a minor declaration form to the African American Studies program.

A variety of courses are offered to meet the requirements of the minor. Interdisciplinary in nature, the African American Studies minor provides an opportunity for students to investigate the history and culture of people of African descent as well as the current political, social, and economic interaction among all members of society.

The minor in African American Studies is a 15 credit hour program, which includes the following:

1. AAST 100 Introduction to African American Studies (prerequisite course; does not count toward the grade point average required for the minor).
2. A minimum of six hours of 300/400 level humanities courses from among the following: DANC 391, ENGL 465, HIST 361, 362, 455, 475, MUSC 460, WMST 302W.
3. A minimum of six hours of 300/400 level social science courses from among the following: AAST 305, 395, 396, 410, 420W, COMM 434, CRJS/SOC 444, 452, CRJS 450, POLS 309, 316, 410, 412, PSYC 460, SOC 323, 426.
4. With the approval of the director, courses that focus on the African American experience can also fulfill the requirements of the minor.
5. No course taken to satisfy the requirement of the minor can be from a student's major field.
6. Students must maintain a 2.00 cumulative grade point average in the courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses. A minimum of six hours in upper-level courses in the minor must be courses offered by Old Dominion University.
7. Students must file a minor declaration form in the ISRE Resource Center in BAL 2023.

### ART

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### Bachelor of Arts—Art History Major

Robert Wojtowicz, Program Director

#### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication Skills: ENGL 110C (Grade of C or better required before declaring major in art history)	3
Written Communication Skills: ENGL 211C, 221C or 231C	3
Oral Communication Skills	3
Mathematical Skills	3
Language and Culture (Proficiency through 202 level in French, German, Italian, Latin or Spanish; note that proficiency is not met by completion of an associate degree)	6-12
Information Literacy and Research	3
Human Creativity (select from COMM/THEA 270A,	

DANC 185A, MUSC 264A, THEA 241A only—note that neither ARTH 121A nor ARTS 122A may be used to satisfy this requirement)	3
Interpreting the Past Literature	3
Philosophy and Ethics	3
The Nature of Science	8
The Impact of Technology	3
Human Behavior	3
<b>Major Courses (42 hours)</b>	
ARTH 211 Ancient and Medieval Art	3
ARTH 212 Renaissance and Modern Art	3
ARTH 351W Research Methods in Art History	3
ARTH 360 Asian Art or an ARTH 395/495 topics course in a non-Western subject area	3
ARTH electives Eight 300/400 level courses	24
ARTS electives Two courses in studio art	6

Students pursuing graduate work leading to teaching, museology, art criticism or dealing in works of art will be counseled on course selection. For students considering graduate work in art history, 18 hours of German or French are strongly recommended. Students who wish to distinguish themselves in the major may opt for the thesis elective, ARTH 480, Senior Thesis, in their final year of study.

### UPPER DIVISION GENERAL EDUCATION

- Option A. Approved Minor, 12-24 credit hours; also second degree or second major  
Option B. Interdisciplinary Minor; 12 credit hours, (3 credit hours may be in the major area of study)  
Option C. International business and regional courses or an approved certification program, such as teaching licensure (hours vary)  
Option D. Two Upper-Division Courses (6 credit hours) from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, no less than a grade of C in major courses, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Minor in Art History

A student who chooses to complete a minor in art history must receive the approval of the chief departmental advisor and the art history program director. ARTH 211 and 212 are prerequisite courses for the minor and are not included in the calculation of the grade point average for the minor. A reading knowledge of French, German, Italian or Spanish is strongly advised. The requirement for the minor for BA and BS students comprises 12 hours selected from ARTH 300- and 400-level courses. BFA students must complete three hours from ARTH 320W, 350W, 351W or 435W and 12 hours selected from ARTH 300- and 400-level courses.

For completion of the minor a student must have a minimum overall cumulative grade point average of 2.00 and no grade lower than a C in all courses required for the minor exclusive of prerequisite courses. Transfer students must complete a minimum of six hours in ARTH 300- and 400-level courses through courses offered by Old Dominion University.

### Interdisciplinary Minor - The Designed World

Ken Daley, Department of Art, Coordinator

This interdisciplinary minor explores the interwoven historical, cultural, aesthetic, perceptual, and technical domains of the designed world. That virtually all aspects of the human-built world are designed is a generally accepted belief; however, it is not given the careful scrutiny it deserves. Creative planning and critical analysis of design dynamics are emphasized within the context of these course offerings.

Course options are as follows: ARTH 320W, 435W, 439; ENGL 382, 477; GEOG 310, 412; PSYC 344, 413; SEPS 303, 422, 423; STEM 382, 386, 417.

The designed world interdisciplinary minor requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of 300/400 upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major

course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

## Bachelor of Arts—Art Education

Richard Nickel, Program Director (rnickel@odu.edu)

**Admission.** All students must apply for and be admitted into the approved art education program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all Art courses must be passed with a grade of C or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved art education program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Art courses must be passed with a grade of C or higher. The professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Art content knowledge examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

### Virginia Board of Education prescribed assessments:

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II Art: Content Knowledge (test code 0133) – passing score of 159 is required

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C in the major/content and with no grade less than a C- in the professional education core; successful completion of the Teacher Candidate Internship; and a minimum of 122 credit hours, which must include both a minimum of 31 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

### LOWER DIVISION GENERAL EDUCATION (47-53 credit hours)

Credits

Written Communication Skills: ENGL 110C (Grade of C or better is required before declaring a major in art education)	3
Written Communication Skills: ENGL 211C, 221C or 231C	3
Oral Communication Skills	3
Mathematical Skills	3
Language and Culture (Proficiency through 202 level in French, German, Italian, Latin or Spanish; note that proficiency is not met by completion of an associate degree)	6-12

Information Literacy and Research	3
Human Creativity (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—neither ARTH 121A nor ARTS 122A may be used to satisfy this requirement)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior	3

#### Art History Requirements (12 credit hours)

ARTH 211	Ancient and Medieval Art	3
ARTH 212	Renaissance and Modern Art	3
ARTH 350W	Introduction to Art Criticism	3
ARTH elective	Choose one 300/400 level art history course	3

#### Studio Art Requirements (30 Credit hours)

ARTS 202 or 304	Design Foundations	3
ARTS 203	Three Dimensional Design	3
ARTS 211	Intro to Digital Photography	3
ARTS 231	Fundamentals of Drawing	3
ARTS 241	Fundamentals of Painting	3
ARTS 251, 252, 254, or 455	Printmaking: Screening, Lithography, Relief Printing, or Letter Press	3
ARTS 263	Ceramics	3
ARTS 279	Fundamentals of Digital Art	3
ARTS 261, 281, 291 or 392	Sculpture, Fibers, Metalsmithing/Jewelry, or Blacksmithing	3
ARTS 331	Drawing: Composition	3

#### Professional Education (33 credit hours)

ARTS 305	Elementary Art Ed Meth & Classroom Mgmt	3
ARTS 406	Secondary Art Ed Meth & Classroom Mgmt	3
ARTS 407	Middle and Secondary School Practicum	2
ARTS 408	Student Teaching Seminar	1
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students with Diverse Learning Needs	3
TLED 301	Foundations and Assessment of Education	3
TLED 408	Reading and Writing in Content Areas	3
TLED 485	Teacher Candidate Internship (student teaching)	12

#### UPPER DIVISION GENERAL EDUCATION

Satisfied through the professional education sequence.

### Art Education Licensure Only

Candidates who have previously earned an undergraduate degree in studio art or art history may seek licensure only. Information on applying for licensure can be obtained from the Darden College of Education or the art education program director. A minimum of 36 hours of art and professional courses (including 12 hours of student teaching) from Old Dominion University is required. Before registering for classes candidates must present a portfolio for review by the art education director or the Art Department chief departmental advisor who will determine which transferable courses will meet the cognate program requirements and which art and professional courses must be completed for licensure. A minimum cumulative grade point average of 2.75 is required for continuance and licensure.

### Bachelor of Arts–Studio Art Major

#### LOWER DIVISION GENERAL EDUCATION

(47-53 credit hours)

Written Communication Skills: ENGL 110C (Grade of C or better is required before declaring a major in studio art)	3
Written Communication Skills: ENGL 211C, 221C or 231C	3
Oral Communication Skills	3
Mathematical Skills	3
Language and Culture (Proficiency through 202 level in French, German, Italian, Latin or Spanish; note that proficiency is not met by completion of an associate degree)	6-12
Information Literacy and Research	3
Human Creativity (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—neither ARTH 121A nor ARTS 122A may be used to satisfy this requirement)	3
Interpreting the Past	3

Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (can be met with ARTH 435W)	0-3
Human Behavior	3

#### Major Requirements (48 credit hours)

##### Art History (12 credit hours)

ARTH 211	Ancient and Medieval Art	3
ARTH 212	Renaissance and Modern Art	3
ARTH Writing Intensive course		
Choose one course from ARTH 320W, 350W, 351W, or 435W		3
ARTH 300/400 elective	Choose one elective course	3

##### Studio Art (33 credit hours)

ARTS 202	Two Dimensional Design	3
ARTS 203	Three Dimensional Design	3
ARTS 211	Intro to Digital Photography	3
ARTS 231	Fundamentals of Drawing	3
ARTS 241	Fundamentals of Painting	3
ARTS 251, 252, 253, 254, or 455	Printmaking: Screenprint, Lithography, Print Methods, Relief Printing, or Letterpress	3
ARTS 261, 263, 291, or 392	Select: Introduction to Sculpture, Ceramics, Metalsmithing or Blacksmithing	3
ARTS 279	Fundamentals of Digital Art	3
ARTS 304	Color	3
ARTS 331	Drawing: Composition	3
ARTS elective	Select one 300 or 400 level course	3

#### UPPER DIVISION GENERAL EDUCATION (minimum 6 credit hours)

Option A. Approved Minor, 12-24 credit hours; also second degree or second major

Option B. Interdisciplinary Minor, 12 credit hours (3 credit hours may be in the major area of study)

Option C. International business and regional courses or an approved certification program, such as teaching licensure (hours vary)

Option D. Two Upper-Division Courses (6 credit hours) from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, no less than a grade of C in major courses, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

#### Minor in Studio Arts

A student who chooses to complete a minor in studio arts must receive the approval of the chief departmental advisor. A total of 12 hours in studio art 300- and 400-level courses is required. These courses have prerequisites that must be met by lower-level studio art courses chosen as electives. Normally the total number of prerequisite electives should not exceed nine hours. Students who choose a minor in studio arts should consult with the chief departmental advisor before their sophomore year to determine the specific courses and prerequisites that must be met to complete the minor. There are no specific minors in concentration areas such as painting, photo and print media, and graphic design. However, course selection will be done on an individual basis and may be focused upon a specific area of interest.

For completion of the minor a student must have a minimum overall cumulative grade point average of 2.00 and no grade lower than a C in all courses required for the minor exclusive of prerequisite courses. Transfer students must complete a minimum of six credit hours in ARTS 300- and 400-level courses through courses offered by Old Dominion University.

### Bachelor of Fine Arts

**Admission.** Admission to the BFA program is open to all students. Since it is a professional arts program with a continuance portfolio, students are expected to begin their foundation courses in their first year. It is important for students who are considering the BFA as an option to consult with the chief



departmental advisor before or during their first semester at Old Dominion University.

**Continuance.** Students seeking continuance into the BFA program must first complete at least 15 hours of foundation courses with a minimum grade of C. Students must then submit a portfolio of their work for evaluation by a designated faculty committee and indicate their intended area of concentration.

**Graduation.** Requirements for graduation include completion of a minimum of 120 credit hours to include a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passing the Exit Examination of Writing Proficiency, completion of the Senior Assessment, and a minimum grade point average of 2.00 with no grade in a major course less than a C.

**LOWER DIVISION GENERAL EDUCATION Credits**

**(41-47 credit hours)**

Written Communication Skills: ENGL 110C (Grade of C or better is required before declaring a major in fine arts)	3
Written Communication Skills: ENGL 211C, 221C or 231C	3
Oral Communication Skills	3
Mathematical Skills	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity (select from COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A only—neither ARTH 121A nor ARTS 122A may be used to satisfy this requirement)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (can be met with ARTH 435W)	3
Human Behavior	3

**MAJOR REQUIREMENTS (78-81 credit hours)**

**Art History Requirements (15 credit hours)**

ARTH 211 Ancient and Medieval Art	3
ARTH 212 Renaissance and Modern Art	3
ARTH Writing Intensive course	
Choose one course from ARTH 320W, 350W, 351W or 435W	3
ARTH electives Choose two 300/400 level Art History courses	6

**Foundation Requirements (15 credit hours)**

ARTS 202 Two Dimensional Design	3
ARTS 203 Three Dimensional Design	3
ARTS 231 Fundamentals of Drawing	3
ARTS 279 Fundamentals of Digital Design	3
ARTS 304 Color	3

**Studio Core and Capstone (27 credit hours)**

ARTS 211 Intro to Digital Photography	3
ARTS 241 Fundamentals of Painting	3
ARTS 251, 252, or 254 Printmaking	3
ARTS 261 Intro to Sculpture or 263 Intro to Ceramics	3
ARTS 281, 291 Select from Fibers, Metalsmithing/Jewelry or 392 Blacksmithing	3
ARTS 331 Drawing: Composition	3
ARTS 400 or 401* Senior Show/Design Portfolio	3
ARTS electives Select two 200, 300, or 400 level courses	6

\*ARTS 400 for all concentrations except graphic design; ARTS 401 for graphic design concentration.

**Studio Concentrations (18 credit hours for all concentrations except graphic design; 21 credit hours for graphic design)**  
 All BFA students must choose one of the following after completion of the 15 hours of foundation courses.

**Drawing and Design**

ARTS 271, 350, 431, 432	12
Six credits from: ARTS 302, 341, 370, 371, 376, approved 395/495, 433, 450, 473, or 497	6

**Fibers**

ARTS 381, 481	6
Two courses from from: ARTS 254, 341, 350 or 450	6
Two courses from: ARTS 350 or 450, 363, 364, 497 (ARTS 281 and either ARTS 251 or 252 must be taken from the Studio Core requirements.)	6

**Graphic Design**

ARTS 271, 370*, 371, 372, 471	15
Two courses from: ARTS 471, 473, 475, or approved 495, 497 or 498	6

\*After completion of ARTS 370, application through portfolio review must be submitted to the department to continue in the graphic design concentration. Applicants for the portfolio review should check the Art Department website or blog regarding the portfolio submission and the review process. In addition, students who are applying for the graphic design concentration must purchase a Macintosh laptop computer and current design software. Specifications for the laptop and software can be obtained from the full-time graphic design faculty or the chief departmental advisor in the Art Department. Continuance in the graphic design concentration requires a grade of C or better in all prerequisite courses and requirements in the graphic design sequence.

Note that graphic design concentration students take only six credit hours of studio core elective courses.

**Three Dimensional Media**

ARTS 361, 363 and 391	9
One course from ARTS 461, 463, or 491	3
Two courses from ARTS 302, 363, 391, 392, 461, 463, 469, 491, approved 495 or 497	6

**Painting**

Six courses from ARTS 341, 431, 432, 433, 441, 442, 469 (or approved 495 and 497)	18
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**Print and Photo Media**

ARTS 251 or 252	3
ARTS 311	3
Select four courses from: ARTS 251, 252, 254, 350, 411, 412, 413, 450, 473, approved 495, 497, or 498	12

**UPPER DIVISION GENERAL EDUCATION (minimum of 6 credit hours)**

Option A. Approved Minor, 12-24 hours; also second degree or second major  
 Option B. Interdisciplinary Minor, 12 hours (3 credit hours may be in the major area of study)  
 Option C. International business and regional courses or an approved certification program, such as teaching licensure (hours vary)  
 Option D. Two Upper-Division Courses (6 hours) from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major.

A student may take a double concentration, but no more than two courses may be used for both concentrations. Note that a second concentration is not a minor and does not fulfill the upper-division general requirements.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, no less than a grade of C in major courses, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**BFA with Teaching Licensure**

**Admission.** All students must apply for and be admitted into the approved BFA with teaching licensure program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

**Virginia Board of Education prescribed assessments:**

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Required grade point averages (GPA):**

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all Art courses must be passed with a grade of C or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved BFA with teaching licensure program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Art courses must be passed with a grade of C or higher. The professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Art content knowledge examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

**Virginia Board of Education prescribed assessments:**

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II Art: Content Knowledge (test code 0133) – passing score of 159 is required

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C in the major/content and with no grade less than a C- in the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 141 credit hours, which must include both a minimum of 37 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

**Transfer Requirements**

A minimum of 21 studio credit hours and a minimum of 30-31 credit hours overall, which must include a minimum of 12 credit hours at the 300/400 levels, from Old Dominion University are required for completion of the B.A. degree in either studio art or art education. A minimum of 21 credit hours in art history and a minimum of 30 credit hours overall, which must include a minimum of 12 credit hours at the 300/400 levels, from Old Dominion University are required for the B.A. in art history. Degree-holding students who are only seeking teaching licensure must complete nine hours of 300/400 level studio art or art education courses at Old Dominion University. A minimum of 36 credit hours in studio art (with 12 minimum at the 300/400 levels) from Old Dominion University is required for the BFA. For a minor in either art history or studio arts, transfer students must complete two elective courses in art history at the 300/400 level at Old Dominion University.

Before registering for classes, transfer students who enroll in the BFA or B.A. in studio art programs must submit a portfolio of work for review by the Art Department chief departmental advisor who will determine which transferable courses will meet equivalent requirements in the major.

Transfer students who enroll in the B.A. in art education program must submit a portfolio of work for review by the art education program director who will determine which transferable studio and professional courses will meet equivalent requirements in the major and those that must still be completed for licensure. Appointments for transfer portfolio evaluations must be made prior to registration for classes.

**ASIAN STUDIES**

**Bachelor of Arts—Asian Studies**

Qiu Jin, Director

A total of 120 credit hours is required for the Bachelor of Arts (BA) in Asian Studies. The 120 credit hours are divided into two major categories: (1) requirements for General Education and electives and (2) 33-35 hours at the upper level required for the Asian Studies major. Each of these two categories consists of the courses as follows:

<b>LOWER-DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication	6
Oral Communication	3
Mathematics	3
Language and Culture (CHIN 111F-212 or JAPN 111F-212 are required; proficiency is not met by completion of an associate degree)	0-12
Information Literacy and Research (can be met in the major by HIST 201 or POLS 308)	0-3
Human Creativity	3
Interpreting the Past (HIST 101H required)	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior	3

**MAJOR REQUIREMENTS**

*Core courses (9 credit hours):*

Research Methods (HIST 201, POLS 308, SOC 337, PSYC 317, or ECON 400)	3
Capstone Seminar in Asian Studies (ASIA 461W)	3
Asian Experience (study abroad or an approved practicum; consult with the director for arrangements)	3

*Upper-level Elective courses (24-26 credit hours at the 300 or 400 level):*

These courses can be elected from the list below. At least one of the elective courses must be selected from the Humanities (i.e., history, literature, religion, philosophy, art, theatre, and music) and one from Social Sciences/Business (e.g., political science, economics, business management, marketing, geography, sociology, communication, and women’s studies). Students are strongly encouraged to take courses in more than one region of Asia. Courses are under development in different disciplines, and additional courses with an Asian content may be approved by the program director. No course listed below may be used to fulfill more than one requirement.

**Art**

ARTH 360 Asian Art (cross-listed with ASIA 360)

**Asian Studies**

ASIA 332	South Asia Since Independence (cross-listed with HIST 332)
ASIA 336	The Emergence of the New China (cross-listed with HIST 336)
ASIA 337	Japan’s Era of Transformation (cross-listed with HIST 338)
ASIA 338W	Politics of East Asia (cross-listed with POLS 338W)
ASIA 353	Asian Religions (cross-listed with PHIL 353)
ASIA 360	Asian Art (cross-listed with ARTH 360)
ASIA 395	Topics in Asian Studies
ASIA 435	Chinese Politics (cross-listed with POLS 435)
ASIA 460	Major Issues in Asia
ASIA 461W	Asian Studies Capstone Seminar
ASIA 495	Topics in Asian Studies

**Business Management and Marketing**

MGMT 463	Study Abroad (Korea, Philippines, China and/or other Asian Countries)
MKTG 496	Topics in Business Management and Marketing (Asian content)

**Communication**

COMM 300	International Sojourning
COMM 400W	Intercultural Communications
COMM 407	Communication and Culture in Asia
COMM 495/496	Topics in Communication (Asian content)

**Economics**

ECON 450	International Economics
ECON 454W	Economic Development
ECON 495	Topics in Economics (Asian content)

**English**

ENGL 396	Contemporary Filipino/Filipino-American Literature
ENGL 495	Techno-Orientalism in Science Fiction Film & Lit

**Filipino American Studies**

FAST 395 Filipino-American Study

**Foreign Languages**

CHIN 395	Topics in Chinese
CHIN 311	Advanced Chinese Language and Culture I
CHIN 312	Advanced Chinese Language and Culture II
JAPN 311	Advanced Japanese
JAPN 312	Advanced Japanese Language and Culture
JAPN 396	Topics in Japanese
FLET 310	Faces of Japan (Culture Class in English)

## Geography

GEOG 453	Asia
GEOG 456	Geography of South East Asia
GEOG 495/496	Topics in Geography (Asian content)

## History

HIST 331	Colonialism and Nationalism in SE Asia
HIST 332	South Asia since Independence (cross-listed with ASIA 332)
HIST 336	Emergence of the New China (cross-listed with ASIA 336)
HIST 338	Japan's Era of Transformation since 1800 (cross-listed with ASIA 337)
HIST 392	Special Topics in History (Asia content)
HIST 395	Topics in History (Asian content)
HIST 439	Politics & Society in East Asia since 1945

## International Business

INBU 433	Doing Business in Asia
INBU 463	Intl Business Seminar Abroad

## Philosophy and Religious Studies

REL 352	Islam
PHIL 353	Asian Religions (cross-listed with ASIA 353)
PHIL 354	Comparative Philosophy: East and West
PHIL 480	Hinduism
PHIL 481	Buddhism
PHIL 482	Chinese Religion and Philosophy
PHIL 485	Japanese Religion and Philosophy
PHIL 495/496	Topics in Philosophy (Asian content)

## Political Science

POLS 336	South Asia Since Independence
POLS 338W	Politics of East Asia (cross-listed with ASIA 338W)
POLS 435	Chinese Politics (cross-listed with ASIA 435)
POLS 436	Japanese Politics
POLS 437	International Relations in East Asia
POLS 495/496	Topics in Political Science (Asian content)

## Psychology

PSYC 420	Cross-Cultural Psychology
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## Sociology

SOC 306	Religion and Society
SOC 395	Topics in Sociology (Asian content)

## Women's Studies

WMST 401W	Women: A Global Perspective
WMST 495	Topics in Women's Studies (Asian content)

## UPPER-DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
Option C. International business and regional courses or an approved certification program, such as teaching licensure  
Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours). ASIA courses and any course listed as an elective choice for the major cannot be used to meet this option.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Minor in Asian Studies

Students who wish to qualify for the minor in Asian studies must file a program declaration with the director of the Institute of Asian Studies and complete a total of 12 credit hours at the 300-400 level. No more than two courses may be taken from any one discipline. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

In addition to the Asian studies core and Asian studies topics courses, courses with significant Asian content are offered regularly in the following disciplines: business management/marketing, communication, foreign languages, geography, history, philosophy, political science, psychology, sociology, and women's studies. Still others are offered from time to time in

anthropology, art, economics, English, and other disciplines. Students are encouraged to include study abroad in Asia as part of their program.

Course listings for the Asian Studies minor are as follows:

1. Asian Studies: ASIA 332, 336, 337, 338, 353, 360, 395\*, 435, 460, 461, 495\*
2. Business Management and Marketing: MGMT 463, MKTG 496\*
3. Communications: COMM 300, 400W, 407, 495\*/496\*
4. Economics: ECON 450, 454W, 495\*/496\*
5. English: ENGL 395\*, 396\*, 495\*
6. Filipino-American Study: FAST 395
7. Foreign Languages: CHIN 311, 312, 395, JAPN 311, 312, 396, 495, FLET 310
8. Geography: GEOG 453, 456, 495\*/496\*
9. History: HIST 332, 336, 338, 392, 395\*/396\*, 439, 495\*, 496\*
10. International Business: INBU 433, 463
11. Philosophy and Religious Studies: PHIL 353, 354, 480, 481, 482, 485, 495\*/496\*, REL 352
12. Political Science: POLS 338W, 435, 436, 437, 495\*/496\*
13. Psychology: PSYC 420, 495\*
14. Sociology: SOC 306, 395\*, 396\*
15. Women's Studies: WMST 401W, 495\*, 496\*

\*With significant portion of the course about ASIA, to be approved by the director

## Minor in Japanese Studies

The Japanese Studies minor consists of 12 credit hours of 300- and 400-level courses that combine the study of language and culture. For a more complete description and requirements, please refer to the listing earlier in this section.

## COMMUNICATION AND THEATRE ARTS

Gary Edgerton, Chair

The Department of Communication and Theatre Arts offers two Bachelor of Arts majors, one in communication (with emphasis areas in corporate communication, general communication, international and intercultural communication, interpersonal and small group communication, mass media, persuasion and critical thinking, public relations, and theatre) and one in theatre/dance (with emphasis areas in either theatre, theatre-digital film making, theatre-performance, theatre-design technology, theatre education, dance or dance education). A Bachelor of Science in communication is offered with emphasis areas in corporate communication, general communication, international and intercultural communication, interpersonal and small group communication, mass media, persuasion and critical thinking, and public relations as well as a concentration in professional communication (also available via distance learning). Minors are offered in communication, theatre/dance with a theatre specialization, and theatre/dance with a dance specialization. Students must receive a grade of C (2.00) or better in all courses that count toward these majors and minors. All majors must fulfill the requirements of the College of Arts and Letters.

## Bachelor of Arts or Bachelor of Science — Communication Major

Carla Harrell, Chief Departmental Advisor for Communication

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication (COMM 101R required in the communication core)	
Mathematics (BS requires STAT 130M)	3
Language and Culture (Proficiency through 202 level for BA only and not met by associate degree; competence at the 102 level for BS students)	0-12
Information Literacy and Research	3
Human Creativity (COMM/THEA 270A may not be used to satisfy this requirement)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (can be met by COMM 372T)	0-3
Human Behavior (COMM 200S may not be used to satisfy this requirement)	3

## Departmental Requirements

Majors must have a C or better in all courses counted toward the major. Majors must also complete at least one writing intensive course in the major from COMM 315W, 335W, 400W, 412W, 447W, 471W, or 479W.

## Communication Core—(B.A. 9 hours; B.S. 18 hours – see later section for core requirements in professional communication)

COMM 101R Public Speaking (satisfies oral communication requirement) 3  
COMM 200S Intro to Human Communication 3

### In addition, B.A. Only:

COMM 335W Rhetorical Criticism  
or COMM 445 Communication Analysis and Criticism 3

### In addition, B.S. Only:

COMM 302 Research Methods I 3  
COMM 401 Communication Theory 3  
and six hours of approved 300/400-level social science courses 6

**Additional Communication Hours:** 30 hours total for B.A. and 27 hours total for B.S., 24 of which must be at the 300-400 level selected from the following concentration areas and electives.

## Emphasis Areas (24 hours minimum)

It is recommended that students complete a minimum of three hours from the foundation courses in the concentration area of interest.

### Corporate Communication

1. Foundations: COMM 315W, 326, 351, 395/495, 400W
2. Applied Theories: COMM 303, 304, 306, 323, 355, 372T, 421, 426, 447W, 455, 456, 478

### Film Studies

1. Foundations: COMM 270A, 346, 370, 471W, 479W
2. Applied Theories: COMM 271, 325, 370, 375, 380, 444, 446, 481, 482

### International and Intercultural Communication

1. Foundations: COMM 300, 314, 337, 400W, 407, 434, MIDE 405
2. Popular Culture: COMM/FLET 300, COMM 340, COMM 444/FLET 445, COMM 471W, 481, COMM/WMST 495
3. Media Systems: COMM 365, 372T, 447W, 448, 473

### Interpersonal and Small Group Communication

1. Foundations: COMM 314, 326, 412W
2. Applied Theories: COMM 315W, 351, 400W, 421, 425, 426, 427

### Mass Media

1. Foundation: COMM 260
2. Media Contexts: COMM 303, 340, 364, 365, 448
3. Applied Theories: COMM/FLET 300, COMM 444/FLET 445, COMM 372T, 445, 447W, 455, 465, 467, 468, 471W, 473, 478, 479W, 481, COMM/WMST 495
4. Production: COMM/THEA 341, 348, 370, 375, 380, 385, 480, 482, 483, 486, THEA 252, 352, or 300-400 level MCM courses at Norfolk State University

### Persuasion and Critical Thinking

1. Foundations: COMM 333, 335W, 337, 445
2. Applied Theories: COMM 303, 304, 331, 434, 447W, 456, 465, 468

### Public Relations

1. Foundations: COMM 303, 304, 308, 333, 355
2. Media Applications: COMM 364, 372T, 445, 447W, 465, 472T, 473, 478
3. Organizational Applications: 306, 323, 351, 403, 412W, 421, 455

### Theatre (B.A. Only)

1. Foundations: THEA 152, 252, 343, 344, 442, 472, THEA/COMM 346, 446
2. Production: THEA 341, 345, THEA/COMM 225, 271, 325, 370, 380, 480, 483, 486
3. Performance: THEA 347, 348, 350, 452, 449W
4. Topics in Film: COMM/FLET 300, COMM 444/FLET 445, COMM 471W, 479W, 481, COMM/WMST 495
5. Topics in Theatre: THEA 441, 445, 447

Please note: Students who are pursuing a double major in communication and theatre may use a maximum of two courses in both majors.

### General Communication

24 hours of 300-400 level COMM courses from any combination of courses from the different emphasis areas, plus three additional hours from emphasis or elective hours in COMM for B.S. students and six additional hours from emphasis or elective hours in COMM for B.A. students.

### Electives (to not include required courses for B.A. or B.S.)

COMM 103R Voice and Diction 3

COMM 112R	Introduction to Interpersonal Communication	3
COMM 302	Research Methods I	3
COMM 368	Internship	3
COMM 369	Research Practicum	3
COMM 401	Communication Theory	3
COMM 402	Research Methods II	3
COMM 469	Communication Education Practicum	3

Please note that COMM 305 will not count in any of the emphasis areas in the B.A. or B.S. in communication. This course is a requirement in the professional communication concentration and is only for students in that concentration.

### Internships, Practica, and Special Topics Classes

Students may apply only three credit hours of COMM 368 Internship toward the major in communication. In addition, students may apply only six credits total from the following classes toward the major: COMM 368 Internship, COMM 369 Research Practicum, and COMM 469 Communication Education Practicum. Special Topics in Communication courses (COMM 395, 396, 495, 496) and Communication Tutorials courses (COMM 497) may be included in a given emphasis when and where appropriate.

## B.S. in communication with a concentration in professional communication

Fran Hassencahl, Chief Departmental Advisor for Professional Communication Concentration

The professional communication concentration is also available for distance learning students through TELETECHNET. Distant students who have completed a university parallel associate degree can complete two additional years of course work at the University's TELETECHNET sites in order to earn a B.S. Distant students without a university parallel associate degree must complete the lower-division general education requirements.

### Professional Communication Core—(12 hours)

IDS 300W	Interdisciplinary Theory & Concepts	3
COMM 302	Communication Research Methods I	3
COMM 305	Foundations of Professional Communication	3
ENGL 327W	Advanced Composition I	3

**Organizational Foundations:** 12 hours from CS 300T, MGMT 325, 340, 451, MKTG 311, 402, 411, PHIL 303E, PSYC 303, 343, 344, 345 (meets the upper-division general education requirement)

**Additional Hours in Communication:** 15 hours from COMM 260, 303, 304, 314, 315W, 326, 333, 351, 355, 368, 372T, 395, 400W, 412W, 421, 447W, 448, 456, 467, 468, 478, 481, 495

**Additional Hours in English:** six hours from ENGL 334W, 335, 350, 368, 380, 381, 395, 396, 427W, 435W, 468, 477, 481, 484, 485W, 486, 489, 495, 496

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
Option C. International business and regional courses or an approved certification program, such as teaching licensure  
Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Accelerated B.A./B.S. in Communication and M.A. in Humanities

Please refer to the Humanities section of this Catalog for information on the accelerated program leading to a B.A. or B.S. in communication and an M.A. in humanities.

### Minor in Communication

COMM 101R or 103R and 200S are prerequisite courses for the minor and are not included in the calculation of the GPA for the minor. The requirements for a minor in communication are as follows: twelve hours of communication

courses at the 300- and 400-level (excluding COMM 367, 375, 376, 475, 476; 368 may be used only once).

For completion of a minor, a student must have a grade of C (2.00) or better in all 300- and 400-level courses taken for the minor. Students must complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Bachelor of Arts–Theatre and Dance Major

Marilyn Marloff, Chief Departmental Advisor for Dance  
Stephen Pullen, Chief Departmental Advisor for Theatre

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication (satisfied by THEA 230 for theatre, theatre performance emphasis, theatre design technology emphasis, and theatre education majors)	0-3
Mathematics	3
Language and Culture (Proficiency through 202 level; proficiency not met by completion of an associate degree)	6-12
Information Literacy and Research	3
Human Creativity (Theatre majors may not use THEA 241A or COMM/THEA 270A; dance majors may not use DANC 185A)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (Satisfied by TLED 430 for dance education and theatre education majors)	0-3
Human Behavior (COMM 200S preferred)	3

### Departmental Requirements (students must select one concentration)

Majors must have a C or better in all courses counted toward the major.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Theatre and dance majors: Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-132 credit hours (depending on foreign language proficiency), which must include both a minimum of 25% of the total number of credit hours required for the degree and a minimum of 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Major in Theatre and Dance – Dance Specialization

### Dance Concentration:

DANC 350	Dance Improvisation	2
DANC 360	Rhythmic Analysis	1
DANC 370	Dance Composition	2
DANC 389W	Dance History 1900-present	3
DANC 393	Anatomy/Kinesiology for Dance	3
DANC 470	Dance Composition 2	2
DANC 489	Teaching Principles	2
DANC 499	Senior Project	1
12 credits from DANC 201, 302, 303, 404, 405, or 406		12
12 credits from DANC 211, 312, 313, 414, 415, or 416		12
Two credits from ballet, modern, or jazz		2
Two credits from DANC 387, 388, 487 or 488 Dance Repertory and Performance		2
DANC/THEA electives		8

Minimum of 26 credits of technique to include 12 credits of ballet, 12 hours of modern dance and two credits of additional ballet, modern or jazz.

Minimum of three credits of practicum experience to include two hours of repertory and performance and one hour of senior project.

Minimum of eight credits of theatre and dance electives.

As a requirement to graduate, dance majors must achieve 400-level proficiency in ballet technique and modern technique. (Specifically, dance majors must pass DANC 404 or higher and 414 or higher.) The continued maintenance of technical proficiency is required.

### Dance Education Concentration

**Admission.** All students must apply for and be admitted into the approved dance education program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

#### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

#### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all Dance courses must be passed with a grade of C or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved dance education program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Dance courses must be passed with a grade of C or higher. The professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA). There is not currently a PRAXIS II Dance content knowledge examination. If a Dance PRAXIS II assessment is established prior to the student applying for the teaching license, it will be required. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

#### Virginia Board of Education prescribed assessments:

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C in the major/content and with no grade less than a C- in the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 120-132 credit hours, which must include both a minimum of 25% of the total number of credit hours required for the degree and a minimum of 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

The curriculum is as follows:

12 credits from DANC 201, 302, 303, 404, 405, or 406	12
10 credits from DANC 211, 312, 313, 414, 415, or 416	10
1 credit from DANC 321, 322, 423, or 424	1
DANC 350	2
DANC 360	1
DANC 370	2
DANC 389W	3
DANC 393	3
DANC 490	3
2 credits from DANC 387, 388, 487 or 488	2

3 credits from THEA 244 Intro to Production Design or THEA 248 Intro to Stage Make-up	3
PE 217 Educational Rhythms and Dance or equivalent	2
EXSC 340 Prevention and Care of Injuries	3

As a requirement to graduate, dance majors must achieve 400-level proficiency in ballet technique and modern technique. (Specifically, dance majors must pass DANC 404 or higher and 414 or higher.) The continued maintenance of technical proficiency is required.

#### Professional Education Core:

TLED 301 Foundations and Assessment of Education	3
TLED 360 Classroom Management and Discipline	2
TLED 408 Reading and Writing in Content Area	3
TLED 430 PK-12 Instructional Technology (meets impact of technology requirement)	3
TLED 485 Teacher Candidate Internship (student teaching)	12
SPED 313 Fundamentals-Human Growth and Development	3
SPED 406 Students with Diverse Learning Needs	3

#### Dance Education Licensure Only:

Candidates who have already earned an undergraduate degree in dance may seek licensure only. Information on applying for licensure can be obtained from the Darden College of Education or the dance education program advisor. Students must have completed or must complete equivalencies for all course work required for the theatre and dance major, as well as complete all Professional Education core classes required for undergraduate dance education majors. The dance advisor will determine which transferable courses will meet the cognate program requirements and which dance and professional courses must be completed for licensure. All content area courses must be completed with a grade of C or better, and all professional education courses must be completed with a grade of C- or better. A minimum cumulative grade point average of 2.75 overall, in the major and in the professional education core is required for continuance and licensure. Although students may enroll in a limited number of education courses, passing Praxis I scores or State Board of Education-approved SAT or ACT scores must be on file with the Office of Teacher Education Services prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in TLED 301.

#### Minor in Theatre and Dance–Dance Specialization

For a minor in theatre arts with a dance specialization, the student must complete 15 DANC hours and the prerequisite course DANC 185A (which should be completed with a grade of C or better before declaring the minor). Courses must include:

1. DANC 185A is a prerequisite course for the minor and is not included in the calculation of the GPA for the minor.
2. Minimum of 12 hours at the 300 and 400 levels with prior agreement by the department.
3. Three additional DANC hours at any level; 100/200-level courses selected will not be included in the calculation of the GPA for the minor.

Students must have a grade of C (2.00) or better in all courses taken for the minor, including the prerequisite course DANC 185A, and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

#### Major in Theatre and Dance-Theatre Specialization

Majors must have a grade of C or better in all courses counted toward the major.

##### Theatre Concentration - General

THEA 173+	Theatre Activities	1
THEA 174+	Theatre Activities	1
THEA 152	Acting I	3
THEA 225	Intro to Production Technology	3
THEA 230	Drama for Production (meets oral communication requirement)	3
THEA 244	Introduction to Production Design	3
THEA 343	Theatre History	3
THEA 344	Theatre History	3
THEA 442	Principles of Directing	3
THEA 449W	Script and Performance Analysis	3
THEA Activities	2 hours required; hours must be earned through on- or off-stage production participation	2
THEA/DANC	Electives	19

##### Theatre Concentration – Digital Film Making Emphasis

THEA 225	Intro to Production Technology	3
THEA 244	Introduction to Production Design	3
THEA 270A	Film Appreciation	3
THEA 271	Intro to Digital Filmmaking	3
THEA 330	The Short Script	3
THEA 346	Screenwriting I	3
THEA 370	The Video Project	3
THEA 446	Directing for the Camera	3
THEA 471W	International Film History	3
THEA 479W	American Film History	3
THEA ELECTIVES		17

If a film studies minor is elected, students may not use the same film courses to fulfill requirements for the major and minor.

##### Theatre Concentration – Performance Emphasis

**Admission:** The performance emphasis is intended for students who wish to pursue performance as a career. Students will be admitted to the performance concentration through an audition and interview process administered by the faculty each fall. No student is guaranteed admittance or continuance in the performance concentration. Students may decide at any time to return to the general theatre concentration.

**Continuance:** Students must pass a proficiency audition administered by the faculty every spring. Students must abide by the theatre student handbook regulations for the performance concentration.

##### Theatre Concentration – Performance Emphasis:

THEA 173+	Theatre Activities	1
THEA 174+	Theatre Activities	1
THEA 152	Acting I	3
THEA 225	Intro to Production Technology	3
THEA 230	Drama for Production (meets oral communication requirement)	3
THEA 252	Acting II	3
THEA 320	Audition Technique	3
THEA 343	Theatre History I	3
THEA 344	Theatre History II	3
THEA 347	Movement	3
THEA 360	Voice for the Stage	3
THEA 442	Principles of Directing	3
THEA 449W	Script and Performance Analysis	3
THEA Activities	2 hours required: hours must be earned through on-stage production participation	2
THEA/DANC	Electives	10

##### Theatre Concentration – Design Technology Emphasis

**Admission:** The design technology theatre emphasis is intended for students who wish to pursue theatre design technology as a career. Students will be admitted to the design technology emphasis through a portfolio review and interview process administered by the faculty. No student is guaranteed admittance or continuance in the design technology concentration. Students may decide at any time to return to the general theatre concentration.

**Continuance:** Students must pass a screening portfolio review and interview administered by the faculty every spring. Additionally students must maintain a C average and abide by the theatre student handbook regulations for the design technology concentration.

##### Theatre Concentration – Design Technology Emphasis:

THEA 173+	Theatre Activities	1
THEA 174+	Theatre Activities	1
THEA 152	Acting I	3
THEA 225	Intro to Production Technology	3
THEA 230	Drama for Production (meets oral communication requirement)	3
THEA 244	Introduction to Production Design	3
THEA 271	Intro to Digital Filmmaking	3
THEA 343	Theatre History I	3
THEA 344	Theatre History II	3
THEA 442	Principles of Directing	3
THEA 449W	Script and Performance Analysis	3
THEA Activities	2 hours required: hours must be earned through off-stage production participation	2
THEA/DANC	Electives	16

##### Theatre Education Concentration

**Admission.** All students must apply for and be admitted into the approved theatre education program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

**Virginia Board of Education prescribed assessments:**

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Required grade point averages (GPA):**

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all Theatre courses must be passed with a grade of C or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved theatre education program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Theatre courses must be passed with a grade of C or higher. The professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA). There is not currently a PRAXIS II Theatre content knowledge examination. If a Theatre PRAXIS II assessment is established prior to the student applying for the teaching license, it will be required. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

**Virginia Board of Education prescribed assessments:**

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C in the major/content and with no grade less than a C- in the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 126 credit hours, which must include both a minimum of 32 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

The curriculum is as follows:

THEA 152	Acting I	3
THEA 230	Drama for Production (meets oral communication requirement)	3
THEA 241A	The Theatre Experience	3
THEA 244	Introduction to Production Design	3
THEA 248	Introduction to Stage Makeup	3
THEA 343	Theatre History I	3
THEA 344	Theatre History II	3
THEA 442	Principles of Directing	3
THEA 449W	Script and Performance Analysis	3
THEA 489	Methods of Teaching Theatre	3
THEA 490	Theatre Education Practicum	1
THEA Activities	3 hours required; 2 hours must be earned through off stage production participation	3
THEA/DANC electives:	at least three elective hours should be at the 300-400 level and focus on performance or design/theatre technology	6

**Professional Education Core:**

TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management and Discipline	2
TLED 408	Reading and Writing in Content Area	3

TLED 430	PK-12 Instructional Technology (meets impact of technology requirement)	3
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students with Diverse Learning Needs	3

**Theatre Education Licensure Only:**

Candidates who have already earned an undergraduate degree in theatre may seek licensure only. Information on applying for licensure can be obtained from the Darden College of Education or the theatre education program advisor. Students must have completed or must complete equivalencies for all course work required for the theatre and dance major, as well as complete all Professional Education core classes required for undergraduate theatre education majors. The theatre advisor will determine which transferable courses will meet the cognate program requirements and which theatre and professional courses must be completed for licensure. All content area courses must be completed with a grade of C or better, and all professional education courses must be completed with a grade of C- or better. A minimum cumulative grade point average of 2.75 overall, in the major and in the professional education core is required for continuance and licensure. Although students may enroll in a limited number of education courses, passing Praxis I scores or State Board of Education-approved SAT or ACT scores must be on file with the Office of Teacher Education Services prior to enrollment in any education practicum course or courses in developing instructional strategies. It is recommended that students take the Praxis I exam prior to, or during, enrollment in TLED 301.

**Performance Attendance Requirements for Theatre**

All theatre majors and intended theatre majors, as part of their degree programs, are required to attend department-sponsored events each semester as follows: students taking 12 or more credits in one semester—five Performances/Encounters/Strikes per semester; less than 12 credits in one semester—three Performances/Encounters/Strikes per semester. Theatre minor attendance requirements are two Performances/Encounters/Strikes per semester. Deficiencies must be made up before graduation.

To become a well rounded theatre artist, each theatre major MUST obtain 40 theatre events tickets to graduate. Deficiencies must be made up before graduation. These should be logged in the student's Production Record held with the departmental advisor.

**Minor in Theatre and Dance—Theatre Specialization**

For a minor in theatre arts with a theatre specialization, the student must complete 15 THEA hours and the prerequisite course THEA 241A (which should be completed with a grade of C or better before declaring the minor). Courses must include:

1. THEA 241A is a prerequisite course for the minor and is not included in the calculation of the GPA for the minor.
2. Minimum of 12 hours at the 300 and 400 levels, with prior agreement by the department.
3. Three additional THEA hours at any level; 100/200-level courses selected will not be included in the calculation of the GPA for the minor.

Students must have a grade of C (2.00) or better in all courses taken for the minor, including the prerequisite course THEA 241A, and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Bachelor of Fine Arts—Acting Major**

The Bachelor of Fine Arts in acting is planned for deactivation. Please contact the department for information.

**ENGLISH**

Dana Heller, Chair

The Bachelor of Arts in English requires a minimum of 43 hours in English, in addition to English courses taken to satisfy General Education requirements (ENGL 110C, 211C, 112L or 114L). Upon completion of ENGL 110C, intended majors should apply to the chief departmental advisor for English to declare the major. Once admitted to the program, students take courses in two areas: the core (foundation courses) and the emphasis. The core (22 hours) consists of a broad range of courses in several areas of English. The emphasis

(15 hours) is one of six areas of concentration (creative writing, journalism, linguistics, literature, professional writing, teaching) within the overall Bachelor of Arts program and allows the student to pursue that area in depth. In addition, students in all emphases have two free electives (6 hours) in English at the 300 or 400 level. Because requirements sometimes change, students should consult the latest course requirement lists available in the department office. All majors must take an English writing intensive (W) course to graduate. Majors in the literature, creative writing, and linguistics emphases should consult their English advisor regarding the writing intensive requirement. Students must maintain a grade point average of 2.0 in the major to graduate.

The department offers graduate degrees in applied linguistics, creative writing, and English. Please refer to the Graduate Catalog for more information.

## Bachelor of Arts—English Major

Janis Smith, Chief Departmental Advisor

	<b>Credits</b>
<b>LOWER DIVISION GENERAL EDUCATION</b>	
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication (COMM 101R, 103R, 112R)	3
Mathematics	3
Language and Culture (BA students must have competence through the 202 level; competence is not met by completion of the associate degree)	0-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (teacher education majors satisfy the requirement with TLED 430)	0-3
Human Behavior	3
<b>Foundation courses (22 hours)</b>	
ENGL 200 Intro to English Studies	1
ENGL 301 or 302 British Literature (1 course)	3
ENGL 340, 342, 345, or 346 American Literature (1 course)	3
ENGL 360, 363 or 493 World Literature (1 course)	3
ENGL 303 or 304 Shakespeare (1 course)	3
ENGL 459, 463, 465, or 466W Focus (1 course)	3
ENGL 325, 333, or 370 Analytics (2 courses)	6
<b>Open Electives (6 hours)</b>	
ENGL 300- or 400-level (2 courses)	6
<b>Emphasis Courses (15 hours)</b>	
Select one of the following options:	
<b>Creative Writing</b>	
ENGL 300	3
Select two courses from ENGL 449, 456, 457	6
Select two courses from ENGL 351, 352, 353, 451, 452, 454	6
Please consult the department advisor about the writing intensive requirement. All majors must take an English writing intensive (W) course to graduate.	
<b>Journalism</b>	
ENGL 380, 483W, 484, and 486	12
Select one course from ENGL 335, 368, 454, 472, 482, 485W	3
<b>Linguistics</b>	
ENGL 350	3
Select three courses from ENGL 371W, 440, 444, 450, 477, 495/496 (linguistics-related independent study)	9
Select one course from approved electives at the 300 and 400 level, including Anthropology, English (especially rhetoric), Foreign Languages (not FLET), internship	3
Note: Linguistics emphasis students must take ENGL 370 in the Analytics portion of the core. All majors must take an English writing intensive (W) course to graduate.	
<b>Literature</b>	
Select one course from ENGL 301 and 302	3
Select one course from ENGL 340, 342, 345, 346	3

Select three courses at the 400 level, at least one of which must be in literature before 1800, and at least one of which must be in literature after 1800

9

Notes:

- Literature emphasis students must take ENGL 333 in the Analytics portion of the core.
- All majors must take an English writing intensive (W) course to graduate. Please consult the department advisor about the writing intensive requirement.

### Professional Writing

Select 5 courses from ENGL 307T, 325, 327W, 334W, 354, 368, 381, 427W, 435W, 439, 468, 473, 481, 495  
15  
(when the topic is relevant to professional writing and approved by the chief departmental advisor)

All majors must take an English writing intensive (W) course to graduate.

### Teaching

(See below, Bachelor of Arts—English Major with Teaching Licensure in English)

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
Option C. International business and regional courses or an approved certification program, such as teaching licensure  
Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts—English Major with Teaching Licensure in English

This program leads to eligibility for teacher licensure in Virginia. Licensure in English prepares students for a full range of secondary school teaching assignments. The program is accredited by the State of Virginia; in addition, Virginia has licensure reciprocity agreements with thirty other states, should the student leave Virginia.

The program combines the usual requirements of a college major and minor. Students take courses in the English department (ENGL) of the College of Arts and Letters and Teaching and Learning department of the Darden College of Education. Students receive a Bachelor of Arts in English.

**Admission.** All students must apply for and be admitted into the approved English teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all English courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved English teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.



**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. English courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II English content knowledge examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

**Virginia Board of Education prescribed assessments:**

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II English: Content Knowledge (test code 0041) – passing score of 172 is required

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C- in the major/content and the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 132 credit hours, which must include both a minimum of 34 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

Course requirements are as follows:

**LOWER DIVISION GENERAL EDUCATION**

**Credits**

See list under Bachelor of Arts in English above.

**Foundation courses (22 hours)**

ENGL 200	Intro to English Studies	1
ENGL 301 or 302	British Literature (1 course)	3
ENGL 345 or 346	American Literature (1 course)	3
ENGL 360, 363, 393, or 493	World Literature (1 course)	3
ENGL 303 or 304	Shakespeare (1 course)	3
ENGL 459, 463, 465, or 466W	Focus (1 course)	3
ENGL 325, 333, or 370	Analytics (2 courses)	6

Teaching emphasis students must take ENGL 333 in the Analytics portion of the core. All majors must take an English writing intensive (W) course to graduate.

**Elective courses (3 hours)**

ENGL 300 or 400-level course	3
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**Emphasis courses (18 hours)**

ENGL 301 or 302	British Literature (1 additional course)	3
ENGL 345 or 346	American literature (1 additional course)	3
ENGL 327W	Advanced Composition	3
ENGL 350	Aspects of English Language	3
ENGL 406	Teaching of Literature	3
ENGL 455	Teaching of Composition Grades 6-12	3

**Professional Education Courses (33 hours)**

TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management and Discipline	2
TLED 408	Reading and Writing in Content Area	3
TLED 430	PK-12 Instructional Technology (satisfies impact of technology requirement)	3
TLED 451	Developing Instructional Strategies: English	3
TLED 483	Seminar in Teacher Education (corequisite with TLED 451)	1
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students with Diverse Learning Needs	3

**UPPER DIVISION GENERAL EDUCATION**

Satisfied through professional education sequence.

**Bachelor of Science Degree-Interdisciplinary Studies  
Major-Professional Writing Concentration**

Please refer to the Interdisciplinary Studies section of this Catalog for information on the IDS professional writing program.

**Certificate in Professional Writing**

This certificate requires 12 hours of professional writing courses from ENGL 307T, 325, 327W, 334W, 354, 368, 381, 427W, 435W, 439, 468, 473, and 481. To apply for the certificate, contact the coordinator of professional writing.

**Minor in English**

The English minor consists of 15 hours of 300- and 400-level courses, three hours of which must be at the 400 level. A general minor and five minors in areas of emphasis are offered. Regardless of emphasis, the curriculum is still called a minor in English.

1. English: 15 hours from sections I, II, III, IV, or V (see Courses of Instruction).
2. Creative Writing: 15 hours from section II (see Courses of Instruction).
3. Journalism: 15 hours from section IV (see Courses of Instruction).
4. Linguistics: 15 hours from section III (see Courses of Instruction).
5. Literature and Film: 15 hours from section V (see Courses of Instruction).
6. Professional Writing: 15 hours from 307, 325, 327W, 334W, 354, 368, 427W, 435W, 439, 473, and 484.

For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement at Old Dominion University.

**Advising**

To declare an English major or minor, students must see the English departmental advisor (CDA). The CDA will assign each major to a faculty advisor. Students in the Secondary Education Endorsement Program will also have an advisor in the Darden College of Education. All English majors are required to have a conference with their advisors before each semester (preferably during preregistration). The CDA will hold periodic group meetings with English majors to keep them fully informed.

**Assessment Test**

All students pursuing an undergraduate degree in English must be prepared to participate in an English department assessment exercise in their last semester before graduating. The CDA will provide information about this exercise.

**Advanced Placement**

Students seeking English credits by examination should confer with the chief departmental advisor.

**Research Practicum**

Students who wish to combine research and real-world experience can take ENGL 369 Research Practicum. See the description in the Courses of Instruction section for prerequisites.

**Accelerated B.A. and M. A. in English Program**

By allowing exceptionally successful students to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this program makes it possible for such students to earn both a B.A. and M.A. in English within five years.

**Admission Requirements**

To be admitted to the program, students must have completed at least 60 undergraduate hours, including at least nine hours in English courses at the 300-level or above. At the time of admission, they must have an overall GPA of 3.00 or better, and a GPA of 3.30 or better in all English courses.

## Admission Procedures

Interested students who meet the admission requirements should apply to the graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the graduate program director, students will:

1. Officially declare themselves an undergraduate English major with the English Department's undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student's undergraduate and graduate advising files.
3. Apply, during their senior year, to the Office of Graduate Admissions for admission to the M.A. in English program.

Once students have been awarded their B.A. degree and fulfilled all regular admission requirements for the M.A. in English, they will be officially admitted into the M.A. program.

## Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a B.A. in English and an M.A. in English, with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses taken as an undergraduate for which they have earned a grade of B (3.0) or better toward both the B.A. and M.A. in English degrees.
2. Students in the program may substitute English graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
  - A. Any 500-level course that is cross-listed with a 400-level course may be substituted for the 400 level course.
  - B. Students may substitute 600-level courses for undergraduate courses according to the following list:  
ENGL 600 Intro Res & Crit for ENGL 333 Interp Lit Works  
ENGL 605 Film Theory for ENGL 425 Directors in Context  
ENGL 612 Renaissance Lit for ENGL 412 Renaissance in England  
ENGL 615 Shakespeare for ENGL 303 Shakespeare's Hists & Comedies or ENGL 304 Tragedies & Poetry  
ENGL 632 18th Century Brit Lit for ENGL 421 Brit Lit 1660-1800 or ENGL 432 Origins of Brit Novel  
ENGL 641 19th Century Brit Lit for ENGL 432 Romantic Movement in Brit or ENGL 433 Victorian Lit  
ENGL 645 20th Century Brit Lit for ENGL 438 20th Century Brit Novel  
ENGL 647 Postcolonial Literature for ENGL 459 New Lits in English  
ENGL 655 Topics in World Lit for ENGL 361/363 World Masterpieces I & II, ENGL 393 World Novel, or ENGL 493 Contemporary World Novel  
ENGL 656 Am Lit to 1810 for ENGL 345 Am Lit to 1860  
ENGL 657 Am Lit 1810-70 for ENGL 447 Am Novel to 1910  
ENGL 658 Am Lit 1870-1945 for ENGL 346 Am Lit since 1860  
ENGL 659 Am Lit 1945-pres for ENGL 349 Contemp Am Novel  
ENGL 664 Teaching College Comp for ENGL 455 Teaching Comp 4-12  
ENGL 685 Writing Research or ENGL 686 Intro to Rhetoric and Writing Studies for ENGL 427W Writing in the Disciplines  
ENGL 686 Mod Rhet for ENGL 325 Intro Rhet Studies or ENGL 427W Writing in the Disciplines  
ENGL 677 Lang & Communication across Cultures for ENGL 371W Communication across Cultures  
ENGL 672 Syntax for ENGL 350 Aspects of English Language  
ENGL 695 Topics in English for 400-level literature elective or ENGL 495/496 Topics in English  
ENGL 791 Graduate Seminar for 400-level literature elective
  - C. Students in the program may make a written petition for other substitutions to the graduate program director, who will consider them in consultation with the chief departmental advisor and the instructor(s) of the courses involved.

### NOTES:

1. In accordance with University policy, up to 21 hours of graduate courses taken as an undergraduate may be counted toward the B.A. in English degree. However, only 12 hours of graduate courses taken as an undergraduate may also be counted toward the M.A. degree in English.

2. Like students in the regular M.A. in English program, students in the accelerated B.A./M.A. in English degree may count no more than 12 hours at the 500-level toward their M.A. degree. Students are strongly advised against taking all 12 of those 500-level hours as an undergraduate, since doing so will limit their scheduling flexibility subsequently.
3. Students in this program may earn a B.A. in English and M.A. in English degrees in different emphasis areas. However, in order to avoid taking a course or courses that fulfill requirements for one degree but not the other, students considering this possibility should consult carefully with the graduate program director. Students should consult the Graduate Catalog for information concerning the M.A. in English.

## Accelerated Master of Arts—Applied Linguistics

By allowing exceptional students to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for such students to earn both a B.A. in English with an emphasis in linguistics and an M.A. in applied linguistics within five years.

### Admission Requirements

To be admitted to the program, students must have completed at least 60 undergraduate hours, including at least nine hours in English linguistics courses at the 300 level or above. At the time of admission, they must have an overall GPA of 3.00 or better, and a GPA of 3.30 or better in all English linguistics courses.

### Admission Procedures

Interested students who meet the admission requirements should apply to the graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the graduate program director, students will:

1. Officially declare themselves an undergraduate English major with an emphasis in linguistics to the English Department's undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student's undergraduate and graduate advising files.
3. Apply to the Office of Graduate Admissions for admission to the M.A. in applied linguistics program during their senior year.

Students will be admitted to the accelerated program for the semester after they make their application. Once students have been awarded their B.A. degrees and have fulfilled all regular admission requirements for the M.A. in applied linguistics, they will be officially admitted into the M.A. program.

### Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a B.A. in English with a linguistics emphasis and an M.A. in applied linguistics, with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses taken as an undergraduate for which they have earned a grade of B (3.0) or better toward both the B.A. in English and M.A. in applied linguistics degrees.
2. Students in the program may substitute English linguistics graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
  - A. Any 500-level linguistics course that is cross listed with a 400-level course may be substituted for the 400-level course.
  - B. Students may substitute 600-level courses for undergraduate courses according to the following list:  
ENGL 672 Syntax for ENGL 350 Aspects of the English Language  
ENGL 677 Language & Communication across Cultures for ENGL 371W Communication across Cultures  
ENGL 695 Topics for ENGL 495/496 Topics
  - C. Students in the program may make a written petition for other substitutions to the graduate program director (GPD) for electives in fields such as Asian studies, education, or professional writing. The GPD will consider substitutions in consultation with the chief departmental advisor and the instructor(s) of the courses involved. Students should consult the Graduate Catalog for requirements for the M.A. in Applied Linguistics.

# FOREIGN LANGUAGES AND LITERATURES

[www.al.odu.edu/lang/](http://www.al.odu.edu/lang/)

Angelica Huizar, Chair  
 Peter Schulman, Chief Departmental Advisor for French  
 Heidi Schlipphacke, Chief Departmental Advisor for German  
 Martha Daas, Chief Departmental Advisor for Spanish  
 Betty Rose Facer, Director, Language Learning Center

A student presenting three or more units of high school credit in a foreign language must take a placement exam before continuing in the same language. A student who places beyond the first-semester level only and who wishes to continue in the same language, will be required to follow the course sequence 102F or 121F, 201, 202 in Spanish and 102F, 201, 202 in the other foreign languages. Contact the Testing Center for additional information.

The General Education Foreign Language requirement as well as the foreign language proficiency requirement for the B.A. degree in the College of Arts and Letters may be exempted through acceptable scores in the CEEB Achievement Test in French, German or Spanish or departmentally administered examinations in other languages. Contact the Testing Center for additional information. Credit is granted for scores of 3, 4 and 5 on Advanced Placement (AP) language exams in Chinese, French, German, Italian, Japanese, and Spanish and literature exams in French, Latin and Spanish. No more than nine credits will be awarded if both AP language and literature exams are submitted. Credit is also granted for scores of 4, 5, 6 and 7 on the A2 and B exams in French, German, Latin and Spanish of the International Baccalaureate (IB). Contact the department for additional information.

Special emphasis at all levels of language instruction is placed on oral proficiency through dialogues, oral reports, class discussions and assignments in the Language Learning Center.

**Language Learning Center.** The goal of the Language Learning Center is to serve the needs of faculty, students and the Hampton Roads community in promoting the study of foreign languages offered at Old Dominion University through the use of technology-enhanced methods and materials. The center has been an integral part of the Foreign Languages and Literatures Department since its inception in 1992. Serving over 1,200 students each semester from the Department of Foreign Languages and Literatures and the English Language Center, the center is committed to instructional technology for foreign language learning and quality instruction.

## Bachelor of Arts–Foreign Languages and Literatures Major

### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication (Satisfied in the major by FR 311, GER 311, or SPAN 311)	
Mathematics	3
Language and Culture (Satisfied by the major)	6-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past (requires HIST 102H)	3
Literature (requires FLET 100L)	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (Satisfied by TLED 430 for teacher licensure students)	0-3
Human Behavior (requires GEOG 100S)	3

### Core Requirements

Option A: Another Foreign Language at any level, or	6
Option B: Area Studies. Consult the department for a list of approved courses each semester.	6

### Transfer Credits

Students who have received an A.A., A.S. or A.A. and S. from a Virginia community college, Richard Bland College or an equivalent associate degree approved by Transfer Evaluation Services have met all lower-division general education requirements. However, completion of ENGL 211C and either six hours of a second foreign language or six hours of area studies (which may include FLET 100L) are major requirements and are not automatically met by completion of an associate degree. Transfer students who have taken a different

general education course in the same perspective area should consult the chief departmental advisor to determine if substitutions are possible.

All majors must complete the Lower Division General Education requirements and the core requirements and select one of the following concentrations. A cumulative grade point average of 2.00 is required for the 30 hours of upper-division courses in French, German, or Spanish. No more than two FR/GER/SPAN courses taught in English can be counted for the major. At least 12 hours in the concentration must be taken at Old Dominion University.

### EMPHASIS AREAS

#### FRENCH

FR 311 (satisfies oral communication) or 320	3
Speaking and Listening/Contemporary France	3
FR 312W	3
Writing and Reading	3
FR 331, 332 or 333	3
French Lit Forms-Prose, Theatre, or Poetry	3
FR 407	3
Advanced Grammar & Syntax	6
FR 400-level electives	6
FR 300- or 400-level elective	12

#### GERMAN

GER 311 (satisfies oral communication)	3
Speaking and Listening	3
GER 312W	3
Writing and Reading	3
GER 321	3
German Civilization from the Middle Ages to WWI	3
GER 407	3
Stylistics and Phonetics	18
GER 300- or 400-level electives	18

#### SPANISH

SPAN 311	3
Speaking and Listening (satisfies oral communication)	3
SPAN 312W	3
Reading and Writing	3
SPAN 320	3
Spanish Civilization or	3
SPAN 321	3
Spanish American Civilization	3
SPAN 331	3
Intro to Spanish Lit: Medieval to 1700 or	3
SPAN 332	3
Intro to Spanish Lit: 1700 to Present or	3
SPAN 333	3
Survey of Early Latin American Lit or	3
SPAN 334	3
Survey of Modern Latin American Lit	6
SPAN 407	6
Advanced Grammar and Syntax	9
SPAN 400-level electives	9
SPAN 300- or 400-level electives	9

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
 Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
 Option C. International business and regional courses or an approved certification program, such as teaching licensure  
 Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts with Licensure in Pre-K Through Grade 12

**Admission.** All students must apply for and be admitted into the approved foreign language teacher preparation program for French, German or Spanish. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Required grade point averages (GPA):**

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all French, German or Spanish major courses must be passed with a grade of C or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved foreign language teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. French, German or Spanish courses must be passed with a grade of C or higher. The professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II French, German or Spanish examination and receive an official rating of Advanced-low or higher on the ACTFL OPI prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

**Virginia Board of Education prescribed assessments:**

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II French: Content Knowledge (test code 5174) CBT – passing score of 163 is required
- PRAXIS II German: Content Knowledge (test code 5183) CBT – passing score of 163 is required
- PRAXIS II Spanish: Content Knowledge (test code 5195) CBT – passing score of 168 is required

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C in the major/content and with no grade less than a C- in the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

Students holding a baccalaureate degree in French, German, or Spanish (or its accepted equivalent) may enroll in the program leading to licensure. Students seeking licensure only must see an advisor before enrolling. A maximum of nine hours in the language, to be selected with the help of the major advisor, may also be required.

Students seeking licensure in pre-K through grade 12 complete the lower-division General Education requirements listed under the Bachelor of Arts-Foreign Languages and Literatures major.

**Concentration in French with Licensure in Pre-K through Grade 12**

	<b>Credits</b>
FR 311 Speaking and Listening (satisfies oral communication requirement)	3
FR 312W Writing and Reading	3
FR 320 or 420 Contemporary France/Francophone Civ	3
FR 407 Advanced Grammar and Syntax	3
FR 300/400-level electives (at least three credits must be in literature at the 400 level)	18

**Professional Education sequence:**

	<b>Credits</b>
FL 452 Methods for Teaching FL in Pre-K through Grade 12	3
FL 456 Practicum and Seminar in Foreign Languages	1
TLED 301 Foundations and Assessment of Education	3
TLED 360 Classroom Management and Discipline	2
TLED 408 Reading and Writing in Content Areas	3

TLED 430	PK-12 Instructional Technology (satisfies impact of technology requirement)	3
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students with Diverse Learning Needs	3

**Concentration in German with Licensure in Pre-K Through Grade 12**

GER 311	Speaking and Listening (satisfies oral communication requirement)	3
GER 312W	Writing and Reading	3
GER 321	German Civilization from the Middle Ages to WWI	3
GER 407	Stylistics and Phonetics	3
GER 300/400 level electives (at least six credits must be on the 400 level and one in literature)		18

**Professional Education sequence:** TLED 301, 360, 408, 430, 485, SPED 313, 406, FL 452, 456

**Concentration in Spanish with Licensure in Pre-K Through Grade 12**

SPAN 311	Speaking and Listening (satisfies oral communication requirement)	3
SPAN 312W	Writing and Reading	3
SPAN 320	Spanish Civilization or	
SPAN 321	Spanish American Civilization	3
SPAN 331	Intro to Spanish Lit: Medieval to 1700 or	
SPAN 332	Intro to Spanish Lit: 1700 to Present or	
SPAN 333	Survey of Early Latin American Lit or	
SPAN 334	Survey of Modern Latin American Lit	3
SPAN 407	Advanced Grammar and Syntax	3
SPAN 410 or 415	Intro to Spanish Linguistics/ Spanish Phonetics	3
SPAN 300- or 400-level electives		6
SPAN 400-level electives		6

**Professional Education sequence:** TLED 301, 360, 408, 430, 485, SPED 313, 406, FL 452, 456

**UPPER DIVISION GENERAL EDUCATION**

Satisfied by the professional education core.

**Foreign Languages and Literatures Minors**

The department offers minors in foreign languages and literatures with a concentration in French, German and Spanish. Students must complete 15 hours of 300/400-level courses in the language and earn a cumulative grade point average of 2.0 in these upper-division courses. Lower-level courses and prerequisite courses do not count toward the grade point average required for the minor. Only one FR/GER/SPAN course taught in English may be applied toward the minor. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Contact the department for a list of recommended courses.

For information on minors in European Studies, Japanese Studies, and Latin American Studies, see the beginning of the College of Arts and Letters section of this Catalog.

**Interdisciplinary Minor - World Cultures: Values and Visions**

Heidi Schlipphacke, Department of Foreign Languages and Literatures, Coordinator

This interdisciplinary minor develops an understanding of human behavior in different cultures. In order to interpret information from other countries and ethnic groups, students need to learn that certain common notions such as perceptions of personhood, the organization of time and space, and the appropriate organization and behavior of social groups vary from country to country. This minor will explore different cultural perspectives and value systems. Students should emerge with a more sophisticated understanding of their own and others' cultures.

Course options are as follows: ANTR 304, 305, 320; COMM 400W; COMM 444/GER 445/FLET 445; ENGL 371W; FLET 307; FLET/JAPN 310; FLET/FR/GER 410W; FLET/SPAN 471; FLET/GER 476; FR 320, 438, 469;

GEOG 451, 452, 453, 455, 456; HIST 410; IT 425; MGMT 361; MKTG 411; PHIL 354; POLS 325W; PSYC 420; SPAN 320, 471.

Study Abroad: Any study abroad course at the 300–400 level that offers three credits can fulfill one course requirement for this minor. In cases where a study abroad course fits the themes of another interdisciplinary minor, students may request approval from the minor coordinator to use that study abroad course.

The World Cultures: Values and Vision interdisciplinary minor requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

## HISTORY

Douglas G. Greene, Chair

### Bachelor of Arts–History Major

Robert Del Corso, Chief Departmental Advisor

The Department of History offers a Bachelor of Arts degree that prepares students broadly for modern careers in business, government, and teaching, or for graduate study in history, law, library science, business, or education. The major requires 36 hours of course work. At least 12 hours of History at the 300 and 400 levels must be taken in residence at Old Dominion University.

The Department’s academic offerings reflect the diversity of the faculty, and students are encouraged to sample broadly the course offerings.

The requirements are as follows:

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Proficiency through 202 level; proficiency is not met by completion of an associate degree.)	0-12
Information Literacy and Research (satisfied in the major by HIST 201)	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (may be satisfied in the major by HIST 300T, 305T, 386T or 389T)	0-3
Human Behavior	3
<b>MAJOR REQUIREMENTS</b>	
HIST 100-level electives (chosen from HIST 100H, 101H, 102H, 103H, 104H, 105H and including the three hours selected for the general education requirement)	9
HIST 201 Introduction to Historical Methods (meets information literacy and research requirement)	3
HIST 402W Senior Seminar in History	3
HIST 300- and 400-level classes, with a minimum of one class from three of the four fields listed, one of which must be 400-level	21
Field One: United States History	
Field Two: European History	
Field Three: Area Studies (Asia, Latin America, Middle East, Russia, Africa)	
Field Four: Comparative History	
Total:	36

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
 Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include

both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Bachelor of Arts–History Major with a License in History/Social Sciences

The Colleges of Arts and Letters and of Education cooperate in providing a Bachelor of Arts degree that licenses its recipient to teach on the secondary level in the Commonwealth of Virginia. Most other states honor this license. Students must achieve passing scores on the Virginia Board of Education prescribed assessments as a prerequisite for entry into the professional education core. They must also pass the Praxis II exam in order to be admitted to TLED 485 (Student Teaching) and to be licensed. For information on these standardized tests, students should consult with their education advisor. To gain admission to this program, students must have a cumulative grade point average of 2.75 and maintain this average to graduate. Students must also have and maintain a major/content grade point average of 2.75 with grades of C- or higher in all history/social sciences courses and a professional education grade point average of 2.75 with all grades C- or higher in all education courses. The history/social sciences content consists of history, political science, geography, and economics.

Entering students must declare their intention to take their degree in History and Social Sciences in the History Department, whereupon they will be assigned an advisor. Another advisor will be assigned in the College of Education. It is the responsibility of the student to see both advisors regularly. The requirements are as follows:

**Admission.** All students must apply for and be admitted into the approved history and social science teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

#### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

#### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all history and social science courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved history and social science teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. History and social science courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Social Studies Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

#### Virginia Board of Education prescribed assessments:

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II Social Studies: Content Knowledge (test code 0081) – passing score of 161 is required

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a

minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C- in the major/content and the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 126 credit hours, which must include both a minimum of 32 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

#### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Proficiency through 202 level; proficiency is not met by completion of an associate degree.)	0-12
Information Literacy and Research (Satisfied by HIST 201)	
Human Creativity	3
Interpreting the Past (HIST 100H, 101H, 103H or 105H)	3
Literature	3
Philosophy and Ethics (PHIL 120P recommended)	3
The Nature of Science (OEAS 110N-112N or 111N-112N recommended. Students who take other science courses will be expected to take GEOG 101S in addition.)	8
Impact of Technology (satisfied by TLED 430)	
Human Behavior (ECON 200S required)	3

#### MAJOR REQUIREMENTS

SOC 201S or ANTR 110S	3
HIST 102H Interpreting the European Past	3
HIST 104H Interpreting the American Past	3
HIST 201 Introduction to Historical Methods	3
HIST 356 Virginia History	3
HIST 402W Senior Seminar in History	3
HIST 300- and 400-level classes, with a minimum of one class from three of the four fields listed, one of which must be 400-level	12
Field One: United States History	
Field Two: European History	
Field Three: Area Studies (Asia, Latin America, Middle East, Africa, World-HIST 302 recommended)	
Field Four: Comparative History	
Total:	30

#### Professional Education Core:

TLED 301 Foundations and Assessment of Education	3
TLED 360 Classroom Management and Discipline	2
TLED 408 Reading and Writing in Content Areas	3
TLED 430 PK-12 Instructional Technology (Satisfies impact of technology requirement)	3
TLED 455 Developing Instructional Strategies: Social Studies	3
TLED 483 Seminar in Teacher Education (corequisite with TLED 455)	1
TLED 485 Teacher Candidate Internship (student teaching)	12
SPED 313 Fundamentals-Human Growth and Development	3
SPED 406 Students with Diverse Learning Needs	3

#### History and Social Sciences License Requirements:

Geography courses: GEOG 100S, 300, and 305 or 320.  
 Political Science courses: POLS 101S, and 331 or 334, and course from POLS 309, 310, 312, 314, 316, 323, 328, 337, 338W, 350T, 400, 407, 409, 410, 415, or 425.

#### UPPER DIVISION GENERAL EDUCATION

Students in the secondary education licensure program satisfy the Upper Division General Education requirement through their professional education courses.

## Minor in History

The history minor consists of 15 semester hours, of which at least 12 must be at the 300 level or above. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University.

For completion of a minor a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses.

### Advanced Placement

Students may earn advanced placement credit for HIST 102H or 104H with a qualifying score on the American or European History Advanced Placement of the College Board exam or from a qualifying score on the CLEP exam. Consult the Testing Center for further information on advanced placement.

## Accelerated Bachelor of Arts and Master of Arts–History

Students with exceptional academic skills can enter this program and count up to 12 credit hours of graduate history courses toward both an undergraduate and graduate degree, making it possible to earn both a B.A. and M.A. in history within five years.

### Admission Requirements

To be admitted to the program, students must be a declared major in history, have completed a minimum of 60 undergraduate credit hours, including at least nine hours in history courses at the 300-level or above, and have a GPA of 3.30 or better overall and in history.

### Admission Procedures

Students who meet the admission requirements should consult with the graduate program director no later than the spring or summer prior to their senior year to plan graduate courses to be taken as an undergraduate. During their senior year, students must file an application to the M.A. program in history with the Office of Admissions. This application includes an Old Dominion University graduate application, a 500-word personal statement, two letters of recommendation, and Graduate Record Examination scores. Graduate admission deadlines apply.

Once students have been awarded their B.A. degree and fulfilled all regular admission requirements for the M.A. in history, they will be officially admitted into the M.A. program.

### Requirements for the Accelerated B.A./M.A. Program

Students in the program will fulfill all regular admission and curricular requirements for both the B.A. and M.A. in history, with the following exceptions:

1. Upon completing 90 hours of undergraduate work and attaining senior status, admitted students may take up to 12 hours of graduate courses as an undergraduate, provided that those courses fulfill curricular requirements for both the B.A. and M.A. degrees in history.
2. Students will need to complete the following major requirements for the B.A.:

HIST 100-level elective (chosen from HIST 100H, 101H, 102H, 103H, 104H, 105H and including the three hours selected for the general education requirement)	9
HIST 201 Introduction to Historical Methods (meets information literacy and research requirement)	3
HIST 402W Senior Seminar in History	3
HIST 300- and 400-level classes, with a minimum of one class from three of the four fields listed, one of which must be 400-level	21
Field One: United States History	
Field Two: European History	
Field Three: Area Studies (Asia, Latin America, Middle East, Russia, Africa)	
Field Four: Comparative History	
Total:	36

Up to 12 credits of graduate-level course work taken as an undergraduate during the senior year can substitute for 300- and 400-level requirements above and will be counted toward the B.A. degree in history. The following guidelines apply:

- a. Any 500-level course that is cross listed with a 400-level course may be substituted for the 400-level course; however, the student cannot take a 500-level course which has already been taken at the 400 level. Only nine credits of 500-level course work will count toward the M.A. degree.
  - b. The following courses can be taken to fulfill the 300-400 level American elective requirement: HIST 602, 604, 608, 612, 616, 618.
  - c. The following courses can be taken to fulfill the 300-400 level European elective requirement: HIST 633, 650, 652, 654, 656, 658, 660 (European topics).
  - d. The following courses can be taken to fulfill the 300-400 level elective requirement in African, Asian, Latin American, Middle Eastern, or Russian history: HIST 640, 645, 658 and 660 (Russian or Soviet History).
3. All graduate courses taken as an undergraduate that are completed with a grade of B (3.0) or better will also count toward the 30-credit M.A. degree in history.  
Students should consult the Graduate Catalog for information and requirements for the M.A. in history.

500-level course that is cross listed with a 400-level course may be substituted for the 400 level-course. However, all students must complete an undergraduate writing intensive course in the major. Students who complete less than 12 bridge course credits may fulfill humanities program requirements by taking courses during summer sessions and/or an additional semester; however, all students are required to fulfill a minimum of six bridge course credits in order to be eligible to continue in the accelerated program.

### The M.A. in Humanities

Students in the accelerated program will fulfill all normal admission and curricular requirements for both a B.A. or B.S. in their discipline and an M.A. in humanities, with the following exceptions, conditions, and requirements.

- 1) In the initial weeks of the first semester of study in the humanities M.A. program, students in the accelerated program in communication or individualized interdisciplinary studies, in consultation with the humanities graduate program director and/or faculty, will designate a graduate concentration area and assemble an interdisciplinary curriculum based on the area of concentration. This will take the form of a written proposal to be approved by the Humanities Advisory Committee. Students will be advised in their selection of appropriate courses by both the humanities graduate program director and faculty.
- 2) In addition, all students, regardless of their concentration, are required to take:
  - HUM 601: The Subject of the Humanities: Introduction to Research, Methodology, and Theory
  - HUM 602: The Humanities on Trial: Postmodernity, Technology, Globalization
  - HUM 694: Interdisciplinarity and the Humanities
 HUM 694, the capstone seminar for accelerated humanities M.A. students, will be taken in the final semester of study before the completion of the M.A. degree. Students will be required to complete a substantive research project which is scholarly in nature, reflecting the student's training in the discipline and the humanities.
- 3) No more than 12 hours of graduate credit at the 500-level may be applied to the M.A. in humanities.
- 4) Students will not be permitted to take any 500-level course that they have already taken at the undergraduate 400 level.
- 5) Communication students must take at least two 600-level graduate courses offered by the Department of Communication and Theatre Arts. Courses taken through departments other than Humanities and Communication and Theatre Arts must correspond to the student's declared concentration area. No more than six credit hours may be concentrated in any one department other than Humanities or Communication and Theatre Arts.
- 6) Philosophy students must take at least two 600-level courses offered by the Department of Philosophy and Religious Studies. Graduate courses taken through departments other than Humanities and Philosophy and Religious Studies will count toward the M.A. only if they are approved in advance by the chair of Philosophy and Religious Studies or its director of graduate studies.
- 7) Women's studies students will be required to take graduate-level courses that focus on women and/or gender in relation to various aspects of culture and the humanities. Students may elect graduate courses in women's studies, as well as courses that are cross-listed with women's studies, from any designated humanities or social science department, such as history, linguistics, literature, sociology, psychology, international studies, etc., or courses approved by the director of women's studies. However, no more than six credit hours may be concentrated in any one discipline other than humanities and women's studies.
- 8) There is no thesis option for students in the accelerated M.A. in humanities program. Students who wish to write a thesis may elect at any time to change over to the standard 33 credit, thesis-track, humanities program.
- 9) Upon completion of 30 graduate credits, students will be awarded the M.A. in humanities. Communication or women's studies students will be awarded the M.A. in humanities with a concentration in communication or women's studies.
- 10) For additional information on the M.A. in humanities, please refer to the Graduate Catalog.

## HUMANITIES

Jeffrey Jones, Director, Institute of Humanities; 757 683-3821  
[www.al.edu.edu/hum/](http://www.al.edu.edu/hum/)

### Accelerated Master of Arts in Humanities– Communication, Individualized Interdisciplinary Studies, Philosophy, or Women's Studies

By allowing exceptional majors in communication, individualized interdisciplinary studies, philosophy, or women's studies to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for students with a demonstrated record of academic excellence to earn both a B.A. or B.S. in their discipline (communication, philosophy, individualized interdisciplinary studies, or women's studies) and an M.A. in humanities in five years.

#### Admission Requirements

To be admitted to the program, students must declare a major in communication, philosophy, individualized interdisciplinary studies, or women's studies B.A. or B.S. and complete a minimum of at least 60 undergraduate credit hours, including at least six hours of 300/400 level courses in the major. At the time of admission to the accelerated program, students must have an overall undergraduate GPA of 3.00 or better.

#### Admission Procedure

Interested students who meet the admission requirements should apply to the humanities graduate program director as soon as possible after completing the required 60 undergraduate hours. In consultation with the chair or director of their department and the humanities graduate program director, students will:

1. Draft a schedule of graduate courses to be taken as an undergraduate, which will be placed in the student's undergraduate and graduate advising files.
2. Submit an Old Dominion University graduate application, a 500-word personal statement, a sample critical/analytical essay or research paper, two letters of recommendation, and GRE scores to the Office of Admissions during their senior year.

Students will be officially admitted into the M.A. in humanities program once they have been awarded their bachelor's degree and have fulfilled all regular admission requirements for the M.A. in humanities. (Please refer to the appropriate section of this catalog for information on the requirements for the bachelor's degree in communication, individualized interdisciplinary studies, or women's studies.)

#### Bridge Courses

Students admitted to the accelerated program may count up to 12 hours of bridge courses (graduate courses taken as an undergraduate) for which they have earned a grade of B (3.0) or better toward both the specific B.A. or B.S. and the M.A. in humanities. These courses may be 500 or 600 level courses within or cross-listed with the discipline, or approved graduate courses. Any

## INTERDISCIPLINARY STUDIES

Elizabeth Esinhart, Director of Interdisciplinary Studies Teacher Preparation

Kathleen Fowler, Program Coordinator and Advisor, Individualized Interdisciplinary Studies

Steve Latham, Program Coordinator and Advisor, Music Business/Production  
Matthew Oliver, Program Coordinator and Advisor, Professional Writing  
Daniel O'Leary, Program Coordinator and Advisor, Work and Professional Studies

The Department of Interdisciplinary Studies coordinates the administration and delivery of five degree programs: the Bachelor of Science in interdisciplinary studies-teacher preparation concentration; the Bachelor of Arts and Bachelor of Science degrees in interdisciplinary studies-individualized programs; and the Bachelor of Science in interdisciplinary studies-music business/production, professional writing, and work and professional studies.

## Bachelor of Science Degree — Interdisciplinary Studies Major — Teacher Preparation Concentration

Elizabeth Esinhart, Director

Michele Mitchell, Assistant Director and Chief Departmental Advisor

This interdisciplinary studies, teacher preparation degree program (IDS-TP) in the College of Arts and Letters draws courses from four colleges within the University to prepare teacher candidates interested in teaching primary/elementary education or special education to complete content and pedagogical competency requirements for teacher licensure in the Commonwealth of Virginia. In cooperation with the Darden College of Education, primary/elementary education teacher candidates earn full licensure to teach early childhood or elementary education with the completion of both the B.S. degree in Interdisciplinary Studies, primary/elementary emphasis, and the Master of Science in Education. Special education teacher candidates earn full licensure to teach special education, general curriculum, K-12 with the completion of the B.S. degree in Interdisciplinary Studies, special education emphasis. Additionally, Special Education teacher candidates will be highly qualified to teach (1) elementary education or (2) secondary English and elementary education.

Course work in the baccalaureate degree spans the disciplines of English literature, composition, and linguistics; history; fine and performing arts; mathematics and statistics; natural sciences including biology, chemistry, physics, and ocean or earth science; social sciences including economics, geography, and political science; human growth and development; and educational foundations, technology, and methods. The broad curriculum, along with the admittance, continuance, and graduation requirements described below, prepares teacher candidates to meet state licensure standards for the Commonwealth of Virginia, including passing scores on the Praxis II specialty area exams, Virginia Reading Assessment or the current Virginia Board of Education approved reading assessment, and Virginia Communication and Literacy Assessment, and to meet graduate admission requirements to the Darden College of Education.

Teacher candidates can choose from the following undergraduate emphasis tracks:

- Primary/Elementary Education Emphasis (no licensure with B.S. degree, licensure at graduate level through Darden College of Education)
- Special Education, General Curriculum, K-12, Highly Qualified to Teach Elementary Education Emphasis (licensure with B.S. degree)
- Special Education, General Curriculum, K-12, Highly Qualified to Teach Secondary English and Elementary Education Emphasis (licensure with B.S. Degree)

Each emphasis track is described below, and additional information is posted on the departmental website: [www.al.odu.edu/ids/tprep](http://www.al.odu.edu/ids/tprep) or available in hardcopy from the department.

**Admission.** To be admitted to and advised in the IDS-TP program, teacher candidates must have a grade of C or above in English 110C and 26 completed credit hours.

**Declaration of Major.** To declare the major, teacher candidates must have a 2.80 cumulative grade point average and grades of C or above in any course required in the program, and pass the prescribed Virginia Board of Education assessment for admission to an approved teacher education program as described herein. Teacher candidates who have been admitted to the IDS-TP program but who are ineligible to declare the major will be advised as prospective majors within the program.

**Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program.** Old Dominion University students seeking admission to an approved teacher education program must satisfy the Virginia Board of Education Required Assessment for Admission to an

Approved Teacher Education Program. This requirement can be satisfied by meeting a passing score in one of the selected criteria below:

- a. Passing PRAXIS I composite score of 532; or
- b. Approved substitute test score for PRAXIS I:
  1. SAT score of 1000 with at least 450 verbal and 510 mathematics taken prior to April 1, 1995; or
  2. SAT score of 1100 with at least 530 verbal and 530 mathematics taken after April 1, 1995; or
  3. ACT composite score of 21 with ACT mathematics score of at least 21, and ACT English plus Reading score of at least 37, taken prior to April 1, 1995. ACT scores taken prior to 1989 are not valid; or
  4. ACT composite score of 24 with ACT mathematics score of at least 22, and ACT English plus Reading score of at least 46, taken after April 1, 1995; or
  5. PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy Assessment (hereafter referred to as the VCLA) score of 470; or
  6. SAT Mathematics test score of at least 510 taken prior to April 1, 1995 and a VCLA score of 470; or
  7. SAT Mathematics test score of at least 530 taken after April 1, 1995 and a composite VCLA score of 470; or
  8. ACT Mathematics test score of at least 21 taken prior to April 1, 1995 and a composite VCLA score of 470; or
  9. ACT Mathematics test score of at least 22 taken after April 1, 1995 and a composite VCLA score of 470.

**Admission to Undergraduate Teacher Education Program.** All teacher candidates must be admitted to the undergraduate teacher education program as a requirement of continuance and graduation. Admittance to the undergraduate teacher education program requires that the teacher candidate (1) be a declared IDS-TP major; (2) have a cumulative GPA of 2.80; (3) have a major GPA of 2.80 (major content plus professional education courses); (4) have a 2.80 GPA in major content courses; (5) have a 2.80 GPA in professional education courses; (6) have no grade below a C in any course required in the program; (7) pass the prescribed Virginia Board of Education admission assessment described above; and (8) submit an application for admittance that is approved by the program and by the Office of Teacher Education Services in the Darden College of Education. Additionally, teacher candidates must be admitted to the undergraduate teacher education program by the end of their 60<sup>th</sup> credit hour. Transfer students with 60 or more credits must be admitted to the undergraduate teacher education program by the end of their second semester enrolled at the University.

**Continuance.** Teacher candidates must (1) maintain a cumulative grade point average of 2.80, 2.80 major GPA, 2.80 major content GPA and 2.80 professional education GPA; (2) earn a grade no less than C in all general education courses required in the program, major content courses, and professional education courses; (3) pass the prescribed Virginia Board of Education admission assessment described above; and (4) be admitted to the undergraduate teacher education program. All teacher candidates who fail to meet program requirements must meet with an advisor and complete a Continuance Notice. After being declared as a major, teacher candidates who fail to meet program requirements for two consecutive semesters will be undeclared, advised as prospective majors, and encouraged to consider other academic and professional goals. In addition, teacher candidates must pass the prescribed Virginia Board of Education admission assessment described above, be admitted to the undergraduate teacher education program and meet all other prerequisites listed in the Catalog course description to be eligible to take the following courses: TLED 478, TLED 479, SPED 403, SPED 415, SPED 483 and SPED 486. Additionally, passing scores on the Special Education exit exam, the Virginia Reading Assessment or the current Virginia Board of Education approved reading assessment, Virginia Communication and Literacy Assessment, and Praxis II specialty area exam(s) are required in SPED 483 and are a prerequisite to enrollment in SPED 486. All teacher candidates must consult with an academic advisor every semester to review their academic progress.

**Graduation.** To graduate, teacher candidates must (1) complete all program requirements; (2) earn a grade of no less than C in every general education course required in the program, major content course, and professional education course; and (3) have a cumulative grade point average of 2.80 and 2.80 major GPA. In addition, teacher candidates must have the prescribed Virginia Board of Education admission assessment described above and passing scores on any other Assessment test required by their emphasis area as provided above, be admitted to the approved undergraduate teacher education program, pass the Exit Examination of Writing Proficiency, and complete the Senior Assessment Exam. Teacher candidates will also be requested to complete the Departmental Senior Exit Survey.

The following requirements also apply:



**Special Education:** Special Education teacher candidates earn licensure with the B.S. degree and must obtain passing scores on the Special Education exit exam, the appropriate Praxis II specialty area exam(s), Virginia Reading Assessment or current Virginia Board of Education approved reading assessment, and Virginia Communication and Literacy Assessment prior to completion of SPED 483 and prior to enrollment in SPED 486. Test results will be submitted to the director of the Office of Teacher Education Services. Special Education teacher candidates must also submit a professional portfolio according to Darden College of Education and program requirements prior to completion of the B.S. degree and as a condition of continuance and graduation.

**Primary/Elementary Education:** For Primary/Elementary Education teacher candidates, admission to the graduate programs in elementary education and early childhood education requires a cumulative grade point average of 2.80 and completion of the graduate application, which includes the GRE or MAT. Teacher candidates with a cumulative GPA of 3.20 and passing scores on all three sections of Praxis I (178 math, 178 reading, and 176 writing) or Virginia Board of Education qualifying SAT or ACT scores only will be eligible for Fast-Track admission to the graduate programs in teacher education. Fast-track admission requires a student to comply with all graduate admission criteria except the submission of GRE or MAT scores. Teacher candidates earn licensure to teach in elementary education or early childhood education upon completion of the master's degree in the Darden College of Education. Prior to starting the teacher candidate internship (student teaching), all teacher candidates must obtain passing scores on the appropriate Praxis II specialty area exam, Virginia Reading Assessment or current Virginia Board of Education approved reading assessment, and Virginia Communication and Literacy Assessment. Test results will be submitted to the director of the Office of Teacher Education Services. Prior to the start of the teacher candidate internship, all teacher candidates should review their Leo Online student test score page to ensure that passing scores are posted for the appropriate PRAXIS I or approved substitute assessment, PRAXIS II specialty area exam, VRA or the current Virginia Board of Education approved reading assessment, and the VCLA test.

Please see the College of Education sections of the Undergraduate and Graduate Catalogs or the Darden College of Education website for more information.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the teacher preparation programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their academic advisors and from the Darden College of Education website at [www.education.odu.edu](http://www.education.odu.edu).

Program curriculum requirements are listed below.

### Primary/Elementary Emphasis\* (also offered through Distance Learning)

General Education Courses	Credits
**English 110C	3
**English 211C	3
English 112L, 114L, or FLET 100L	3
Language and Culture (See Requirements for Undergraduate Degrees section of this Catalog for requirement)	0-6
**Communication 101R or 103R	3
Information Literacy and Research	3
**+Art History 121A or Music 264A	3
**History 104H	3
Impact of Technology - met by TLED 430+++	
**Geography 100S	3
Philosophy 110P, 230E, or 250E (PHIL 230E or 250E recommended)	3
**++Math 102M or 162M	3
**Biology 105N, 106N, 108N, 109N, 115N, or 116N	4
**Chemistry 105N + 106N or 107N + 108N or 121N + 122N or 123N + 124N or Physics 101N, 102N, 111N or 112N	4
<b>TOTAL</b>	<b>38-44</b>

### Major Content Requirements

English 327W	3
English 350 or 370	3
English 336 or approved upper-level literature course	3
History 100H, 101H, 102H, 103H or 105H	3
History 356	3
History 345, 346, 348, 350, 351, 355, 361, 362, or 363	3
Economics 200S, 201S or 202S	3
Political Science 101S	3

Political Science 331 or 311	3
Geography 250, 300, 350, 412, 451, 454W, or 455	3
Math 335	3
Math 302	3
Statistics 130M	3
Ocean, Earth and Atmospheric Sciences 110N, 210, 302, or 402	3-4
Health and Physical Education 327 and 1 Physical Education activity credit	4
+Music 308, Music 460, Art Education 305, or approved upper level Human Creativity course	3
<b>TOTAL</b>	<b>49-50</b>

### Professional Education (meets upper-division general education)

TLED 301	Foundations and Assessment of Education	3
+++TLED 430	PK-12 Instructional Technology and the Classroom (satisfies impact of technology requirement)	3
TLED 468	Language Acquisition and Reading for Students with Diverse Learning Needs	3
SPED 313	Fundamentals of Human Growth and Development: Birth through Adolescence	3
SPED 400	Foundations of Special Education: Legal Aspects and Characteristics	3
TLED 432	Developing Instructional Strategies PK-6 Language Arts	3
STEM 433	Developing Instructional Strategies PK-6 Mathematics	3
STEM 434	Developing Instructional Strategies PK-6 Science	3
TLED 435	Developing Instructional Strategies Pk-6 Social Studies	3
***TLED 478	Integrating Instruction across the Curriculum PK-6	3
***TLED 479	Classroom Management and Practice PK-6	3
<b>TOTAL</b>		<b>33</b>

**TOTAL DEGREE CREDITS** 120 – 127 credit hours\*\*\*\*

\* This undergraduate emphasis track prepares students to matriculate into the graduate program in early childhood education (not offered through Distance Learning) or the graduate program in elementary education (offered through Distance Learning in the Darden College of Education); teacher candidates should consult the directors of these graduate programs for additional information. There is no licensure with the B.S. degree. Student teaching and licensure are at the graduate level through the Darden College of Education.

\*\* Departmental requirements for all teacher candidates, not met by the associate degree.

\*\*\* Admission to the undergraduate teacher education program is required prior to registration for TLED 478 and TLED 479; TLED 478 will require 40 practicum hours and TLED 479 will require 70 practicum hours.

\*\*\*\* NOTE: ALL STUDENTS MUST EARN A MINIMUM OF 120 CREDIT HOURS FOR THE BACCALAUREATE DEGREE, WHICH MUST INCLUDE BOTH A MINIMUM OF 30 CREDIT HOURS OVERALL AND 12 CREDIT HOURS OF UPPER-LEVEL COURSES IN THE MAJOR PROGRAM FROM OLD DOMINION UNIVERSITY.

+ If credit is received for ARTH 121A, teacher candidates must take MUSC 308 or MUSC 460 or an approved upper-level Music fine and performing arts course; if credit is received for MUSC 264A, teacher candidates must take ARTE 305 or an approved upper-level Art fine and performing arts course.

++ Grade of C or better is required in MATH 102M or MATH 162M to enroll in MATH 302 and MATH 335

+++ LiveText is required for all Teacher Candidates in TLED 430.

### Licensure in Special Education, General Curriculum, K-12, Highly Qualified in Elementary Education Emphasis\* (also offered through Distance Learning)

General Education Courses	Credits
**English 110C	3
**English 211C	3
English 112L, 114L, or FLET 100L	3
Language and Culture (See Requirements for Undergraduate Degrees section of this Catalog for requirement)	0-6
**Communication 101R or 103R	3
Information Literacy and Research	3
**+Art History 121A or Music 264A	3
**History 104H	3

Impact of Technology - met by TLED 430+++	
**Geography 100S	3
Philosophy 110P, 230E, or 250E (PHIL 230E or 250E recommended)	3
**++Math 102M or 162M	3
**Biology 105N, 106N, 108N, 109N, 115N or 116N	4
**Chemistry 105N + 106N or 107N + 108N or 121N + 122N or 123N +124N or Physics 101N, 102N, 111N or 112N	4
<b>TOTAL</b>	<b>38-44</b>

**Content Requirements**

English 327W	3
English 350 or 370	3
English 336 or approved upper-level literature course	3
History 100H, 101H, 102H, 103H or 105H	3
History 356	3
Economics 200S, 201S, or 202S	3
Political Science 101S	3
Math 335	3
Math 302	3
Statistics 130M	3
Ocean, Earth and Atmospheric Sciences 110N, 210, 302, or 402	3-4
Health and Physical Education 327 and 1 Physical Education activity credit	4
+Music 308, Music 460, Art Education 305, or approved upper level fine and performing arts course	3
<b>TOTAL</b>	<b>40-41</b>

**Professional Education** (meets upper-division general education)

+++TLED 430	PK-12 Instructional Technology and the Classroom (satisfies impact of technology requirement)	3
TLED 408	Reading and Writing in Content Areas	3
TLED 468	Language Acquisition and Reading for Students with Diverse Learning Needs	3
SPED 313	Fundamentals of Human Growth and Development: Birth through Adolescence	3
SPED 400	Foundations of Special Education: Legal Aspects and Characteristics	3
SPED 402	Instructional Design I: Learner Characteristics and Assessment	3
SPED 411	Classroom and Behavioral Management Techniques for Students with Diverse Needs	3
SPED 417	Collaboration & Transitions	3
***SPED 415	Instructional Design II: Curricular Procedures and Individualized Education Planning	3
***SPED 403	Directed Field Experience in Special Education	2
***++++SPED 483	Field Experience Seminar in Special Education	1
***++++SPED 486	Teacher Candidate Internship for Special Education	12
<b>TOTAL</b>		<b>42</b>

TOTAL DEGREE CREDITS: 120-127 credit hours\*\*\*\*

\* This undergraduate emphasis track leads to licensure to teach with the B.S. degree. Teacher candidates should consult with the director of special education programs in the Darden College of Education for additional information.

\*\* Departmental requirements for all teacher candidates, not met by the associate degree.

\*\*\* Admission to undergraduate teacher education program required prior to registration for SPED 415, SPED 403, SPED 483, and SPED 486. SPED 415 and 403 will each require 45 practicum hours.

\*\*\*\*NOTE: ALL STUDENTS MUST EARN A MINIMUM OF 120 CREDIT HOURS FOR THE BACCALAUREATE DEGREE, WHICH MUST INCLUDE BOTH A MINIMUM OF 30 CREDIT HOURS OVERALL AND 12 CREDIT HOURS IN UPPER-LEVEL COURSES IN THE MAJOR PROGRAM FROM OLD DOMINION UNIVERSITY.

+ If credit is received for ARTH 121A, teacher candidates must take MUSC 308 or MUSC 460 or an approved upper-level Music fine and performing arts course; if credit is received for MUSC 264A, teacher candidates must take ARTE 305 or an approved upper-level Art fine and performing arts course.

++ Grade of C or better is required in MATH 102M or MATH 162M to enroll in MATH 302 and MATH 335

+++ LiveText is required for all Teacher Candidates in TLED 430.

++++Passing scores on the Special Education exit exam, the Virginia Reading Assessment or the current Virginia Board of Education approved reading assessment, Virginia Communication and Literacy Assessment, and Praxis II (0014) Elementary Education Content Knowledge Test are required in SPED 483 and prior to SPED 486.

**Licensure in Special Education, General Curriculum, K-12, Highly Qualified in Secondary English and Elementary Education Emphasis – (not offered through Distance Learning)\***

**General Education Courses**

**English 110C	3
**English 211C	3
**English 112L, 114L, or FLET 100L	3
Language and Culture (See Requirements for Undergraduate Degrees section of this Catalog for requirement)	0-6
**Communication 101R or 103R	3
Information Literacy and Research	3
**Art History 121A or Music 264A	3
**History 104H	3
Impact of Technology - met by TLED 430++	
**Geography 100S	3
Philosophy 110P, 230E, or 250E (PHIL 230E or 250E recommended)	3
**+Math 102M or 162M	3
**Biology 105N, 106N, 108N, 109N, 115N or 116N	4
**Chemistry 105N + 106N or 107N + 108N or 121N + 122N or 123N +124N or Physics 101N, 102N, 111N or 112N	4
<b>TOTAL</b>	<b>38-44</b>

**Content Requirements**

English 327W	3
English 350	3
English 370	3
English 301 or 302	3
English 336 or approved upper-level literature course	3
English 345 or 346	3
English 406	3
English 455	3
History 100H, 101H, 102H, 103H or 105H	3
History 356	3
Economics 200S, 201S, or 202S	3
Political Science 101S	3
Math 335	3
Math 302	3
Statistics 130M	3
Ocean, Earth and Atmospheric Sciences 110N, 210, 302, or 402	3-4
Health and Physical Education 327	3
<b>TOTAL</b>	<b>51-52</b>

**Professional Education** (meets upper-division general education)

++TLED 430	PK-12 Instructional Technology and the Classroom (satisfies impact of technology requirement)	3
TLED 408	Reading and Writing in Content Areas	3
TLED 468	Language Acquisition and Reading for Students with Diverse Learning Needs	3
SPED 313	Fundamentals of Human Growth and Development: Birth through Adolescence	3
SPED 400	Foundations of Special Education: Legal Aspects and Characteristics	3
SPED 402	Instructional Design I: Learner Characteristics and Assessment	3
SPED 411	Classroom and Behavioral Management Techniques for Students with Diverse Needs	3
SPED 417	Collaboration & Transitions	3
*** SPED 415	Instructional Design II: Curricular Procedures and Individualized Education Planning	3
*** SPED 403	Directed Field Experience in Special Education	2
***+++ SPED 483	Field Experience Seminar in Special Education	1
***+++ SPED 486	Teacher Candidate Internship for Special Education	12
<b>TOTAL</b>		<b>42</b>

TOTAL DEGREE CREDITS: 131 - 138 credit hours\*\*\*\*

\* This undergraduate emphasis track leads to licensure to teach with the B.S. degree. Teacher candidates should consult with the director of special education programs in the Darden College of Education for additional information.

\*\* Departmental requirements for all teacher candidates, not met by the associate degree.

\*\*\* Admission to undergraduate teacher education program required prior to registration for SPED 415, SPED 403, SPED 483, and SPED 486. SPED 415 and SPED 403 will each require 45 practicum hours.

\*\*\*NOTE: ALL STUDENTS MUST EARN A MINIMUM OF 120 CREDIT HOURS FOR THE BACCALAUREATE DEGREE, WHICH MUST INCLUDE BOTH A MINIMUM OF 30 CREDIT HOURS OVERALL AND 12 CREDIT HOURS IN UPPER-LEVEL COURSES IN THE MAJOR PROGRAM FROM OLD DOMINION UNIVERSITY.

- + Grade of C or better is required in MATH 102M or MATH 162M to enroll in MATH 302 and MATH 335.
- ++ LiveText is required for all Teacher Candidates in TLED 430.
- +++ Passing scores on the Special Education exit exam, the Virginia Reading Assessment or the current Virginia Board of Education approved reading assessment, Virginia Communication and Literacy Assessment, and Praxis II specialty area exam(s) are required in SPED 483 and prior to SPED 486.

## Bachelor of Arts and Bachelor of Science— Interdisciplinary Studies (IDS) Major, Individualized Integrative Studies (IIS)

[www.al.odu.edu/ids/iis/](http://www.al.odu.edu/ids/iis/)

Kathleen Fowler, Program Coordinator and Advisor  
kfowler@odu.edu

Individualized interdisciplinary studies at Old Dominion University is a flexible degree program which seeks to serve the needs of students whose goals cannot be met within existing departmental curricula. Through interdisciplinary studies, students are able to combine courses from three or more disciplines into an individualized degree. The flexibility of the program makes possible the pursuit of a wide variety of interests in areas such as medieval and renaissance studies, advertising, legal studies, ecological studies, public relations, management of technical services, photo journalism, and health care administration.

Students who decide to design their own degrees must have departmental approval and faculty sponsorship. The degree awarded is a Bachelor of Science or Bachelor of Arts with a major in interdisciplinary studies in the student's area of interest.

### Requirements

#### LOWER DIVISION GENERAL EDUCATION (Some of the following may be satisfied through major course requirements.)

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Proficiency through 202 required for BA and not met by associate degree)	6-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior	3

#### Individualized Program Core Requirements

IDS 300W Interdisciplinary Theory and Concepts	3
IDS Integration Project*	3

\*For the Integration Project, one of the following is required

- A. IDS 368 Interdisciplinary Studies Internship
- B. IDS 497 IDS Individualized Senior Project
- C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 or 497.

### Concentration

All individualized program students must design a concentration that includes a minimum of 42 credit hours. This includes courses from three or more disciplines that the student integrates into a single program, subject to departmental approval. At least 30 hours must be upper level. No more than two-thirds of the major area may be in one discipline.

All IDS individualized program students must prepare and submit a proposal to the Interdisciplinary Studies Committee for approval. The purpose of the proposal is to outline the courses and other learning experiences that will lead to the fulfillment of the proposed course of study. Students must have at least 30 hours of course work left in their overall degree program (this can include current and proposed courses) when the proposal is submitted to the IDS Committee. Students must complete at least 15 hours of course work in their major after acceptance into the program. Any exceptions must be approved by the IDS Committee. Students must also identify two faculty sponsors who will provide guidance as they develop their proposals and progress through the program. Acceptance decisions are made by the director of Interdisciplinary Studies, the Interdisciplinary Studies Committee, and faculty sponsors. For more information see <http://web.odu.edu/al/iis/>.

Students must receive a grade of C- or better in all courses taken within the concentration area.

### Electives

Elective courses may be taken for the remainder of the minimum 120 credits required for the degree.

#### UPPER DIVISION GENERAL EDUCATION

- Option A. Approved Minor, 12-24 hours; also second degree or second major
- Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study
- Option C. International business and regional courses or an approved certification program, such as teaching licensure
- Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from another Component within the College of Arts and Letters (Arts and Humanities or Social Science) that are not required by the major (6 hours). The program coordinator will specify six credits of upper-division course work outside of the major areas that can be used for this option.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Science Degree—Interdisciplinary Studies Major—Music Business/Production Concentration

[www.al.odu.edu/ids/mbp](http://www.al.odu.edu/ids/mbp)

Steve Latham, Program Coordinator and Advisor  
llatham@odu.edu

Students pursuing the music business/production concentration may pursue one of three tracks: music business, music production or music business/production. All tracks have a common core of classes in Interdisciplinary Studies (IDS), Music and Business and require 58 credit hours. Specific requirements for each track are listed below.

PLEASE NOTE: All IDS Music Business, Music Production and Music Business/Production majors are required to attend 24 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

#### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (See Requirements for Undergraduate Degrees section of this Catalog for requirement)	0-6
Information Literacy and Research	3
Human Creativity (Chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (satisfied in the major by MUSC 335T)	3
Human Behavior	3

#### Interdisciplinary Studies Core (6 credits)

IDS 300W Interdisciplinary Theory and Concepts	3
IDS Integration Project*	3

\*For the Integration Project, one of the following is required

- A. IDS 368 Interdisciplinary Studies Internship
- B. IDS 497 IDS Individualized Senior Project
- C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 or 497.

**Music Core (28 credits – required of all tracks)**

Students must earn a C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level. In addition, students must earn a grade of C- or better in MUSC 322, 324, 361, and 362W.

MUSC 101	Beginning Piano	1
MUSC 221	Music Theory	3
MUSC 222	Music Theory	3
MUSC 223	Ear Training, Sight Singing, Dictation	1
MUSC 224	Ear Training, Sight Singing, Dictation	1
MUSC 264A	Music in History and Culture	3
MUSC 321	Advanced Theory	2
MUSC 322	Advanced Theory	2
MUSC 335T	Intro to MIDI Technology	3
MUSC 336	Electronic Music	3
MUSC 361	History of Music	3
MUSC 362W	History of Music	3

**Business Core (12 Credits – required of all tracks)**

ACCT 201	Principles of Accounting	3
MGMT 325	Contemporary Organizations and Management	3
ECON 202S	Principles of Microeconomics	3
COMM 495	The Music Industry	3

**Additional Courses (12 credits required; number of credits selected in each area below depends on the track)**

**Business Electives (6 hours required for the music business track and the music business/production track)**

MGMT 350	Employee Relations Problems and Practices	3
MGMT 340	Human Resources Management	3
MGMT 426	Entrepreneurship: New Ventures Creation	3
MKTG 311	Marketing Principles and Problems	3
MKTG 402	Consumer Behavior	3
MKTG 403	Advertising Strategy	3
MKTG 404	Sales Development	3

**Communication Electives (6 hours required for the music business track)**

COMM 260	Understanding Media	3
COMM 340	Media and Popular Culture	3
COMM 364	Radio	3
COMM 372T	New Media Technologies	3
COMM 473	Television and Society	3

**Production Electives: (12 hours required for music production track and 6 hours required for music business/production track)**

MUSC 115	Introduction to ProTools	3
MUSC 116	Essentials of Pro Tools	3
MUSC 215	Pro Tools Production	3
MUSC 216	Music Production Techniques	3
MUSC 225	Live Audio Engineering	3
MUSC 425	Vocal and Instrumental Arranging	3
MUSC 435	Music Production MIDI II	3
MUSC 436	Computers and Music	3

**UPPER DIVISION GENERAL EDUCATION**

- Option A. Approved Minor, 12-24 hours; also second degree or second major
- Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study
- Option C. International business and regional courses or an approved certification program, such as teaching licensure
- Option D. Two Upper-Division Courses that are not required by the major (6 hours). MUSC courses and MGMT, MKTG and COMM courses listed as an elective choice for the major cannot be used to meet this option.

Requirements for graduation include a minimum cumulative grade point average of 2.0 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and Completion of the Senior Assessment.

## Bachelor of Science Degree-Interdisciplinary Studies Major-Professional Writing Concentration

Matthew Oliver, Program Coordinator and Advisor

The professional writing program produces graduates capable of moving into professional and technical writing fields. Students in the program complete a core of courses in technical writing as well as in business, communication, and human resources. The program is ideal for returning students already working who are interested in expanding their management skills and/or increasing their eligibility for promotion.

Course requirements are as follows.

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (see Requirements for Undergraduate Degrees section of this Catalog for requirement)	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (can be met by PHIL 303E)	0-3
The Nature of Science	8
Impact of Technology (met by ENGL 307T)	
Human Behavior	3

**Core Courses required of all students (15 credit hours - required grade of C- or better)**

IDS 300W	Interdisciplinary Theory & Concepts	3
ENGL 325	Intro to Rhetorical Studies	3
ENGL 327W	Advanced Composition I	3
ENGL 334W	Technical Writing	3
ENGL 307T	Digital Writing (meets impact of technology requirement)	3

**Organizational Foundations (12 credit hours – required grade of C- or better - meets upper-division general education)**

CS 300T	Computers in Society	3
MGMT 325	Contemporary Organizations and Management	3
MGMT 340	Human Resources Management	3
MGMT 451	Organizational Behavior	3
MKTG 311	Marketing Principle & Problems	3
MKTG 402	Consumer Behavior	3
MKTG 411	Multi-National Marketing	3
PHIL 303E	Business Ethics	3
PSYC 303	Industrial/Org Psychology	3
PSYC 343	Personnel Psychology	3
PSYC 344	Human Factors	3
PSYC 345	Organization Psychology	3

**Additional Hours in Professional Writing (12 credit hours – required grade of C- or better)**

Select four courses from the following.		
ENGL 335	Editing and Document Design	3
ENGL 350	Aspects of the English Language	3
ENGL 368	Writing Internship	3
ENGL 370	English Linguistics	3
ENGL 380	Introduction to Journalism and News Writing	3
ENGL 381	Public Relations	3
ENGL 395/396	Topics in English	3
ENGL 427W	Writing in the Disciplines	3
ENGL 435W	Management Writing	3
ENGL 468	Advanced Writing Internship	3
ENGL 477	Language, Gender and Power	3
ENGL 481	Advanced Public Relations	3
ENGL 484	Feature Story Writing	3
ENGL 485W	Editorial and Persuasive Writing	3
ENGL 486	Media Law and Ethics	3
ENGL 495/496	Topics in English	3

**Additional Hours in Communication (6 credit hours – required grade of C- or better)**

COMM 260	Understanding Media	3
COMM 302	Communication Research Methods	3
COMM 303	Public Relations in Communication Industries	3

COMM 304	Advanced Public Speaking	3
COMM 314	Nonverbal Communication	3
COMM 315W	Communication Between the Sexes	3
COMM 333	Persuasion	
COMM 351	Interpersonal Communication in Organizations	3
COMM 355	Organizational Communication	3
COMM 368	Internship	3
COMM 372T	New Media Technologies	3
COMM 395	Topics in Communication	3
COMM 400W	Intercultural Communication	3
COMM 412W	Interpersonal Communication	3
COMM 421	Communication and Conflict Management	3
COMM 447W	Electronic Media Law and Policy	3
COMM 448	Transnational Media Systems	3
COMM 456	Organizations and Social Influence	3
COMM 478	Principles of Media Marketing and Promotion	3
COMM 495	Topics in Communication	3

ECON 407	Labor Economics	
HIST 355	The United States, 1945-1991	
IDS 495	Topics (as approved)	
MGMT 325	Contemporary Organizations and Management	
MGMT 350	Employee Relations: Problems and Practices	
MGMT 360	Labor Management Relations	
MGMT 451	Organizational Behavior	
PHIL 303E	Business Ethics	
PHIL 304	Marxism	
PHIL 355	Computer Ethics	
PHIL 442E	Studies in Applied Ethics	
PHIL 495	Philosophy of Work	
POLS 396/COMM 395	Internet Policy	
SOC 395	Perspectives on Organizational Behavior	
SOC 415	Sociology of Work and Occupations	
SOC 495	Sociology of Work, Family and Children	
STEM 370T	Technology and Society	
WMST 390T	Women and Technology Worldwide	

**UPPER DIVISION GENERAL EDUCATION**

Met in the major

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major with no grade less than C- in major courses, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Bachelor of Science Degree–Interdisciplinary Studies Major–Work and Professional Studies Concentration**

[www.al.odu.edu/ids/wps/](http://www.al.odu.edu/ids/wps/)

Daniel O’Leary, Program Coordinator and Advisor  
doleary@odu.edu

The work and professional studies interdisciplinary program is offered through the College of Arts and Letters at Old Dominion University and the higher education centers (Virginia Beach, Tri-Cities, and the Peninsula) using the Virtual Classroom technology. The program offers a 36-hour curriculum focused on the subject of work and labor and provides opportunities for students to integrate interdisciplinary theory and research findings with the application of problem-solving skills in the work environment. Courses are drawn from the disciplines of philosophy, English, sociology, history, psychology, economics, management and occupational and technical studies to examine the meaning and experience of work. Old Dominion University students admitted to the program have a variety of credit options including portfolio review, CLEP, DANTES and departmental exams. For more information about the work and professional studies interdisciplinary program, contact Daniel O’Leary at [doleary@odu.edu](mailto:doleary@odu.edu). Additional information, including application information, can be found at <http://www.odu.edu/al/wps/>.

**LOWER DIVISION GENERAL EDUCATION**

Written Communication (Grade of C required in ENGL 110C and before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (can be met by PHIL 303E or 442E)	0-3
The Nature of Science	8
Impact of Technology (can be met by STEM 370T or WMST 390T)	0-3
Human Behavior	3
<b>Interdisciplinary Studies Core</b> (6 credit hours)	
IDS 300W Introduction to Interdisciplinary Studies	3
IDS Integration Project*	3

\*For the Integration Project, one of the following is required

- A. IDS 368 Interdisciplinary Studies Internship
- B. IDS 497 IDS Individualized Senior Project
- C. IDS 493 Electronic Portfolio

Senior standing and completion of IDS 300W are required for enrollment in IDS 368, 493 or 497

**Understanding Work and Labor\*** 9  
(minimum nine credit hours chosen from the following)

**Applications** (minimum of nine credit hours chosen from the following) 9

- COMM 351 Interpersonal Communication in Organizations
- COMM 355 Organizational Communication
- COMM 421 Communication and Conflict Management
- ENGL 334W Technical Writing
- ENGL 380 Introduction to Journalism
- ENGL 381 Public Relations
- ENGL 435W Management Writing
- ENGL 439 Electronic Writing
- FIN 411 Employee Benefit Planning
- IDS 495 Topics (as approved)
- MGMT 340 Human Resources Management
- PSYC 303 Industrial/Organizational Psychology
- PSYC 343 Personnel Psychology
- PSYC 344 Human Factors
- PSYC 345 Organizational Psychology
- SEPS 400 Instructional Systems Development
- SEPS 402 Training Methods
- SEPS 495 Career Management Assessment and Planning
- STEM 351 Communication Technology

Additional hours selected from either Understanding Work and Labor or Applications 12  
\*Other courses related to the work and professional studies interdisciplinary program may be substituted with the approval of the program coordinator.

**UPPER DIVISION GENERAL EDUCATION**

- Option A. Approved Minor, 12-24 hours; also second degree or second major
- Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study
- Option C. International business and regional courses or an approved certification program, such as teaching licensure
- Option D. Two Upper-Division Courses (6 hours). Any course listed as an elective choice for the major cannot be used to meet this option.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**INTERNATIONAL STUDIES**

**Bachelor of Arts—International Studies Major**

To be named, Director

Timothy Kidd, Advisor  
[www.al.odu.edu/bais/](http://www.al.odu.edu/bais/)

The Bachelor of Arts in international studies (BAIS) is an interdisciplinary program that offers students a chance to explore the interrelations among nations and peoples and to study world affairs from a variety of perspectives. The BAIS major and minor center on studies in foreign languages, geography, history, and political science. Students have considerable flexibility to structure their academic programs to meet their particular needs and interests or to focus in a variety of geographical or topical fields.

**LOWER DIVISION GENERAL EDUCATION** Credits

Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (satisfied in the major)	6-12
Information Literacy and Research (can be met with GEOG 308 or HIST 201 or POLS 308)	0-3
Human Creativity	3
Interpreting the Past (Grade of C or better required; HIST 104H may not be used)	3
Literature (FLET 100L recommended)	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior (satisfied in the major)	
<b>Foundation courses</b> (Grade of C or better required)	
GEOG 100S	3
POLS 100S or POLS 102S	3
ECON 201S	3

### CORE COURSES

**Foreign Language** 18-21  
A minimum of six credits in the same language beyond the 12 credit hours required for the Bachelor of Arts or demonstrated proficiency to that level as approved by the chair of the Department of Foreign Languages and Literatures. Only when the additional six credit hours (third year) are not available at Old Dominion University will a student be allowed to take these six hours in a different language.

*Native speakers of languages other than English are not required to fulfill the language requirement upon presentation of a passing TOEFL score.*

### Methods Course Work

GEOG 308 or HIST 201 or POLS 308 or SOC 337 or WMST 470 3

### Required Courses

GEOG 305 World Resources or 320 Political Geography 3

HIST 405 History of International Relations: Nineteenth Century Systems or 447 U.S. Foreign Relations 1776-1914 3

POLS 323 International Political Economy or 324 International Relations Theory 3

Senior Seminar (C or better required) GEOG 480W, HIST 480W, POLS 480W or other approved course 3

### Upper-Division Electives

15 hours of 300- or 400-level approved electives to include:  
GEOG 300- or 400-level elective 3  
HIST 300- or 400-level elective 3  
POLS 300- or 400-level elective 3  
300- or 400-level electives – 3 hours must be taken in a discipline other than geography, history or political science 6

Approved courses appear on the “Approved List of Courses for International Studies” available from the program director or at [www.al.odu.edu/bais/](http://www.al.odu.edu/bais/). Additional courses with an international focus may be approved by the program director. Up to six credits may be taken through participation in a model international organization (Model United Nations, Model Organization of American States or Model League of Arab States). Three hours of an approved practicum may count toward the major.

### Study Abroad/International Experience

Study abroad or international experience is encouraged for international studies majors and Old Dominion University credit is available for study abroad programs. The Office of Study Abroad offers information, advising services and scholarships for enrolled students.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours). IS courses and any course listed as an elective choice for the major cannot be used to meet this option.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level

courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts with Honors—International Studies Major

Students may earn honors in the major by fulfilling all the degree requirements and meeting the honors requirements indicated below. The requirements for honors do not increase the credit hours necessary for the major. The requirements are as follows:

1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.5.
3. Earn honors in nine hours of courses in the major at the 300/400 level, with no more than six hours taken from the same instructor.

### Minor in International Studies

The minor in international studies requires 15 credit hours including:

1. GEOG 100S or POLS 100S or POLS 102S is a prerequisite course for the minor and is not included in the calculation of the grade point average for the minor.
2. Twelve hours of upper-division approved electives to include:
 

GEOG 300- or 400-level elective	3
HIST 300- or 400-level elective	3
POLS 300- or 400-level elective	3
300- or 400-level elective	3

Approved courses appear on the “Approved List of Courses for International Studies” available from the program director or at <http://al.odu.edu/bais/>. Additional courses with an international focus may be approved by the program director. Up to three credits may be taken through participation in a model international organization (Model United Nations, Model Organization of American States or Model League of Arab States). Courses taken to fulfill requirements for the major discipline may not be applied toward the minor.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Five-Year B.A./M.A. Program in International Studies

Qualified students can pursue a five-year accelerated B.A./M.A. graduate degree in international studies.

### Requirements for Admission

Requirements for admission are:

1. A declared major in the B.A. program in international studies (BAIS).
2. A minimum of 60 hours completed, including at least six hours of 300/400 courses in the major.
3. A GPA of 3.00 at the time of admission.
4. Take the GRE during the last semester of BAIS work with an expected score of 1100 (verbal and quantitative totals)
5. Application to the accelerated B.A./M.A. program in international studies, approved by both the B.A. and M.A. directors.
6. Complete an application form for Old Dominion University graduate admission. Students specializing in a region (e.g. Asia, Latin America, etc.) are encouraged to complete a minor at the undergraduate level.

Students pursuing the accelerated B.A./M.A. program will fulfill all lower-level General Education requirements that have been approved for the BAIS and meet the requirements to earn a B.A. in international studies.

### Method Courses (three credits)

GEOG 308 or POLS 308 or HIST 201 or SOC 337 or WMST 470 3

### Foreign Language 18-21

A minimum of six credits beyond the requirement for the Bachelor of Arts (preferably in the language pursued for the B.A.) or demonstrated proficiency to that level as approved by the chair of the Department of Foreign Languages and Literatures. Current language offerings include: Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Latin, Russian, and Spanish.

Native speakers of a language other than English may ask for a waiver. To be considered a native speaker, a student must be admitted to Old Dominion University with a passing TOEFL score.

### Core Courses in Geography, History, Political Science, and Cultural Studies (21 Credits)

- Five of the following six courses are required.  
GEOG 305 World Resources  
GEOG 320 Political Geography  
HIST 405 International Relations: 19th Century  
HIST 406 International Relations: 20th Century  
POLS 323 International Political Economy  
POLS 324 International Relations Theory
- Cultural Studies: Students select one course that links culture to other aspects of international studies in an integrative, interdisciplinary way. Examples are Foreign Languages in English Translation (FLET), English World Literature courses, and other culturally focused, international, interdisciplinary courses, and those from disciplines other than GEOG, HIST, and POLS as available and approved by the BAIS director.
- BAIS Senior Seminar: GEOG/HIST/POLS 480W or other approved course

### Bridge Courses (to be taken during Senior year)

- IS 600 Research Methods
  - IS 601 Seminar in International Relations Theory
  - IS 606 U.S. Foreign Policy and World Order
  - ECON 650 International Economics
- An overall GPA of at least 3.00 is required in these courses.

The B.A. in international studies will be awarded on completion of 120 credit hours including all the preceding courses and other University requirements for graduation.

### Master of Arts Requirements

After obtaining the B.A. in international studies, students must complete the following:

- Four graduate courses in one of the following fields of concentration (instead of the three required for M.A. students): international relations/U.S. foreign policy; conflict and cooperation; international political economy and development; and interdependence and transnationalism.
- Two electives at the 600 level or above. At least one should have a regional focus (e.g. Europe, Asia, Middle East, Latin America).

The M.A. in international studies requires 18 credits beyond the four Bridge Courses (the MAIS core courses). It is anticipated that a student who has completed the BAIS could thus take three courses in the fall and spring semesters. There will be no thesis option.

### Additional Requirements

Students in the accelerated B.A./M.A. program must also complete the following:

- Fulfill the BAIS language requirement (which also fulfills MAIS requirements).
- Take the GRE during their last semester of BAIS work with an expected score of 1100 (verbal and quantitative totals).
- Have an overall GPA of 3.00 in the seven core undergraduate courses and at least a GPA of 3.00 in the four Bridge courses (MAIS core courses).
- Maintain an overall GPA of 3.00. (Students failing to maintain a 3.00 GPA may revert to the regular BAIS degree and count up to 12 hours of completed graduate core courses toward the BAIS.)
- Complete an application form for Old Dominion University graduate admission. Students specializing in a region (e.g. Asia, Latin America, etc.) are encouraged to complete a minor at the undergraduate level.

### Additional Explanations

- Students interested in the B.A./M.A. program will be advised as early as possible and start the program during their Junior year in order to meet all the requirements. Thus, students may apply for admission to the accelerated program after they have earned 60 credits (including at least six hours of 300/400 courses in the major). Applications can be filed with the undergraduate director on or before April 1 for admission in the following Fall semester and on or before November 1 for admission in the following Spring semester. Notifications of

acceptance to students will be forwarded by May 1 and December 1 respectively.

- Students fulfill the BAIS language requirement (which also fulfills MAIS requirements).
- Students will receive the B.A. degree after fulfilling all the requirements for the undergraduate degree. Students whose overall GPA drops below a 3.00 before attaining the B.A. degree can revert to the regular BAIS program and count any graduate credits they may have earned toward the BAIS. Students with a GPA of less than 3.00 at the end of their fourth year will not be permitted to continue toward the M.A. degree.
- Students in the accelerated program must meet the requirement that BAIS students must receive a minimum grade of C (2.00) in the following undergraduate courses: ENGL 110C; ENGL 211C; GEOG 100S; POLS 100S or 102S; ECON 201S; and the history way of knowing course chosen from HIST 100H, 101H, 102H, 103H, and 105H (HIST 104H, American History, not accepted for the major).
- Please refer to the Graduate Catalog for additional information on the M.A. in international studies as well as the doctoral program in international studies.

## MUSIC

John Toomey, Chair  
Agnes Fuller-Wynne, Chief Departmental Advisor  
Nancy K. Klein, Graduate Program Director  
[www.al.odu.edu/music/](http://www.al.odu.edu/music/)

The Department of Music offers applied music instruction and course work leading to the following degrees: Bachelor of Music with a major in performance (options in voice, piano, organ, harpsichord, orchestral instruments, and guitar); the Bachelor of Music with a major in composition; the Bachelor of Arts with a major in music; and the Bachelor of Music in Music Education (options in vocal or instrumental music). In addition to the work offered for degree students in music, there are available to non-music majors a minor in music (emphasis in composition, performance, or music history) and courses in the appreciation, history, methods, and literature of music; participation in the concert band, orchestra, choir, and other ensembles; and individual instruction in piano, organ, voice, guitar, harpsichord, and the orchestral and band instruments.

The Department of Music offers a Master of Music Education (MME). Please refer to the Graduate Catalog for more information.

## Bachelor of Music—Composition Major

Andrey Kasparov, Program Advisor

LOWER DIVISION GENERAL EDUCATION		Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)		6
Oral Communication (satisfied in the major)		
Mathematics		3
Language and Culture (see departmental requirements)		0-6
Information Literacy and Research		3
Human Creativity (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)		3
Interpreting the Past		3
Literature		3
Philosophy and Ethics		3
The Nature of Science		8
Impact of Technology (satisfied in the major with MUSC 335T)		
Human Behavior		3
Departmental Requirements		
MUSC 221	Music Theory I	3
MUSC 222	Music Theory II	3
MUSC 223	Ear Training, Sight Sing, Dictation	1
MUSC 224	Ear Training, Sight Sing, Dictation	1
MUSC 261	Music Literature Survey I	1
MUSC 262	Music Literature Survey II	1
MUSC 309	Principles of Conducting	1
MUSC 321	Advanced Theory I	2
MUSC 322	Advanced Theory II	2
MUSC 323	Adv Ear Trn, Sight Sing	1
MUSC 324	Adv Ear Trn, Sight Sing	1

MUSC 335T	Intro to MIDI Technology (satisfies Technology requirement)	3
MUSC 336	Recording/Electronic Music	3
MUSC 361	History of Music	3
MUSC 362W	History of Music	3
MUSC 414	Advanced Instrumental Conducting	2
MUSC 421	Counterpoint	2
MUSC 422	Form and Analysis	2
MUSC 424	Orchestration	2
MUSC 466	Modern Music	3
MUSA 232	Hour lesson: Applied Composition	3
MUSA 331	Hour lesson: Applied Composition	3
MUSA 332	Hour lesson: Applied Composition	3
MUSA 431	Hour lesson: Applied Composition	3
MUSA 432	Hour lesson: Applied Composition (meets oral communication)	3

Composition majors are required to present a lecture – recital containing 30 minutes of original music.

Two Music History electives chosen from MUSC 460, 491, 492, or 494

Large Ensemble 3

Students are required to earn credits through participating in ensembles appropriate to their specialties. Large ensembles include: symphony band, wind ensemble, symphony orchestra, concert choir, and guitar ensemble.

Small Ensemble 2

Small ensembles include: Madrigal Singers, Collegium Musicum, opera workshop, jazz choir, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

MUSC 101, 102, 139, 140 Piano 4

MUSA 141, 142, 241, 242 8

Piano Proficiency 0

Each student in composition will be required to pass a piano proficiency exam before being allowed to enroll as a composition major. Failure to pass the piano proficiency exam will require students to study piano privately until they are able to complete the requirement.

French, German, or Italian are strongly recommended to fulfill the General Education Foreign Language requirement.

Students must earn a C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level. In addition, students must earn a grade of C- or better in MUSC 322, 324, 361, and 362W.

Recital Attendance (Blue Card Requirements)

PLEASE NOTE: All composition majors are required to attend 60 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major.

Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study.

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Music—Performance Major

Mike Hall, Program Advisor

### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Voice concentration, see additional requirements)	0-6
Information Literacy and Research	3
Human Creativity (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)	3
Interpreting the Past	3
Literature	3

Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (satisfied in the major with MUSC 335T)	
Human Behavior	3

### Departmental Requirements

MUSC 221	Music Theory I	3
MUSC 222	Music Theory II	3
MUSC 223	Ear Trn, Sight Sing, Dictation	1
MUSC 224	Ear Trn, Sight Sing, Dictation	1
MUSC 261	Music Literature Survey I	1
MUSC 262	Music Literature Survey II	1
MUSC 309	Principles of Conducting	1
MUSC 321	Advanced Theory I	2
MUSC 322	Advanced Theory II	2
MUSC 323	Adv Ear Trn, Sight Sing	1
MUSC 324	Adv Ear Trn, Sight Sing	1
MUSC 335T	Intro to MIDI Technology (satisfies technology requirement)	3

MUSC 361	History of Music	3
MUSC 362W	History of Music	3
MUSC 413 or 414	Adv Choral OR Instrumental Conducting	2
MUSC 421	Counterpoint	2
MUSC 422	Form and Analysis	2
MUSC 445	App Music Pedagogy	1
MUSC 446	App Music Literature	1

24 credit hours must be taken in the instrument of concentration including six credits at MUSC 451-452 level. Three hours of electives are required.

Successful completion of a half-hour 200-level recital and a full-hour 400-level recital is also required. Vocal students will complete their half hour recital in the MUSA 351 semester.

Students must earn a C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level. In addition, students must earn a grade of C- or better in MUSC 322, 324, 361, and 362W.

### Students must select one of the following concentrations:

#### Orchestral Instruments Concentration

MUSA 151-352	Applied Lessons	18
MUSA 451	Hour Lesson	3
MUSA 452	Hour Lesson	3
MUSC 101, 102, 139, 140	Piano	4
MUSC 424	Orchestration	2
Three music history electives chosen from MUSC 460, 466, 491, 492, or 494		9
MUSC Band or Orchestra		4
Small Instrumental Ensemble+		4

#### Voice Concentration

101F-102F Foreign Language other than that used to satisfy lower division General Education (French, German or Italian strongly recommended)		6
MUSA 151-352	Applied Lessons	18
MUSA 451	Hour Lesson	3
MUSA 452	Hour Lesson	3
MUSC 101, 102, 139, 140, 239, 240	Piano	6
Two music history electives chosen from MUSC 460, 466, 491, 492, or 494		6
MUSC 345	Diction for Singers	1
MUSC 346	Diction for Singers	1
Piano Proficiency Exam		0
Concert Choir		4
Opera Workshop		1
Small Vocal Ensemble+		3

#### Piano, Organ, Harpsichord, or Guitar Concentration

MUSA 151-352	Applied Lessons	18
MUSA 451	Hour Lesson	3
MUSA 452	Hour Lesson	3
Three music history electives chosen from MUSC 460, 466, 491, 492, or 494		9
MUSC 424	Orchestration	2
Ensemble+		6-8

**+Ensemble Requirements.** Students are required to earn credits through participating in ensembles appropriate to their specialties. Instrumental and voice majors will be required to participate in four semesters of large ensemble and four semesters of small ensemble. Keyboard majors will have a six semester requirement, of which two must be in large ensemble and two in small ensemble.



Large ensembles include: symphony band, wind ensemble, symphony orchestra, concert choir, and guitar ensemble.

Small ensembles include: Madrigal Singers, Collegium Musicum, opera workshop, jazz choir, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

Recital Attendance (Blue Card Requirements)

PLEASE NOTE: All music performance majors are required to attend 60 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

### UPPER DIVISION GENERAL EDUCATION

- Option A. Approved Minor, 12-24 hours; also second degree or second major
- Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study
- Option C. International business and regional courses or an approved certification program, such as teaching licensure
- Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-124 credit hours depending on the concentration, which must include both a minimum of 30-31 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts—Music Major

James Kosnik, Program Advisor

### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Proficiency in French or German through the 202 level required; proficiency is not met by completion of an associate degree)	6-12
Information Literacy and Research	3
Human Creativity (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (satisfied in the major with MUSC 335T)	3
Human Behavior	3

### Departmental Requirements

MUSC 221	Music Theory I	3
MUSC 222	Music Theory II	3
MUSC 223	Ear Training, Sight Sing, Dictation	1
MUSC 224	Ear Training, Sight Sing, Dictation	1
MUSC 261	Music Literature Survey I	1
MUSC 262	Music Literature Survey II	1
MUSC 309	Principles of Conducting	1
MUSC 321	Advanced Theory I	2
MUSC 322	Advanced Theory II	2
MUSC 323	Adv Ear Trn, Sight Sing	1
MUSC 324	Adv Ear Trn, Sight Sing	1
MUSC 335T	Intro to MIDI Technology (meets technology requirement)	3
MUSC 361	History of Music	3
MUSC 362W	History of Music	3
Ensemble+		2

Students are required to earn credits through participating in ensembles appropriate to their specialties. Instrumental and voice and keyboard majors will be required to participate in two ensembles, large or small. Additional credits for participation in ensembles can be used as elective credit. Large ensembles include: symphony band, wind ensemble, symphony orchestra, concert choir, and guitar ensemble. Small ensembles include: Madrigal Singers, Collegium Musicum, opera workshop, jazz choir, and jazz, brass, percussion, guitar, string, woodwind, or piano ensemble.

Applied Music	4
Music Elective	1
Elective	1

ENGL 327W Advanced Comp I 3

Students must earn a grade of C or better in the following courses to advance to the next level: MUSC 221, 222, 223, 224, 321, and 323. In addition, students must earn a grade of C- or better in MUSC 322, 324, 361, and 362W. 300-level French or German courses are recommended to fulfill remaining credit hour requirements.

Students in the B.A. in music program may choose from the following upper-level (300-400) music courses (18 hours required) or may choose an emphasis area:

MUSC 336	Introduction to Multi-Track Recording	3
MUSC 337	Jazz Improvisation I	2
MUSC 338	Jazz Improvisation II	2
MUSC 410	Psychology of Music	3
MUSC 413	Advanced Choral Conducting	2
MUSC 414	Advanced Instrumental Conducting	2
MUSC 421	Counterpoint	2
MUSC 422	Form and Analysis	2
MUSC 424	Orchestration	2
MUSC 460	History of Jazz	3
MUSC 466	Modern Music	3
MUSC 491	Music in the Baroque Period	3
MUSC 492	Music in the Classical Period	3
MUSC 494	Music in the Romantic Period	3

### Music History (18 hours)

MUSC 460	3
MUSC 466	3
MUSC 491	3
MUSC 492	3
MUSC 494	3
Music Elective	3

### Music Theory (18 hours)

MUSC 335T	3
MUSC 337	2
MUSC 421	2
MUSC 422	2
MUSC 424	2
MUSC 466	2
Music Elective (upper level)	6

### Jazz (18 hours)

MUSC 335T	3
MUSC 336	2
MUSC 337	2
MUSC 338	2
MUSC 370/384/386	2
MUSC 460	3
Music Elective (upper level)	5

Students may choose an ensemble or applied music as an elective in the emphasis areas.

Recital Attendance (Blue Card Requirements)

PLEASE NOTE: All Bachelor of Arts music majors are required to attend 60 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

### UPPER DIVISION GENERAL EDUCATION

- Option A. Approved Minor, 12-24 hours; also second degree or second major
- Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study
- Option C. International business and regional courses or an approved certification program, such as teaching licensure
- Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Music—Music Education Major

To be named, Program Advisor

### LOWER DIVISION GENERAL EDUCATION Credits

Written Communication (Grade of C required in ENGL 110C

before declaring major)	6
Oral Communication (satisfied in the major)	
Mathematics	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity (chosen from ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, THEA 241A)	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (satisfied in the major with MUSC 335T)	
Human Behavior	3

#### Departmental Requirements

MUSC 221	Music Theory I	3
MUSC 222	Music Theory II	3
MUSC 223	Ear Training, Sight Sing, Dictation	1
MUSC 224	Ear Training, Sight Sing, Dictation	1
MUSC 261	Music Literature Survey I	1
MUSC 262	Music Literature Survey II	1
MUSC 309	Principles of Conducting	1
MUSC 321	Advanced Theory I	2
MUSC 322	Advanced Theory II	2
MUSC 323	Adv Ear Trn, Sight Sing	1
MUSC 324	Adv Ear Trn, Sight Sing	1
MUSC 335T	Intro to MIDI Technology (satisfies impact of technology requirement)	3
MUSC 361	History of Music	3
MUSC 362W	History of Music	3

Students must earn a grade of C or better in MUSC 221, 222, 223, 224, 321, and 323 to advance to the next level. In addition, students must earn a grade of C- or better in MUSC 322, 324, 361, and 362W.

#### Students must select one of the following concentrations:

##### Instrumental Concentration

MUSC 101	Beginning Piano I	1
MUSC 102	Beginning Piano II	1
MUSC 107	Beginning Voice I	1
MUSC 301	Music Ed: Trumpet	1
MUSC 302	Music Ed: Brass	1
MUSC 303	Music Ed: Clarinet	1
MUSC 304	Music Ed: Woodwind	1
MUSC 305	Upper String Class	1
MUSC 306	Lower String Class	1
MUSC 307	Music Ed: Percussion	1
MUSC 414	Instrumental Conducting	2
MUSC 426	Marching Band Techniques and Arranging	2
Small Instrumental Ensemble (two semesters)		2
Large Instrumental Ensemble (five semesters)		5

Woodwind, brass, and percussion majors must elect band as their large ensemble; string majors must elect orchestra.

Applied Music Primary Performance Area-MUSA 141-441 (at least two credits must be at the 400 level) 14  
Completion of half-hour senior recital required.

##### Voice, Keyboard or Guitar Concentration (must also select a primary and secondary emphasis)

MUSC 345	Italian and English Diction for Singers I	1
MUSC 346	French and German Diction for Singers II	1
MUSC 409	Music Ed: Instru Tech	1
MUSC 413	Music Ed: Adv Choral	2
MUSC 425	Arranging	2
Applied Music Requirement-MUSA 141-441. Fourteen credit hours of the primary performance area, at least two of which must be at the 400-level, are required. Successful completion of a half-hour recital.		14
Ensemble: Students are required to participate in five semesters of Concert Choir and two semesters of small vocal ensemble.		5 2
Guitarists may choose guitar ensembles in lieu of small vocal ensemble.		

##### Voice Emphasis

MUSC 101	Beginning Piano I	1
MUSC 102	Beginning Piano II	1
MUSC 139	Intermediate Piano I	1
MUSC 140	Intermediate Piano II	1
MUSC 239	Advanced Piano I	1
MUSC 240	Advanced Piano II	1

##### Keyboard or Guitar Emphasis

MUSC 107	Beginning Voice I	1
MUSC 108	Beginning Voice II	1
MUSC 109	Intermediate Voice I	1
MUSC 110	Intermediate Voice II	1
MUSC 111	Advanced Voice I	1
MUSC 112	Advanced Voice II	1
Recital Attendance (Blue Card Requirements)		1

PLEASE NOTE: All Bachelor of Music Education majors are required to attend 60 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

#### License in Music Education

**Admission.** All students must apply for and be admitted into the approved music education program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

##### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education website, [www.odu.edu/tes](http://www.odu.edu/tes).

##### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required – all Music courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved music education program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance.** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Music courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Music content knowledge examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

##### Virginia Board of Education prescribed assessments:

- Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment.
- PRAXIS II Music: Content Knowledge (test code 0113) – passing score of 160 is required for MUSC 404 or MUSC 408

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation.** Requirements for graduation include passage of the Exit Examination of Writing Proficiency; completion of the Senior Assessment; a minimum cumulative 2.75 GPA in the major area and in the professional education core with no grade less than a C- in the major/content and the professional education core; successful completion of the Teacher Candidate Internship, and a minimum of 127 credit hours, which must include both a minimum of 32 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher education programs in the College of Arts and Letters are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

The voice concentration requires passage of a voice proficiency examination and a piano proficiency examination before a student is eligible for Teacher Candidate Internship.

**The professional education core courses and requirements are as follows:**

TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management and Discipline	2
TLED 408	Reading and Writing in Content Area	3
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students with Diverse Learning Needs	3

**Vocal, Keyboard, or Guitar**

MUSC 401	Music Ed: Elem Voc Meth	2
MUSC 402	Music Ed: Prac Elem Voc	1
MUSC 403	Music Ed: Secondary Voc	2
MUSC 404	Music Ed: Prac Second Voc	1

(Passing score of 160-PRAXIS II Music Content Knowledge required for MUSC 404)

**OR Instrumental**

MUSC 405	Music Ed: Ele Inst Methods	2
MUSC 406	Music Ed: Prac Ele Instrument	1
MUSC 407	Music Ed: Sec Inst Methods	2
MUSC 408	Music Ed: Prac Sec Instrument	1

(Passing score of 160-PRAXIS II Music Content Knowledge required for MUSC 408)

**UPPER LEVEL GENERAL EDUCATION**

Satisfied through the professional education sequence.

**Applied Lesson Continuance Policy**

If a student fails two semesters of applied lessons, he or she will be required to re-audition for applied placement and may be advised to choose another degree program that does not require applied lessons. If a student has five or more unexcused absences in one semester, he or she will receive an F for that semester in applied.

**Dual Certification—Fifth Year Program**

It is possible to receive dual certification (in both instrumental and vocal music education) by completing an additional year of study. The additional course requirements are listed below. The student teaching experience in this program will be a half semester of vocal teaching and a half semester of instrumental teaching. Students interested in dual certification should be advised by the department's music education specialist as early in their degree program as possible.

**Instrumental**—For those students who have begun the program with an instrumental concentration (as described above) and need to add the vocal component of the five-year program, the following additional courses are required: four hours of piano and five hours of voice; MUSC 401, 402, 403, 404, 413; two hours of concert choir. The student must also pass a voice proficiency examination and a piano proficiency examination prior to student teaching.

**Vocal**—For those students who have begun the program with a voice, keyboard, or guitar concentration (as described above) and need to add the instrumental component of the five-year program, the following additional courses are required: MUSC 301, 302, 303, 304, 305, 306, 307, 405, 406, 407, 408, 414; two hours of concert band or orchestra.

**Ensemble Options for Bachelor of Music and Music B.A. Majors**

Each degree program has specific ensemble requirements, which are listed under the course requirements above.

For the purposes of fulfilling large ensemble requirements, students may use only symphony band, wind ensemble, symphony orchestra, guitar ensemble, or concert choir.

For the purposes of fulfilling small ensemble requirements, students may use only Madrigal Singers, Collegium Musicum, jazz ensemble, brass ensemble, percussion ensemble, string ensemble, woodwind ensemble, opera workshop, piano ensemble, jazz choir, or guitar ensemble.

Numerous other ensembles are offered for credit, including tuba-euphonium ensemble, Athletic Bands, Jazz Combo, Woodwind Quintet, Brass Quintet, String Quartet, Saxophone Quartet, Barbershop Quartet, Beauty Shop Quartet, and other vocal chamber ensembles. These ensembles are put together when instrumentation allows, and each group is coached by a faculty member.

Students should be aware of the necessity for ensemble diversity, and are encouraged to participate in as many different ensembles as their schedules and advisors will allow.

**Minors in Music**

1. For a minor in music history, the student must complete 12 hours at the 300/400 level. MUSC 221-222 and 261 are prerequisites for the minor and are not included in the grade point average for the minor. Requirements for the minor are MUSC 361, 362W, 460, and three hours of 400-level music history.
2. For a minor in composition, the student must complete 12 hours at the 300/400 level. MUSC 221-222 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are MUSC 335T, MUSA 339, 340, 439, 440, and one additional hour of upper-division music courses.
3. For a minor in one of the several areas of music performance, the student must complete 12 hours at the 300/400 level. MUSA 141, 142, 241, and 242 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are MUSA 341, 342, 441, 442, and four additional hours of upper-division music courses. Vocal performance minors must take MUSC 345 and 346.
4. All music minors are required to attend 24 Blue Card events in order to be eligible for graduation. These department-approved events are posted each semester.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Placement Examinations in Music**

All applicants for music curricula that require individual performance are required to satisfy auditions in their major performance areas prior to approval for admission to these curricula.

Students transferring into the Department of Music are required to take placement examinations in theory and ear training and in any applied area, including voice or piano class, in which they wish to transfer credit.

Application must be made to the chair of the Department of Music for details and dates of placement examinations and auditions for performing organizations.

**Student Handbook**

All music majors and minors are strongly encouraged to consult the Student Handbook for further information regarding juries, blue cards, Student Performance Hour and General Student Recital requirements, etc. This handbook may be found online at the website for the Department of Music.

**Accompanying**

All keyboard students are expected to accompany at least once a semester on a General Student Recital, Performance Session, or Applied Music Jury Examination after they have attained the Applied Music numbering of 241 and above or 251 and above, and after they have studied keyboard at Old Dominion University for a minimum of one semester.

**Financial Aid**

Scholarships equal to as much as full in-state tuition are available for talented students who perform in ensembles. Refer to the Scholarships section of this catalog for more information.

**PHILOSOPHY AND RELIGIOUS STUDIES**

Dale E. Miller, Chair  
David Loomis, Chief Departmental Advisor  
Department Phone: 757 683-3861  
Website: [www.al.odu.edu/philosophy/](http://www.al.odu.edu/philosophy/)

The Department of Philosophy and Religious Studies offers a Bachelor of Arts degree in philosophy, philosophy with an emphasis in political and legal studies, and philosophy with an emphasis in religious studies. The program is designed to give students a solid grounding in the historical development of

philosophy and an ability to analyze the validity and soundness of arguments proposed in serious discussions of any subject. The emphasis in political and legal studies is designed for students planning to go to law school and students generally interested in social and political philosophy. The emphasis in religious studies is designed to assist the student in understanding the role of religion in human culture.

The requirements are as follows.

## Bachelor of Arts–Philosophy Major

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Information Literacy and Research	3
Language and Culture (BA students must have competence through the 202 level; competence is not met by completion of an associate degree)	6-12
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior	3

### Departmental Requirements

The requirements are a minimum of 33 credit hours in 300- and 400-level PHIL and REL courses, nine hours of which must be at the 400 level. Students must select one of the following three concentrations. (Students interested in double majoring in philosophy and political science should see below. Students interested in double majoring in philosophy and a subject other than political science should consult the chief departmental adviser; there may be some opportunity for double counting at least one class.)

### General Concentration

History of Philosophy: PHIL 330W, 331, and another course (e.g., a seminar) focusing on 18<sup>th</sup> century or earlier philosophy and approved by the department as meeting this requirement 9  
 Logic: PHIL 340 3  
 Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, 434, or another course (e.g., a seminar) focusing on 18<sup>th</sup> century or earlier philosophy and approved by the department as meeting this requirement 6  
 Ethics and Values: 3 hours from PHIL 302, 313, 324, 410, 411, 441E, 442E 3  
 Seminar: At least 3 hours from PHIL 491, 492, 493, 494 3  
 Philosophy Electives: To total at least nine hours in philosophy courses 9  
 Students may “double count” a seminar toward their seminar requirement and either the history of philosophy or recent philosophy requirement, as appropriate. In that case, they will need to take an additional 3 hours of philosophy (PHIL) elective credit, for a total of 12. Religious Studies (REL) courses can only be counted as philosophy electives with the prior consent of the chief departmental adviser.

### Political and Legal Studies Concentration

History of Philosophy: PHIL 330W, 331 6  
 Logic: PHIL 340 3  
 Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, 434, or another course (e.g., a seminar) focusing on 18<sup>th</sup> century or earlier philosophy and approved by the department as meeting this requirement 6  
 Seminar: At least 3 hours from PHIL 491, 492, 493, 494 3  
 Political and Legal Core: 6 hours from PHIL 304, 410, 411, 412, or 441E 6  
 Political and Legal Electives: 6 hours either from additional courses from the Political and Legal Studies core or from PHIL 302, 303E, 345E, 355, 442E 6  
 Philosophy Elective: 3 hours in philosophy (PHIL) courses 3  
 Students may “double count” a seminar toward their seminar requirement and either the history of philosophy or recent philosophy requirement, as appropriate. In that case, they will need to take an additional 3 hours of philosophy (PHIL) elective credit, for a total of 6. Religious Studies (REL)

courses can only be counted as philosophy electives with the prior consent of the chief departmental adviser.

### Religious Studies Concentration

History of Philosophy: PHIL 330W, 331 and another course (e.g., a seminar) focusing on 18<sup>th</sup> century or earlier philosophy and approved by the department as meeting this requirement 9  
 Recent Philosophy: 6 hours from PHIL 304, 305, 404, 406, 411, 431, 434 or another course (e.g., a seminar) focusing on 18<sup>th</sup> century or earlier philosophy and approved by the department as meeting this requirement 6  
 Seminar: At least 3 hours from PHIL 491, 492, 493, 494 3  
 Religious Studies:  
 Philosophy of Religion: PHIL 313 3  
 Religious Traditions: 9 hours total from Western (REL 311, 312, 350, 351, or 352) and Eastern (PHIL 353, 354, 427, 480, 481, 482, or 485) religious traditions, with at least 3 hours in each group 9  
 Philosophy and Religion Elective: 3 hours in PHIL or REL courses 3  
 Students may “double count” a seminar toward their seminar requirement and either the history of philosophy or recent philosophy requirement, as appropriate. In that case, they will need to take an additional 3 hours of philosophy (PHIL) or religious studies (REL) elective credit, for a total of 6.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
 Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
 Option C. International business and regional courses or an approved certification program, such as teaching licensure  
 Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Social Science Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Minors in Philosophy and Religious Studies

The requirements for minors in philosophy and religious studies are as follows:

1. Philosophy (General). Twelve hours in philosophy (PHIL) courses at the 300 and 400 level.
2. Philosophy-Applied Ethics. Twelve hours in philosophy courses as follows: PHIL 441E and nine hours from PHIL 302, 303E, 344E, 345E, 355, 410, 442E.
3. Philosophy-Religious Studies. Twelve hours chosen from the following courses: REL 311, 312, 350, 351, 352, PHIL 313, 353, 354, 427, 480, 481, 482, and 485.
4. Philosophy-Political and Legal Studies. Twelve hours in philosophy courses as follows: At least six hours from PHIL 304, 340, 410, 411, 412, 418, or 441E. Other course options: PHIL 302, 303E, 344E, 345E, 355, 442E.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Advanced Placement

Since the study of philosophy (and religion) involves intensive work with sophisticated texts and extensive analytical and critical writing, credit by examination is not usually appropriate. Students who believe that there are reasons why they should be considered for exceptions to this policy should present their cases in writing to the chair of the department, who, when appropriate, will refer them to the departmental committee. Generally, such things as “reading on one’s own” are not considered an adequate basis for such a petition. Students who have earned credit for one of the introductory philosophy and ethics way of knowing courses (e.g., 110P, 120P, 140P, 230E or 250E) may not receive credit by examination for another of them.

## Double Majoring in Philosophy and Political Science

The departments of Political Science and Geography and Philosophy and Religious Studies have established an arrangement that makes it possible to complete a double major in as few as 55 hours, little more than the 45-49 hours needed for a major in one and minor in the other. Philosophy majors on the Political-Legal Studies track double-majoring in Political Science will be allowed to count any two of the following Political Science courses toward their philosophy major: POLS 310 (Political Theory), POLS 312 (American Political Thought), POLS 403 (First Amendment Freedoms), POLS 404 (Political Rights), POLS 408 (American Constitutional Law & Politics I), POLS 409 (American Constitutional Law & Politics II), POLS 419 (Jurisprudence), or POLS 492 (Classics in Political Theory). These courses will count as electives; students will still be required to complete at least six hours from PHIL 304, 410, 411, 412 or 441E. Students doing the accelerated B.A./M.A. in Philosophy and Humanities can count no more than one 500-level Political Science course as a "bridge" course. Political Science "topics" course may also be counted as Philosophy electives when the topic covered is appropriate; prior approval is required from the chief departmental advisor of Philosophy and Religious Studies. Political Science will also double count certain Philosophy courses towards its major for double majors; see the Political Science section of this Catalog for details.

## Accelerated Master of Arts in Humanities-Philosophy

By allowing exceptional philosophy majors to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for students with a demonstrated record of academic excellence to earn both a B.A. in philosophy and an M.A. in humanities with a concentration in philosophy in five years. For more information consult the Humanities section of this Catalog.

## Interdisciplinary Minor - Administrative Leadership and Ethics for Professional Roles

Dale Miller, Department of Philosophy and Religious Studies, Coordinator

The intent of the Administrative Leadership and Ethics for Professional Roles interdisciplinary minor is to develop management-related skills. The minor is designed to improve the student's professionalism through an understanding of applied ethics, effective communication, processes in organizations, applied psychology, and legal issues in the workplace. An appreciation for the qualities of leadership, the functions of administration, and a sensitivity for ethical decision making will allow the student to apply for a wider variety of positions.

Course options are as follows: CHP 400, 450, 480; COMM 351; DNTH 416; ENGL 486; ENVH 402W; HLTH 425; MEDT 403W; MGMT 325, 350; MKTG 414; NMED 475W; NURS 480W, 490W; PAS 301; PHIL 303E, 345E; PSYC 303; SMTG 450W.

The interdisciplinary minor in Administrative Leadership and Ethics for Professional Roles requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

## POLITICAL SCIENCE AND GEOGRAPHY

Francis Adams, Chair

The Department of Political Science and Geography offers undergraduate degrees in political science and geography.

In political science, the department offers Bachelor of Arts and Bachelor of Science degrees. The political science program is designed to give students an essential core of basic knowledge and analytical skills, while providing an opportunity to specialize in one of two emphasis areas: American politics and public law, or international relations and comparative politics.

In geography the department offers Bachelor of Arts and Bachelor of Science degrees. The geography program is designed to give students a broad base of geographical training and an understanding of human-environment interrelationships, while providing an opportunity to specialize in one of three emphasis areas: urban planning and emergency/hazards management, environment and resources, and geographical information systems (B.S. only). Undergraduate and graduate certificates in geographic information science and in spatial analysis of coastal environments are also offered.

In addition to developing subject-area expertise, political science and geography courses are designed to build analytic and communication skills. Writing skills are emphasized throughout the curriculum. Undergraduates in most 400-level courses in political science and geography are required to make oral presentations in class. Instructors also strengthen students' verbal competency skills through in-class discussions. Students gain technical skills in lower and upper-level methods classes where computers are employed for data analysis and social science research.

Undergraduate students may earn honors in the major in political science or geography by fulfilling all the requirements for the specific degree (B.A. and B.S.) and meeting the honors requirements indicated below. The requirements for honors do not increase the credit hours necessary for the major.

## Bachelor of Science and Bachelor of Arts—Political Science Major

To be named, Chief Departmental Advisor

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics (BS requires C- or better in STAT 130M. STAT 130M is also recommended for the BA degree though MATH 102M or 162M are also acceptable.)	3
Language and Culture (BS students' competence must be at the 102 level. BA students must have competence through the 202 level. Competence is not met by the associate degree.)	0-12
Information Literacy and Research (satisfied in the major with POLS 308)	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior (ECON 201S is a departmental requirement and is not met by the associate degree.)	3
<b>Foundation courses (BA, 15 hours; BS, 18 hours)</b>	
POLS 100S Introduction to International Politics	3
POLS 101S Introduction to American Politics	3
POLS 102S Introduction to Comparative Government & Politics	3
POLS 308 Research Design (C- or better)	3
(meets information literacy and research requirement)	
POLS 418 Quantitative Methods (BS only)	3
ECON 202S or GEOG 100S	3

### Political Science 300-400 level electives (BA, 24 hrs; BS, 21 hrs)

B.A. requires 24 hours. B.S. requires 21 hours. Both the B.A. and B.S. require that at least nine hours are at the 400 level. Both require a minimum of nine hours in each of two emphasis areas: American politics/public law and international relations/comparative politics. No more than three hours can be taken from POLS 367 and 368 and no more than three hours can be taken from POLS 497. One elective must be writing intensive. All majors must complete and submit to the department a capstone paper in the junior or senior year.

POLS 300-400 electives	12
POLS 300-400 elective (BA only)	3
POLS 400 electives	9

See course listings in this Catalog for elective choices.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Graduation requirements include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Double Majoring in Philosophy and Political Science

The departments of Political Science and Geography and Philosophy and Religious Studies have established an arrangement that makes it possible to complete a double major in as few as 55 hours, little more than the 45-49 hours needed for a major in one and minor in the other. Political Science majors double-majoring in Philosophy (on the Political-Legal Studies track) will be allowed to count any two of the following Philosophy courses as Political Science electives: PHIL 304 (Marx and the Marxists), PHIL 410 (Social-Political Philosophy), PHIL 411 (Postmodernism and Political Philosophy), and PHIL 412 (Philosophy of Law). These courses will not count toward the requirement to take a specific number of hours in the American politics/public law and international relations/comparative politics emphasis areas. Philosophy "topics" courses and PHIL 442E (Studies in Applied Ethics) may also be counted as Political Science electives when the topic covered is appropriate; prior approval is required from the chief departmental advisor of Political Science and Geography. Philosophy will also count certain Political Science courses towards its major for double majors; see the Philosophy section of this Catalog for details.

## Bachelor of Arts and Bachelor of Science— Geography Major

Jonathan Leib, Chief Departmental Advisor

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics (BS students must earn C- or better in STAT 130M)	3
Language and Culture	0-12
(BS students' competence must be at the 102 level. BA students must have competence through the 202 level. Competence is not met by the associate degree.)	
Information Literacy and Research (satisfied in the major with GEOG 308)	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
OEAS 106N, 107N, 111N or 112N is recommended for one of the two nature of science courses.	
Impact of Technology (can be met with GEOG 306T)	0-3
Human Behavior (GEOG 100S and 101S cannot be used to satisfy this requirement)	3
<b>Required courses (12-18 hours)</b>	
GEOG 100S Cultural Geography	3
GEOG 101S Environmental Geography	3
GEOG 300 Maps and Geographic Information	3
GEOG 308 Research Design (C- or better)	3
(meets information literacy and research requirement)	
GEOG 418 Quantitative Methods (BS only, GEOG 402 and 404 may be substituted for GEOG 418)	3
GEOG 400W, 422W, 454W or 480W	3

**GEOGRAPHY 300-400 level electives (BA, 21 hours; BS, 18 hours)** At least nine credit hours must be taken at the 400 level. Those wishing to pursue a physical geography emphasis may substitute certain ocean, earth and atmospheric science courses (OEAS 306, 310, 344W, 412, 443, and 448) for up to 12 hours of geography credit. Three hours of internship count toward the 36 hours of geography courses. All majors must complete a capstone paper in the junior or senior year.

### General Program

GEOG 300-400 electives (BA only)	12
GEOG 300-400 electives (BS only)	9
GEOG 400-level electives	9

### URBAN EMPHASIS:

GEOG 310 Geography of the City	3
GEOG 410 Seminar in Urban Geography	3

GEOG 300-400 electives 6

Choose two courses from:

GEOG 301, 306T, 321, 368, 402, 411, or 412 6

### ENVIRONMENT and RESOURCES EMPHASIS:

GEOG 305 World Resources 3

GEOG 405W International Resource Management 3

Choose two courses from:

GEOG 306T, 321, 368, 420, 422W, 451, 452,

453, 454W, 455, approved study abroad options 6

### GEOGRAPHIC INFORMATION SYSTEMS EMPHASIS (BS ONLY)

GEOG 402 3

GEOG 404 3

Choose two courses from:

GEOG 301, 419, 432, 490, OEAS 340, or CET 411 or 413 6

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major

Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts and Bachelor of Science with Honors—Political Science Major

The requirements are as follows:

1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.50.
3. Earn honors in nine hours of courses in the major at the 300/400 level, excluding internship and independent study courses, with no more than six hours taken from the same instructor.

## Bachelor of Arts and Bachelor of Science with Honors—Geography Major

The requirements are as follows:

1. Attain an overall grade point average of 3.25.
2. Attain a grade point average in the major of 3.50.
3. Earn honors in nine hours of courses in the major at the 300/400 level, excluding internship and independent study courses, with no more than six hours taken from the same instructor.

## Minors in Political Science

One general minor and a minor with a specialization in public law are offered in political science. Each requires a specified introductory course as a prerequisite and 12 hours of 300/400-level courses. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. No more than a total of three credit hours will be counted toward the political science minor from POLS 367, 368, and 497.

1. Political Science. POLS 100S, 101S or 102S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours of 300/400-level political science electives.
2. Public Law. POLS 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours from the following: POLS 301W, 306, 307, 403, 408, 409, 419, 421, and public law topics courses such as 495/496.

## Minors in Geography

One general minor and a minor with a specialization in environment and resources are offered in geography. Each requires an introductory course as a prerequisite and 12 hours of 300/400-level courses. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

1. Geography. GEOG 100S or 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. The minor requires 12 hours of 300/400-level geography electives.
2. Environment and Resources. GEOG 100S or 101S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are GEOG 305, 405 and six hours from GEOG 306T, 401, 420, 422W.

## Advanced Placement

Students interested in advanced placement credit should confer with the department chair.

## Certificate in Geographic Information Science (Undergraduate)

The certificate in geographic information science (GISci) provides a program for students and professionals pursuing careers in geographic information systems (GIS) and related spatial technologies (remote sensing, global positioning systems, cartography, and spatial data handling and analysis). Awarded upon completion of the requirements, the certificate is an affidavit of academic proficiency and is administered by the Department of Political Science and Geography. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to undergraduate students and non-degree seeking professionals who meet the requirements. Students with comparable professional experience may be able to satisfy competencies in selected courses through examination.

Students must complete the following courses (18 hours).

1. **Core Courses (9 credits):**
  - GEOG 300 Maps and Geographic Information
  - GEOG 402 Geographic Information Systems
  - GEOG 404 Digital Techniques in Remote Sensing
2. **Developmental Courses:** Select nine credits from the following courses:
  - GEOG 330 Field Methods
  - GEOG 368 Internship in Geography
  - GEOG 400W Seminar in Geography
  - GEOG 408 Cartography
  - GEOG 411 Urban and Regional Planning
  - GEOG 419 Spatial Analysis of Coastal Environments
  - GEOG 425 Internet GIS
  - GEOG 432 Advanced GIS
  - GEOG 490 Applied Cartography/GIS
  - GEOG 495 Topics in Geography
  - GEOG 497 Independent Research in Geography

## Certificate in Spatial Analysis of Coastal Environments (Undergraduate and Graduate)

The certificate in spatial analysis of coastal environments provides an interdisciplinary program for students wishing to pursue careers in coastal management or research, remote sensing, or geographic information systems (GIS) applications. Rendered upon completion of the requirements, the certificate is an academic affidavit comprised of courses in geography and ocean, earth and atmospheric sciences and is administered by the two departments. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to postgraduate professionals who meet the requirements. Students with comparable professional experience may be able to show competence in selected courses through examination.

Students seeking undergraduate certification must complete the 400-level courses, and those seeking graduate certification must complete the 500-level courses:

1. Core Courses: GEOG 404/504 and one of the following: BIOL 419/519, BIOL 450/550, BIOL 455/555, OEAS 411/511, or OEAS 426/526 (six credits)
2. Interpretive Analysis Courses: Select two three-credit courses from the following: GEOG 402/502, GEOG 422W/522, GEOG 490/590, OEAS 495/595, or GEOG 495/595 (six credits)
3. Capstone Seminar: GEOG/OEAS 419/519 (three credits)

## SOCIOLOGY AND CRIMINAL JUSTICE

Randy Gainey, Chair  
Ruth Triplett, Chief Department Advisor

The Department of Sociology and Criminal Justice offers courses in anthropology, criminal justice, sociology and social welfare. Students may earn a Bachelor of Arts or a Bachelor of Science with a major in sociology or criminal justice. The department also offers a Master of Arts in applied sociology with tracks in sociology, criminal justice, or women's studies and a Ph.D. in criminology and criminal justice. Please refer to the graduate catalog for more information on graduate programs.

## Bachelor of Arts and Bachelor of Science– Sociology Major

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics (STAT 130M required)	3
Language and Culture (BS students' competence must be at the 102 level; BA students must have competence through the 202 level and BA competency is not met by the associate degree)	0-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior (SOC 201S cannot be used to satisfy this requirement)	3
<b>Major Requirements</b>	
BA students must complete three credits from the Human Behavior Way of Knowing category in addition to the general education course selected, and BS students must complete an additional six credits.	
<b>Foundation courses required of all emphasis areas (12 hours)</b>	
SOC 201S Introduction to Sociology	3
SOC 337 Research Methods	3
SOC 409W Sociological Theory	3
SOC 436 Capstone Research Project	3

**Majors must select one of the following emphasis areas:**

**General Sociology Emphasis (300-400 level electives)**

SOC 300/400-level electives (24 hours) (Up to six hours of internship course work may be used)

**Social Welfare Emphasis (24 hours)**

SOC 320 Social Inequality	3
SOC 325 Social Welfare	3
SOC 402 Child Welfare	3
SOC 300-400 electives	15

(See course descriptions for choices)

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level

courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Arts and Bachelor of Science— Criminal Justice Major

Students are urged to take elective courses or to consider minoring in psychology, sociology, political science, computer science, information systems, or management.

Students interested in careers in corrections work including probation and parole are urged to take courses in the social welfare sequence (SOC 310, 325, 402) and/or minor in either sociology with a social welfare specialization or human services.

Course requirements are as follows:

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics (STAT 130M required)	3
Language and Culture (BS students' competence must be at the 102 level. BA students must have competence through the 202 level and BA competence is not met by the associate degree)	0-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior (SOC 201S required)	3

### Major Requirements

BA and BS students must complete PSYC 201S. BS students must also complete three credits from the Human Behavior Way of Knowing category in addition to the general education course selected (CRJS 215S cannot be used to meet this requirement).

### Foundation courses (18 hours)

CRJS 215S	Criminology	3
CRJS 222	Criminal Justice System	3
CRJS 262	Law and the Criminal Justice System	3
SOC 337	Research Methods	3
CRJS 426W	Criminological Theory	3
CRJS 436	Capstone Research Project	3

### Stratification Course

SOC 320 Social Inequality; SOC 323 Sociology of Minority Families; SOC 340 Sociology of Women; SOC 402 Child Welfare; SOC 426 Minority Groups; or ANTR 320 The Sexes in Cross-Cultural Perspective	3
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### Upper Level Law Component

CRJS 320 Law and Social Control; CRJS 448 Sex, Discrimination & the Law; CRJS 462 Substantive Criminal Law; or other approved course	3
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### Criminal Justice 300-400 level electives

Any 300-400 level criminal justice course may satisfy the elective requirements. Up to six hours of internship course work may also be used.

CRJS 300-400 electives	18
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### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Minor, 12-24 hours; also second degree or second major  
 Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
 Option C. International business and regional courses or an approved certification program, such as teaching licensure  
 Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the

Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Minors in Sociology and Criminal Justice

Requirements for minors in sociology and criminal justice are as follows:

1. Sociology: SOC 201S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Required courses are either SOC 320, 337, or 409 and nine hours of 300/400 level sociology courses (excluding SOC 367, 368, 377, 378). A maximum of one topics course (SOC 395/396 or 495/496) may be included. If SOC 320 or 337 is used to satisfy another requirement, it cannot be used for the minor.
2. Sociology (Social Welfare Specialization): SOC 201S is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Required courses are SOC 325, 402, 320, and one other 300/400-level SOC course (excluding SOC 367, 368, 377, 378).
3. Criminal Justice: CRJS 215S and 222 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Required courses are 12 hours of 300/400-level criminal justice courses (excluding CRJS 367, 368, 377, 378).

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

## Double Major or Major and Minor in Criminal Justice and Sociology

Students double majoring in criminal justice and sociology (or vice versa) may use a maximum of five cross-listed courses for both majors. Students with a major in criminal justice and a minor in sociology (or vice versa) cannot use any cross-listed course to meet requirements for both the major and minor.

## Advanced Placement

Students interested in credit by examination should consult with the department chair.

## WOMEN'S STUDIES

(757) 683-3823

[www.al.odu.edu/womens\\_studies/](http://www.al.odu.edu/womens_studies/)

Jennifer Fish, Chair and Chief Departmental Advisor

Women's studies is a multi- and interdisciplinary field of study encompassing all aspects, historical and contemporary, of women's natures, lives, and perspectives. The Women's Studies Department offers the Bachelor of Arts and Bachelor of Science degrees with a major in women's studies. A minor and a graduate certificate are also available, as is an accelerated program allowing exceptional students to earn both a B.A. or B.S. in women's studies and an M.A. in humanities in five years.

The women's studies undergraduate major and minor and graduate certificate may increase a student's career opportunities in governmental and non-governmental agencies, law, criminal justice, public relations, journalism, counseling, the health professions, business, social welfare, education, and many other fields; they can also prepare students for new and exciting research opportunities in graduate and doctoral programs.

## Bachelor of Arts or Bachelor of Science— Women's Studies Major

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication (Grade of C required in ENGL 110C before declaring major)	6
Oral Communication	3
Mathematics	3
Language and Culture (Proficiency through 102 level-BS only; Proficiency through 202 level-BA only and not met by associate degree)	6-12
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3



Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology (satisfied in the major by WMST 390T)	
Human Behavior (WMST 201S cannot be used to satisfy this requirement)	3

#### **Bachelor of Arts-Departmental Requirements**

WMST 201S	Women in a Changing World or 302W All Amer Women: A Multicultural Approach	3
HIST 363	Women in U.S. History (or approved substitute)	3
WMST 390T	Women and Technology Worldwide	3
WMST 401W	Women: A Global Perspective	3
WMST 460W	Feminist Thought	3
ENGL 463	Women Writers	3
ENGL 477	Language, Gender and Power	3
WMST 490	Capstone Course	3
Choose 9 credits from		9
	WMST 368, 377, 395/495, 470, 497, 498 or courses cross-listed with WMST	

#### **Bachelor of Science—Departmental Requirements**

WMST 201S	Women in a Changing World or 302W All Amer Women: A Multicultural Approach	3
HIST 363	Women in U.S. History (or approved substitute)	3
WMST 390T	Women and Technology Worldwide	3
WMST 401W	Women: A Global Perspective	3
WMST 460W	Feminist Thought	3
WMST 470	Women's Ways of Knowing/Ways of Knowing Women	3
ENGL 477	Language, Gender and Power	3
WMST 490	Capstone Course	3
Choose 9 credits from		9
	WMST 368, 377, 395/495, 497, 498 or courses cross-listed with WMST.	

#### **UPPER DIVISION GENERAL EDUCATION**

- Option A. Approved Minor, 12-24 hours; also second degree or second major  
Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study  
Option C. International business and regional courses or an approved certification program, such as teaching licensure  
Option D. Two Upper-Division Courses from outside the College of Arts and Letters or from the Arts and Humanities Component within the College of Arts and Letters that are not required by the major (6 hours).

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Students must receive at least a C in WMST 201S, 302W and 460W. In order to track their intellectual growth, each women's studies major is expected to maintain a portfolio of papers and assignments submitted for their WMST and WMST cross-listed courses.

#### **Women's Studies as a Second Major**

Students who find themselves especially interested in women's studies but who already have a major may fulfill their upper-division general education requirements by selecting women's studies as a second major. Such students must complete the same departmental requirements as those majoring solely in women's studies, but may count up to three women's studies cross-listed courses taken for their other major toward their women's studies major as well. For instance, a student majoring in both sociology and women's studies may apply three courses, such as SOC 340, 343, and 427, taken toward their sociology requirements, as the three electives for their major in women's studies.

#### **Minor in Women's Studies**

Students may complete a minor in women's studies by filing an application and taking 15 hours as follows:

1. Nine hours: WMST 302W plus two of the following courses: WMST 390T (also applicable toward the three-credit The Nature of Science requirement), 401W, 460W.
2. Six hours: two other WMST courses, e.g., WMST 368, 470, and/or courses cross-listed with women's studies in the Schedule of Classes

from disciplines such as history, philosophy, communication, English, criminal justice, foreign languages, sociology, psychology, political science, art, etc.

Students must maintain a grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of the undergraduate women's studies minor will fulfill the upper-division General Education requirements.

#### **Advising**

To declare a women's studies major or minor, students must see an advisor in the Women's Studies Department. All women's studies majors are required to have a conference with their advisor before each semester (preferably during preregistration).

#### **Accelerated Master of Arts in Humanities—Women's Studies**

By allowing exceptional women's studies majors to count up to 12 hours of graduate courses toward both an undergraduate and graduate degree, this degree program makes it possible for students with a demonstrated record of academic excellence to earn both a B.A. or B.S. in women's studies and an M.A. in humanities with a concentration in women's studies in five years. For more information consult the Humanities section of this Catalog.

# College of Business and Public Administration

Web site: [www.bpa.odu.edu/](http://www.bpa.odu.edu/)

Gilbert R. Yochum, Dean  
Ali Ardalan, Associate Dean  
Constance Merriman, Assistant Dean

## Department Chairs:

Douglas E. Ziegenfuss	Accounting
Christopher B. Colburn	Economics
Mohammad Najand	Finance
G. Steven Rhiel	Information Technology and Decision Sciences
Paul J. Champagne	Management
Anusorn Singhapakdi	Marketing
John R. Lombard	Urban Studies and Public Administration
Carl L. Michaud, Jr.	Military Science and Leadership

## Center and Institute Directors:

David Selover	Center for Asian Business
To be named	Center for Economic Education
Michael Dugan	Executive Development Center
James V. Koch	Regional Studies Institute
Bruce Rubin	Insurance and Financial Services Center
Wayne Talley	Maritime Institute
John R. Lombard	E.V. Williams Center for Real Estate and Economic Development

Old Dominion University's College of Business and Public Administration has as its principal objective the preparation of liberally educated specialists who will enter the challenging world of business and public administration. All programs in the college are designed to promote the following: professional competence; facility in the communication arts; analytical skills; leadership abilities; an understanding of social, political, and economic forces; and a strong sense of business ethics and public purpose. This foundation enables graduates of these programs to advance in a broad range of careers in the public and private sectors.

The College of Business and Public Administration is one of approximately 529 schools in the world to have achieved accreditation at the graduate and undergraduate levels by the Association to Advance Collegiate Schools of Business – International AACSB. The undergraduate and graduate accounting programs have received their own accreditation through the same agency. In addition, the Master of Public Administration program is one of approximately 164 graduate programs certified as meeting the standards of the National Association of Schools of Public Affairs and Administration (NASPAA).

Undergraduate students may pursue majors and special emphases in accounting, decision sciences, economics, financial management, information systems and technology, international business, management, maritime and supply chain management, and marketing management. The college offers graduate programs in accounting, business administration, economics, and public administration. Additionally, the college offers a joint master's degree in computer information science with the Computer Science Department. Information about the graduate programs is available in the Graduate Catalog.

Also housed within the college is the Department of Military Science and Leadership. The mission of this department is to provide professional instruction and leadership development for selected students who desire to serve in the active or reserve components of the U.S. Army. Additional information about this program may be obtained through the Military Science and Leadership Department.

## Mission

### Mission Statement

To prepare students, in a global context, both professionally and ethically, for successful careers in business, government, and non-profit sectors, to perform relevant basic, applied and educational research; all for the regional, national and global economic communities.

## Business and Public Administration Affiliates

The college has several external units that enhance and support the academic programs. These units, listed below, offer opportunities for faculty members and students to interact with representatives of business, industry and government in Eastern Virginia.

**Center for Asian Business.** The Center for Asian Business has been established to enhance the college's capacity to teach and conduct research on the subjects related to Asian business practices. The center collects and disseminates information on Asian businesses, supports course offerings on Asian management, and publishes research monographs and articles on the subject. Also, the center provides managerial training and consulting services for Asian companies and executives.

**The Center for Economic Education.** The center is an integral part of the national effort dedicated to improving economic literacy and promoting a greater understanding of the free enterprise system. A nonpartisan, nonprofit organization, the center is an affiliate of the Virginia Council on Economic Education and the National Council on Economic Education. The center works cooperatively with school systems promoting increased effectiveness of economics instruction in grades K-12 through workshops, credit classes and consultations.

**Executive Development Center.** The center's mission is to provide businesses, organizations, and individuals with high quality professional development and continuing education programs in virtually all areas of business, management, and executive education. The center offers public programs for individuals seeking professional certificate programs, preparation for certification exams, career advancement and career change. In addition, the center develops and delivers custom programs and consulting services to meet specific organizational and employee development needs of businesses and organizations regionally, nationally and internationally.

**Regional Studies Institute.** The primary objectives of the institute are to conduct research and develop a knowledge base relating to regional issues concerning Hampton Roads. In addition, via its annual *State of the Region* report, the institute provides a forum for analysis and discussions of vital issues relating to the region and its cities.

**Insurance and Financial Services Center.** The Insurance and Financial Services Center supports undergraduate and graduate curricula in the disciplines of professional financial planning and risk and insurance. In addition, it provides for active involvement with the Eastern Virginia financial services community as a placement, research, consultative, and resource agency. The center further supports educational programs and seminars for the profession including a professional development program for practitioners that leads to the designation of Professional Financial Planner (PFP).

**Maritime Institute.** The institute provides a focal point for educational services and research programming that is responsive to the port and shipping-related needs of Hampton Roads, Virginia, and other port and shipping-related facilities in the world. Serving as a positive link with port-related business and public administration communities, the institute provides a catalyst for the delivery of education, training, research, and service programs in both the credit and non-credit arenas. The Maritime Institute also serves as a hub for applied education, training and research related to the development and management of transportation and storage systems, with ports serving as centers of internationally complex activities. Courses are available at the undergraduate and graduate levels and are listed in this Catalog and the Graduate Catalog. Professional, executive-level seminars, workshops, and short courses will also be offered.

**E.V. Williams Center for Real Estate and Economic Development (CREED).** The mission of the center is to serve as an educational and research resource for the Hampton Roads' economic development and real estate communities in their quest to realize sustainable land-use, strategic development and investment growth for the region. CREED is a highly-respected membership organization bridging economic development and real estate leaders with the quality comprehensive education, programming and demographic research in development at Old Dominion University. CREED plays an important role in facilitating the exchange of market analysis and projections for businesses and public agencies operating in all major market segments through various programs and outreach, including the Hampton Roads Real Estate Market Review and Forecast event and annual publication release. CREED also provides accessible and innovative programs for finance and real estate students to interact with leading industry partners in the public and private sectors.

## Distance Education

The college offers several degrees through Distance Learning to various locations in the state of Virginia and beyond. Usually students complete their general education program in a community college and transfer to Old Dominion University to complete the degree requirements. Bachelor of Science degrees in accounting, finance, information systems and technology, management, and marketing are available on this network. A minor in management is also available.

## Bachelor of Arts—Economics Major

Christopher B. Colburn, Chair  
Eric Anderson, Chief Departmental Advisor

Economics is the study of how societies use their limited resources to produce wealth and how the distribution of the wealth among their members is determined. Knowledge of economics helps businesses and households understand how economic events will affect them, how they can best react to these events, and how to assess government economic policies. Majoring in economics is a springboard to a very wide variety of careers in business, government agencies, and not-for-profit organizations. A major in economics is also excellent preparation for law school and graduate study toward master's and doctoral degrees in economics, business administration, public administration, urban studies, international studies, marine affairs, and other fields.

## Admission to the Bachelor of Arts—Economics Major

### General Requirements

Applicants for admission to the Bachelor of Arts—Economics Major program should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into the program without first being admitted to the University. Admission to the University does not guarantee admission to the program. Candidates for admission to the program should indicate on the application to the University their intention to enter the Bachelor of Arts—Economics Major program.

Transfer students may complete Bachelor of Arts—Economics Major foundation courses (ENGL 110C, MATH 162M, ECON 201S, and ECON 202S) at another accredited college or university, but are responsible for having the Admissions Office determine that the courses are acceptable to the University. All transfer students must have a transfer student evaluation completed by the Admissions Office to be used as documentation that the transfer courses are acceptable.

All candidates for admission to the program should contact the Department of Economics directly (757-683-3567) for an application to the program. Normally, a student should apply in the sophomore year. Students will be notified in writing by the Department of the admission decision.

Before regular admission to the program can be granted, a student must have completed the Bachelor of Arts—Economics Major foundation courses (ECON 201S, ECON 202S, ENGL 110C and MATH 162M) with a grade of C or better in each.

Students who have utilized the Adjusted Resident Credit (ARC) option will be treated as transfer students with only those foundation courses with a grade of C or better included in the admission policy. Students may utilize the Grade Forgiveness Policy for foundation courses.

### Enrollment in 300/400-Level Economics Courses

Only students who have been admitted to the Bachelor of Arts—Economics Major program will be eligible to enroll in 300/400-level Economics courses, with the following exceptions:

1. Students who have been admitted to the undergraduate business degree (Bachelor of Science in Business Administration) program (see section to follow). This exception applies to all of the majors in the undergraduate business degree program, not just to the Bachelor of Science in Business Administration—Economics Major.
2. Students pursuing a declared minor in Economics.
3. Students pursuing an interdisciplinary minor to meet the Upper-Division General Education Requirement may enroll in one 300/400-level Economics course included in the minor. Currently these are ECON 402, ECON 435, ECON 445W, ECON 447W, and ECON 454W.

4. Students pursuing degree programs outside the College of Business and Public Administration that require or permit 300/400-level Economics courses to complete the degree may enroll in the courses appropriate to their programs.

## Upper-Level Economics Course Enrollment Waiver

Students with extenuating circumstances may petition the Chief Departmental Advisor of the Economics Department in writing for a waiver to the ban on enrollment in 300/400-level Economics courses without admission to the Bachelor of Arts—Economics Major program or one of the exceptions listed in the previous section. Waivers will be considered under the following conditions:

1. The waiver can be granted only once, for one semester.
2. The student must have previously completed 42 credit hours.
3. During the semester for which the waiver is granted, the student must enroll in all remaining Bachelor of Arts—Economics Major foundation courses whose successful completion with a grade of C or better would allow normal admission to the program, or must enroll in all remaining business foundation courses whose successful completion would allow normal admission to the Bachelor of Science in Business Administration degree program.

## Appeal Procedures for Denial of Admission to the Bachelor of Arts—Economics Major Program

Students who do not achieve a C or better in the foundation courses after utilizing the Grade Forgiveness Policy may pursue a two-step appeal process:

1. Students may appeal in writing to the Chief Departmental Advisor of the Economics Department documenting the reasons why the student should be admitted to the program. The Chief Departmental Advisor will review the student's other course work to determine if the student has maintained a 2.50 grade point average on a 4.00 scale in at least 25 semester hours or 42 quarter hours from Old Dominion University or other accredited institution of higher education. In this case, the C policy in the foundation courses may be waived at the discretion of the Chief Departmental Advisor.
2. If the student is denied admission after the appeal to the Chief Departmental Advisor, the student may appeal in writing to the Chair of the Department of Economics for a review of the admission decision.

## Minimum Grade Requirements for Completion of the Major

For completion of a major in economics, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. Courses included in the calculation of the grade point average in the major are: all economics courses. Students must also earn a grade of C or better in ECON 201S and 202S and must earn a grade of C- or better in each of the following courses: ECON 304, 305, 450, an ECON writing intensive (W) course, and at least four 300-400 level ECON electives.

### Curriculum

<b>Freshman I</b>		<b>15</b>
ENGL 110C	English Composition	3
MATH 162M	Pre-calculus I	3
Language and Culture 101F		3
Information Literacy and Research Requirement		3
COMM 101R	Public Speaking	3
<b>Freshman II</b>		<b>15</b>
ENGL 211C or 221C	English Composition	3
MATH 200	Calculus for Business & Econ	3
Human Behavior Way of Knowing		3
Language and Culture 102F		3
Interpreting the Past Way of Knowing		3
<b>Sophomore I</b>		<b>16</b>
ECON 201S	Macroeconomics	3
Literature Way of Knowing		3
Nature of Science I Way of Knowing		4
Philosophy/Ethics Way of Knowing*		3
Foreign Language 201		3
<b>Sophomore II</b>		<b>16</b>
ECON 202S	Microeconomics	3
DSCI 206	Prob/Stat for Business & Econ	3
Nature of Science II Way of Knowing		4

Interpreting the Past Way of Knowing (dept requirement)	3
Foreign Language 202	3
<b>Junior I</b>	<b>15</b>
ECON 304 Intermediate Microeconomics	3
ECON Elective	3
DSCI 306 Statistical Decision Analysis	3
Impact of Technology Way of Knowing	3
Free Elective (not ECON)	3
<b>Junior II</b>	<b>15</b>
ECON 305 Intermediate Macroeconomics	3
ECON Elective	3
Upper-division General Education Course	3
Human Creativity Way of Knowing	3
Free Elective (not ECON)	3
<b>Senior I</b>	<b>15</b>
ECON 450 International Economics	3
ECON Writing-Intensive Course	3
ECON Elective	3
Upper-division General Education Course	3
Free Elective (not ECON)	3
<b>Senior II</b>	<b>13</b>
ECON Electives	9
Non-Business Elective	3
Free Elective (not ECON)	1

\*Must be a Philosophy (P) course (an Ethics (E) course will not satisfy this requirement for BA-Economics majors).

**Economics Electives:** ECON 301, 368, 369, 395/396, 400, 402, 407W, 421, 425, 427, 431, 435, 444, 445W, 447W, 451, 454W, 455, 456, 494, 495, 499. All economics courses taken, except ECON 200S, will be used to compute the major grade point average, which must be a 2.0 or better. In addition, a grade of C or better must be earned in ECON 201S and 202S and a grade of C- or better must be earned in each of the following courses: ECON 304, 305, 450, at least one ECON W course, and at least four 300-400 level ECON electives.

Total credits needed to graduate are 120 and must include a minimum of 12 credit hours of upper-level courses in the major program. For each foreign language course that students are exempted from taking, they must take one non-business elective course. For example, students who are exempt from taking any foreign language courses must replace them with four non-business elective courses.

**Foreign Language Proficiency Requirement.** Students earning a Bachelor of Arts degree must also complete the following foreign language requirement; proficiency established at the fourth-semester level through one of the following:

- Successful completion of the 202 or 212 course at Old Dominion University (or equivalent at another institution).
- Exemption through fourth semester granted for acceptable scores on achievement tests.
- Advanced placement with up to nine hours credit at the 300 level for acceptable scores on the advanced placement test taken at the conclusion of advanced placement courses in high school.
- Students whose native language is not English are exempt from taking a foreign language for General Education. Students pursuing degrees that require proficiency beyond the 100 level must be certified by the Foreign Languages and Literatures Department to obtain a waiver of the 200-400 level courses.

Students who have taken three or more years of a foreign language in high school but have not been granted advanced placement as explained in item c above must take the College Entrance Examination Board (CEEB) achievement test before continuing in the same language at Old Dominion University. An achievement test score of under 500 normally requires that such students begin with the 121F course in Spanish or the 102F course in another language.

**Double Major in Economics and Another Discipline**

A student declaring economics as his or her second major, and whose first major is a nonbusiness discipline, need not take COMM 101R and intermediate foreign language courses, unless these courses are required for the other major/degree. The student must satisfy all written communication, oral communication, and foreign language requirements of the first major/degree.

**Bachelor of Arts with Honors–Economics Major**

**Requirements:** The candidate must designate, with the approval of the Economics Department’s undergraduate advisor and the relevant instructors, two upper-level economics courses that he or she intends to take on an Honors

basis. In these courses, the student must complete extra, honors-quality work in addition to regular course requirements, and must earn a grade of B or better in each of the two courses. The student must also earn a grade point average of 3.5 or higher in all economics courses.

**B.A./M.B.A Five-Year Program**

This program allows qualified students to earn a B.A. (major in economics) followed by an M.B.A., in a total time of as little as five years, taking normal semester course loads. The entrance requirements, admissions procedure, and required courses are as described in the College of Arts and Letters section of this Catalog, except that students majoring in economics need not take ECON 604 (one of the M.B.A. business core courses).

**Minor in Economics**

A minor in economics requires the completion of 12 hours of 300- and/or 400-level economics courses. The 12 hours must include either ECON 304 or ECON 305 and may include both. The 12 hours may not include ECON 368, 369 or 436. All courses at the 300 and 400 levels must be preceded by listed prerequisites. For completion of this minor, a student must have a minimum overall cumulative grade point average of 2.00 in all economics courses required for the minor exclusive of 100/200 level courses and prerequisite courses and complete a minimum of six hours of upper-level economics courses through courses offered by Old Dominion University. Students must earn a grade of C or better in ECON 202S and a grade of C- or better in every upper-level ECON course taken. Students must also earn a grade of C or better in ECON 201S if they wish to take ECON 305.

**Interdisciplinary Minor - The Urban Community**

Christopher B. Colburn, Department of Economics, Coordinator

The interdisciplinary minor in the Urban Community encourages an interdisciplinary approach to the problems and crucial issues that emerge from urban environments. Students gain an understanding of the issues associated with the convergence of diverse populations in urban locations and acquire an appreciation of the complexities of the interlocking and contingent nature of urban problems. This will be accomplished through an examination of the topical areas of common space, diversity, urban services, disorder, and work.

Course options are as follows: ARTH 435W; CHP 415W; COMM 467; CRJS 323, 325, 355, 441; ECON 402, 445W; GEOG 310, 411, 412; HIST 303; PSYC 431; RTS 433; SOC/CRJS 444.

The interdisciplinary minor in the Urban Community requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

**Bachelor of Science in Business Administration (BSBA)**

*The mission of this office is to fuse student development and real world applications in helping students become mature, independent, critically thinking business people and civil servants. By graduation, students should be prepared to be lifelong scholars, leaders, and citizens.*

*The Undergraduate Advising Office serves as the welcoming center for new undergraduate students to the college. All freshmen, new transfer students, or those changing majors are advised in this office as to the appropriate curricula for the majors and minors within the college by individual appointment in this office. Additionally, the office serves all CBPA students as a satellite of the Career Management Center, assisting students with internships and job placement.*

Jennifer Usis, Director of Undergraduate Advising  
To be named, Assistant Director

## Admission to the Undergraduate Program in Business Administration

### General Requirements

Applicants for admission to the undergraduate degree program in business administration (the Bachelor of Science in Business Administration) should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into business administration without first being admitted to the University. Admission to the University does not guarantee admission to the Bachelor of Science in Business Administration (BSBA) program. Candidates for admission to the BSBA program should indicate on the application to the University their intention to enter the undergraduate business administration degree program.

Admission to the BSBA degree program is a two-step process. Students must first successfully complete **Step 1** Admission requirements (described below), and be certified as having done so, before undertaking the requirements for **Step 2** Admission to the BSBA degree program (described below).

All candidates for admission to the undergraduate business administration program should contact the College of Business and Public Administration directly for an Application for Step 1 Admission or an Application for Step 2 Admission to the program. Applications are available on the College of Business and Public Administration's website, in all of its department offices, and in the College's Undergraduate Advising office. Normally, students should apply for Step 1 Admission in their sophomore year. The College of Business and Public Administration will notify students of the Step 1 Admission decision. Students should normally apply for Step 2 Admission in their junior year. The College of Business and Public Administration will notify students of the Step 2 Admission decision.

### Enrollment in 300/400-level Business Courses

Only students who have officially completed **Step 1** Admission to the BSBA program will be eligible to enroll in upper-level (300/400) business courses (refer to exceptions for non-business majors). Students who have not completed **Step 2** Admission to the BSBA program (see below) are limited to completing a maximum of 18 credit hours of upper-level business courses.

Students with extenuating circumstances may petition the Associate Dean of the College of Business and Public Administration in writing for a one-time, one-semester waiver of the 18 hour limitation on enrollment in 300/400-level business courses without **Step 2** Admission to the BSBA degree program.

### Enrollment in 300/400-level Business Courses by Non-Business Majors

Enrollment in 300/400-level business courses will be granted without Step 1 Admission or Step 2 Admission to the bachelor's degree program in business administration for the following exceptions:

- Students pursuing a declared minor in the College of Business and Public Administration may enroll in 300/400-level business courses appropriate to the minor.
- Students pursuing Upper-Division General Education Requirement Option B: Interdisciplinary Minor or Option D: Six hours of elective upper-division courses outside the student's major discipline or college.
- Students wishing to satisfy the Impact of Technology requirement may enroll in IT 360T.
- Students pursuing a degree program other than the Bachelor of Science in Business Administration (BSBA) that requires 300/400-level business courses to complete the degree may enroll in the courses appropriate to the major.
- Non-degree-seeking students may enroll in 300/400-level business courses if they have satisfied the prerequisites for these courses.

### Admission to the Bachelor's Degree Program in Business Administration: Step 1

Before Step 1 Admission to the bachelor's degree program in business administration can be granted, a student must have earned a grade of C or higher in each of the business Step 1 Admission courses, BUSN 110, ACCT 201, ECON 202S, ENGL 110C, and MATH 162M (BUSN 110 is not required for students pursuing the IT major or for any student with an associate's degree in business administration). Students may utilize the Grade Forgiveness Policy for the business Step 1 Admission courses.

Transfer students may complete business Step 1 Admission courses (BUSN 110, ACCT 201, ECON 202S, ENGL 110C, and MATH 162M) at another accredited college or university, but are responsible for having Transfer Evaluation Services determine that the courses are acceptable to the University. Transfer students with associate's degrees from Virginia community colleges that have articulated transfer agreements with ODU that do not require taking

ENGL 110C must substitute ENGL 221C (or 211C or 231C) for ENGL 110C in the list of business Step 1 Admission courses. All transfer students must have a transfer student evaluation completed by Transfer Evaluation Services to be used as documentation that the transfer courses are acceptable.

### Upper-Level Business Course Enrollment Waiver for Students Pursuing Step 1 Admission

Students with extenuating circumstances may petition the CBPA Assistant Dean (Room 2004 Constant Hall) in writing for a one-time, one-semester waiver to the ban on enrollment in upper-level (300/400) business courses without Step 1 Admission to the bachelor's degree program in business administration. Waivers will be granted under the following conditions:

- The waiver has not been granted previously.
- The student must have successfully completed at least 42 credit hours applicable to the BSBA degree program.
- During the semester for which the waiver is granted, the student must enroll in all remaining business Step 1 Admission courses whose successful completion with a grade of C or better would allow normal Step 1 Admission to the bachelor's degree program in business administration.

### Appeal Procedure After Denial of Step 1 Admission to the Undergraduate Business Administration Program

Students who do not achieve a grade of C or higher in the business Step 1 Admission courses (BUSN 110, ACCT 201, ECON 202S, ENGL 110C, and MATH 162M) after utilizing the Grade Forgiveness Policy may appeal in writing to the Associate Dean of the College of Business and Public Administration documenting the reasons why the student should be granted Step 1 Admission to the bachelor's degree program in business administration. The Associate Dean will review the student's other coursework to determine if the student has maintained an overall 2.00 grade point average in at least 25 semester hours or 42 quarter hours from Old Dominion University or an accredited institution of higher education. In this case, the requirement for a grade of C or better in each of the Step 1 Admission courses may, at the discretion of the Associate Dean, be waived.

### Admission to the Bachelor's Degree Program in Business Administration: Step 2

Students must first successfully complete Step 1 before undertaking the requirements for Step 2 Admission to the bachelor's degree program in business administration. Students must apply for Step 2 Admission to the program no later than the end of the semester in which they complete the following requirements:

- Earn an overall grade point average of at least 2.00 in all courses taken at Old Dominion University.
- Complete at least 12 hours of upper-level (300/400) courses at Old Dominion University, which must include at least six hours of upper-level courses from the College of Business and Public Administration's Common Body of Knowledge (CBK) coursework.
- Earn a 2.00 grade point average or higher in all upper-level courses taken at Old Dominion University.

Students not meeting these requirements may wish to see the appeal procedures below.

### Appeal Procedure After Denial of Step 2 Admission to the Bachelor's Degree Program in Business Administration

Students who do not fulfill the requirements for Step 2 Admission, but who have at least a 2.00 grade point average in all of the business courses taken in the College of Business and Public Administration at Old Dominion University, may appeal in writing to the Associate Dean of the College of Business and Public Administration. The appeal must document the reasons why the student should be granted Step 2 Admission to the bachelor's degree program in business administration. In this case, the regular Step 2 Admission requirements may, at the discretion of the Associate Dean, be waived.

### Regulations for Continuance in the Bachelor of Science in Business Administration

In addition to the Old Dominion University continuance policies, the following policies are specific to all declared Bachelor of Science in Business Administration (BSBA) students. The College of Business and Public Administration (CBPA) makes a reasonable effort to notify undergraduate students who are not in good academic standing in the BSBA program of their academic status. Each undergraduate student who is placed on BSBA Academic Alarm or BSBA Termination (explained below) will be sent an e-mail message to that effect at the student's Old Dominion University e-mail

address, in accordance with the Electronic Messaging Policy for Official University Communication. Non-receipt of the e-mail messages by a student will not be considered grounds for granting exceptions or delays in enforcement of the BSBA continuance regulations.

### BSBA Continuance Regulations

At the end of each semester—fall, spring, and summer—the College of Business and Public Administration reviews the records of all students who do not maintain at least a 2.00 cumulative grade-point average (GPA) in the BSBA Common Body of Knowledge (CBK) coursework and acts according to the following policies:

A. **BSBA Academic Alarm.** A student will be placed on BSBA Academic Alarm when the student's cumulative GPA in the CBK falls below 2.00 at the end of a semester, including summer terms. Consistent with the University continuance policy, a student on BSBA Academic Alarm may not enroll in more than 14 credit hours in fall and spring semesters, no more than six credits in the summer terms, and no more than one course in any single summer term. The enrollment limit may be waived under extenuating circumstances and with the permission of the Associate Dean of the CBPA.

A student on Academic Alarm must achieve a cumulative GPA in the CBK of at least 2.00 at the end of the next semester of attendance to return to good BSBA academic standing. The student will continue on Academic Alarm each semester if the cumulative GPA in the CBK remains below 2.00, but the semester GPA in the CBK is 2.00 or above. Failure to achieve a semester GPA in the CBK of at least 2.00 will result in termination from the BSBA program.

While on BSBA Academic Alarm, it is the student's responsibility to contact the College's Undergraduate Advising Office by email ([businessadvising@odu.edu](mailto:businessadvising@odu.edu)) in the first month of each semester to discuss the student's plan to return to good BSBA academic standing. Should a student decide not to enroll at the University for a semester or other period of time, his or her status will remain the same upon returning.

B. **BSBA Termination.** A student on BSBA Academic Alarm who fails to achieve a semester GPA in the CBK of at least 2.00 at the end of a fall or spring semester is terminated from the BSBA program. Upon BSBA termination, the student's major is changed from Business Administration to Undecided. These students are advised to contact the Center for Major Exploration.

A student on BSBA Academic Alarm who fails to achieve a semester GPA in the CBK of at least 2.00 in a summer term will not be terminated but will continue in BSBA Academic Alarm status.

### Guidelines for Filing a BSBA Termination Appeal

- A. All students have the right to appeal their BSBA termination if they feel that extraordinary circumstances were the main reason for their poor academic performance. All BSBA termination appeals must be submitted in writing to the CBPA Associate Dean (Room 2004 Constant Hall) by the deadline posted on the CBPA website: <http://bpa.odu.edu/continuance>. Late appeals will not be reviewed.
- B. Appeals must be based on circumstances pertinent to the semesters in which the academic difficulty occurred that were beyond the control of the student and for which official withdrawal from the course(s) was not an option. Appeal letters must be legible and authored by the terminated student.

The appeal letter must provide sufficient detail and explanation regarding the following points because there is no face-to-face meeting with the CBPA Associate Dean. The decision of the Associate Dean is final. Students without documentation will not be allowed to appeal their termination. In order to be reviewed, an appeal letter must:

1. Document the extraordinary circumstances such as a death in the family, medical complications or chronic conditions, personal or family emergency, overwhelming work schedules, dorm-mate conflict, or a personal relationship conflict that have adversely affected performance: i.e., a statement or letter from a physician, employer, family members, faculty, academic advisor, Counseling Services, or Educational Accessibility.
2. Explain how the extraordinary circumstances caused each semester of poor academic performance.
3. State the reasons why an official withdrawal was not requested.
4. Explain how the extraordinary circumstance(s) has been resolved.

5. Provide a plan of action to return to good BSBA academic standing.

- C. Students who do not file a BSBA termination appeal or whose appeals are denied are no longer eligible to pursue the bachelor's degree in Business Administration. Upon BSBA termination, the student's major is changed from Business Administration to Undecided. (This does not affect a declared second major outside of the BSBA.) These students are advised to contact the Center for Major Exploration.
- D. BSBA-Terminated students who had pre-registered for a subsequent semester lose eligibility for continued enrollment in upper-level business courses.

### Applying for Readmission to the BSBA Program

After a minimum of five years has passed since a student was terminated from the BSBA program, the student may apply for readmission to the program. There must be a high probability the student will successfully complete the degree program, and approval will be at the discretion of the CBPA Associate Dean.

The decision will be based on an evaluation of the student's transcript and on a written statement from the student explaining how circumstances that previously prevented the student from succeeding have changed in the intervening time period.

If readmitted, a student will be required to take all CBK courses, and their prerequisites, that have not been completed with a grade of C or better, and any other courses required for the student's degree program under the most recent Undergraduate Catalog.

If a student is readmitted, CBK course grades of C- or lower earned before termination will not be included in future CBK GPA calculations (though they will remain on the transcript).

### Requirements

Students in all of the Bachelor of Science in Business Administration degree programs must fulfill the University General Education requirements (including foreign language) as well as the College of Business and Public Administration's core, major, and elective requirements. Students must choose at least one major area to meet requirements towards the degree. The major areas are: accounting, decision sciences, economics, finance, international business, information systems and technology, management, maritime and supply chain management, and marketing. Students majoring in international business must take the specific international business and regional courses that have been designated for their specific region.

To stay in compliance with AACSB accreditation standards, students receiving a Bachelor of Science in Business Administration from Old Dominion University must complete at least half of their business course work in residence with a minimum of four courses in the major. This equates to 10 business classes, thus meeting the University's residency requirement as well.

Majors in the college may not take business and public administration courses for pass/fail credit except those courses in which pass/fail is the only grading option (i.e., internships and practica).

No more than four hours of activity credit (used as free electives) may be applied to degree requirements for students majoring within the college.

### Competency in Oral and Written Communication

Competency in oral communication is demonstrated by the completion of COMM 101R, Public Speaking. Additionally, all students majoring in business administration can expect to complete several courses in which individual and/or group oral presentations will be required. The written competency is demonstrated by successful completion of ENGL 221C—Introduction to Writing in the Social Sciences (or ENGL 211C or 231C).

### Upper-Level Writing Intensive Requirement

The upper-level writing intensive requirement in the business administration major is met with MGMT 485W.

### Impact of Technology General Education Requirement

The Impact of Technology general education requirement is satisfied within each B.S.B.A. degree concentration except Information Systems and Technology by IT 360T. In the Information Systems and Technology concentration, the Impact of Technology requirement is satisfied by the coursework required for the concentration.

## Information Literacy and Research General Education Requirement

The information literacy and research general education requirement is demonstrated by the completion of IT 150G, Basic Information Literacy and Research.

## Philosophy and Ethics General Education Requirement

All business students will complete either PHIL 230E or an upper-level "E" course from the approved General Education ethics course list. A philosophy course designated with a "P" will not meet this requirement for business administration students with the exception of a "P" course taken prior to fall 2010.

## Minor in Business Administration

A minor in business administration is available to students not receiving the Bachelor of Science in Business Administration degree. ACCT 201 and ECON 202S must be completed as prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are FIN 323, MGMT 325, MKTG 311, IT 360T and OPMT 303. To receive a minor, the student must achieve a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Public Service

The minor in public service is offered by the Department of Urban Studies and Public Administration. The purpose of the minor is to provide students with a solid theoretical foundation in the study and practice of public service, preparing students for citizenship, leadership, and careers in governmental and non-profit agencies. Students will achieve this goal by completing a series of courses from different disciplines across the University designed to provide a solid foundation in public administration and non-profit management, including an appreciation of both internal process and external environment of public and non-profit organizations. This minor will help prepare students for careers in public service and for graduate education in public administration, public affairs, and related fields.

**Program Structure.** The minor in public service consists of 12 hours of coursework. Students take six hours of core classes and six hours of elective courses. At least three hours of elective courses must be chosen from PAS 410, PAS 411, or PAS 395. The other three elective hours may be selected from the approved list of elective classes, taken upon the recommendation of the department and/or academic advisor. Students should seek the recommendation of their department and/or academic advisor as to the precise mix of elective courses taken. For completion of the minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

Designated courses for the minor in public service are as follows:

### Core courses (required):

PAS 300	Foundations of Public Service	3 credits
PAS 301	Accountability, Governance, and Ethics	3 credits

### Elective courses:

PAS 410	Public and Non-Profit Organization	3 credits
PAS 411	Multi-Sector Partnerships for Public Service	3 credits
PAS 368	Internship	3 credits
PAS 395	Special Topics	3 credits
PAS 497	Independent Study	3 credits
POLS 300	Introduction to Public Policy	3 credits
POLS 309	Race, Culture, and Public Policy	3 credits
PHIL 301	Social and Political Philosophy	3 credits
SOC 300	Social Problems	3 credits
SOC 325	Social Welfare	3 credits
CRJS 444	Community Justice	3 credits
HMSV 441	Non-Profit Fund-Raising in Human Services	3 credits

## Advanced Placement

The college accepts advanced placement credit in accordance with the rules and regulations outlined in the Academic Information section of this catalog. Students may take College-Level Examination Program (CLEP) tests to receive credit for ACCT 201, 202, ECON 201S, 202S, FIN 331, MGMT 325, or MKTG 311. Students are advised to contact the Office of Experiential Learning and Testing for more information regarding CLEP and other experiential learning credit options. For advanced placement credit in any other business or public administration course, students are advised to contact the chair of the department offering the course.

## Career Advantage Program in Business Administration

The college participates in the University's Career Advantage Program. Students may complement their major studies with a practical work experience, which may take the form of an internship, cooperative education experience or a class containing a real-world, hands-on project. Students must apply for internship or co-op participation through the CBPA Career Management Satellite Office. All work experiences must be approved by the faculty sponsor in the appropriate department prior to registering for credit. Students may not earn credit for previous or current work experiences. (However, academic credit for work experience may be approved in accordance with the policies for granting experiential learning credit as defined in the section on Experiential Learning Credit Options at the Undergraduate Level in this catalog.) For details see the Career Management Center section of this catalog.

## Use of Internship and Similar Hours Toward Business Administration Majors

A student may apply no more than six hours of cooperative education, student internship or practicum courses to satisfy degree requirements. Students may not use more than three hours of cooperative education, student internship or practicum courses to satisfy major elective requirements in each of the student's majors. These courses are numbered 367, 368 or 369. Additional hours of cooperative education, student internship or practicum courses, however, can be used to satisfy other requirements such as free electives or general business electives. Additional internships must each involve substantially different kinds of work experiences. Internships must be approved by the Chief Departmental Advisor of the student's major and the CAP Coordinator of the internship.

## Transfer of the Associate of Science in Business Administration Towards Degree Requirements

Students transferring to the college must complete a minimum of 10 business courses offered by the college to earn the degree from Old Dominion University, in accordance with AACSB regulations. Those transfer students holding the Associate of Science in Business Administration degree from a Virginia Community College must earn the grade of "C" or better in the following courses in order to satisfy requirements found in the first two years of the B.S.B.A. degree: COMM 101R, IT 150G, ENGL 221C (or 211C or 231C), PHIL 230E or an upper-level ethics course, MATH 162M, 200, ACCT 201, 202, ECON 201S, 202S, and DSCI 206. The University's lower-division General Education requirements are deemed satisfied by the accepted A.S. degrees. These typically include all A.S. degrees from the Virginia Community College System except the applied science degrees. For more information about accepted A.S. degrees contact the Office of Admissions. Associate degree holders, although meeting lower-level General Education requirements, must ensure that 120 credits are completed to earn the B.S.B.A. degree, with both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the declared major program from Old Dominion University.

The College of Business and Public Administration does not accept courses completed at the freshman and sophomore levels at other institutions for required courses at the junior and senior level at Old Dominion University. Please see the section on CLEP credits (Experiential Learning Credit Options at the Undergraduate Level) for additional information.

## Grade Average Requirements for Graduation

To graduate with a Bachelor of Science in Business Administration degree, students must present a minimum of 120 hours with a minimum overall grade point average of 2.00 in all courses taken at Old Dominion University. Students must also attain a minimum overall grade point average of 2.00 in courses taken toward the major (courses included in the major grade point average calculation are listed following the description of each major's course work).

Additionally, students must attain a minimum overall grade point average of 2.00 in the "Common Body of Knowledge" (CBK) listed below. Only courses completed at Old Dominion University will be used to compute the CBK average. Students with an IT major are not required to take IT 360T, so the CBK grade point average is computed using the remaining courses. If the CBK average is below the required 2.00 minimum, students are advised to utilize the Grade Forgiveness Policy or Adjusted Resident Credit option when appropriate to improve the grade point average.

## Requirements for Completing a Bachelor of Science in Business Administration

The following sections show the courses that are requirements for all business students, regardless of the chosen major: Lower-Division General Education, Common Body of Knowledge Courses, and Upper-Division General Education. Credit hours are listed after the course title. The student must also choose a major and complete the requirements listed for that major on the following pages.

### FOUNDATION COURSES FOR ADMISSION TO THE COLLEGE OF BUSINESS AND PUBLIC ADMINISTRATION

ENGL 110C	English Composition (C or better)
MATH 162M	Pre-calculus I (C or better)
ACCT 201	Principles of Acct I (C or better)
ECON 202S	Microeconomics (C or better)
BUSN 110	Contemporary Business (C or better)

(BUSN 110 is not required for students pursuing the IT major or for students with an associate's degree in business administration.)

See the section on Admission to the Undergraduate Program in Business Administration, General Requirements.

### LOWER-DIVISION GENERAL EDUCATION \*\*\*\*

COMM 101R	Public Speaking	3
ENGL 110C	English Composition	3
ENGL 221C	English Composition	3
(or 211C or 231C)		
Human Creativity Way of Knowing		3
Interpreting the Past Way of Knowing *		3
IT 150G	Information Literacy for Business and Social Sciences	3
Literature Way of Knowing		3
Nature of Science Way of Knowing I and II		8
Philosophy and Ethics Way of Knowing**		3
MATH 162M	Pre-calculus I	3
MATH 200	Calculus	3
Language and Culture***		6

\* There is a pre-determined history course for students majoring in International Business. Please see the International Business major course work for clarification.

\*\* Must be satisfied by completion of either PHIL 230E or an upper-level "E" course. A philosophy course designated with a P will not meet this requirement for business administration students with the exception of a "P" course taken prior to fall 2010.

\*\*\* There are several ways to satisfy the language and culture requirement. Please see the Catalog section labeled Requirements for Undergraduate Degrees, Lower-Division Requirements, Language and Culture for clarification.

\*\*\*\* Transfer students with an applicable associate's degree from a Virginia Community College or another community college that has a seamless transfer agreement with ODU must have a grade of C or better in COMM 101R, IT 150G, ENGL 221C (or 211C or 231C), PHIL 230E or an upper-level ethics course, MATH 162M and MATH 200 to be able to transfer them.

### COMMON BODY OF KNOWLEDGE COURSES\*

ACCT 201	Principles of Acct I	3
ACCT 202	Principles of Acct II	3
DSCI 206	Prob, Decis Anal & Stat	3
DSCI 306	Stat Data Anal & MS	3
ECON 201S	Macroeconomics	3
ECON 202S	Microeconomics	3
ECON 301	Managerial Economics	3
FIN 323	Introduction to Finance	3
FIN 331	Legal Environ of Busn	3
IT 360T**	Principles of Info Tech	3
MGMT 325	Contemp Organ Mgmt	3
MGMT 485W	Busn Strat & Policy	3
MKTG 311	Principles of Marketing	3

OPMT 303 Operations Mgmt Tech 3

\* Transfer students from a Virginia Community College or an acceptable community college with an applicable Associate degree: ACCT 201, 202, ECON 201S, 202S and DSCI 206 are not automatically waived. A grade of C or better must be earned to transfer these courses to Old Dominion University.

\*\* Students completing a major or minor in Information Systems and Technology do not take this course.

### UPPER-DIVISION GENERAL EDUCATION

**Option A:** Any University-approved minor, second degree, or second major.\*

**Option B:** An interdisciplinary minor consisting of 12 credits, three of which can be in the major. Interdisciplinary minors are described in the University Catalog section labeled Requirements for Undergraduate Degrees, Upper-Division Requirements.

**Option C:** International business and regional courses or an approved certification program, such as teaching licensure\*\*

**Option D:** Two Upper-Division Courses from outside the College of Business and Public Administration and not required by the major (6 credits)

\* Bachelor of Science in Business Administration students who pursue a minor or second major outside the College of Business and Public Administration or in Economics or Public Service fulfill Option A with no additional course work needed. Bachelor of Science in Business Administration students pursuing a minor or second major in the College of Business and Public Administration other than Economics or Public Service (minor only) must also take six hours of 200-400 level courses outside the CBPA, or in economics, or in study abroad. Students majoring in economics who pursue a minor or second major in the College of Business and Public Administration fulfill the upper-division general education requirement and do not need to take the six hours of 200-400 level courses outside the CBPA.

\*\* All International Business majors take international business and regional courses as specified within the major requirements. Please see the International Business major course work for further details.

**The following sections denote undergraduate course requirements for specific majors offered by the College of Business and Public Administration. Most majors have free electives and business electives, which are also listed. Credit hours are listed after the course title.**

### Business Elective

A business elective is a course that is offered by an accredited college of business, including the College of Business and Public Administration at Old Dominion University. PAS courses offered by the College of Business and Public Administration are not considered as business courses. However, because some business courses cannot be used to satisfy the requirements of certain majors, students must refer to their specific degree program requirements to make sure that they complete appropriate business elective courses. For example, ECON 200S cannot be used to satisfy an elective requirement for students majoring in business administration. Also, IT 360T cannot be used as an elective by students majoring in Information Systems and Technology. Refer to the course description section of this Catalog for full details of courses and their prerequisites.

### Free Elective

In the majority of cases a free elective is any course offered by an accredited community college or university, including Old Dominion University. However, because some courses cannot be used to satisfy the requirements of certain majors, students must refer to their specific degree program requirements to make sure that they complete appropriate elective courses. For example, ECON 200S cannot be used to satisfy an elective requirement for students majoring in business administration. Also, IT 360T cannot be used as an elective by students majoring in Information Systems and Technology. Refer to the course description section of this Catalog for full details of courses and their prerequisites.

## Bachelor of Science in Business Administration-Accounting Major

Douglas E. Ziegenfuss, Chair  
Terry Kubichan, Chief Departmental Advisor

The study of accounting provides a basis for many government, nonprofit and business activities. A significant number of graduates use accounting to prepare them for a successful career in the public or private sectors. The undergraduate program in accounting at Old Dominion University is part of a select group in the country with separate accreditation from AACSB-International. The program provides a broad-based education with a variety of



career objectives. The program provides students with technical accounting knowledge and the ability to analyze problems, communicate solutions, interact with colleagues, and successfully handle ethical issues.

#### Accounting major course work

ACCT 301	Intermediate Acct	3
ACCT 302	Intermediate Acct II	3
ACCT 311	Managerial Acct	3
ACCT 421	Taxation	3
ACCT 460	Accounting Information Systems	3
ACCT elective *		3
International Business requirement**		3
Free elective		3
300-400 level free electives		9

\* ACCT electives: 367, 368, 369, 405, 411, 422, 450, 495. ACCT 450 cannot also be used as an international business elective.

\*\* International Business requirement choices: ACCT 450, ECON 450, FIN 435, IT 425, MGMT 361, 462, 463, 465, MKTG 411 or MSCM 370. ACCT 450 cannot be used for both the ACCT elective and the international business elective.

ECON 200S cannot be used for credit by students pursuing a degree in the College of Business and Public Administration. ECON 200S cannot be used as a free elective.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: all 300-400 level ACCT courses. Students must complete ACCT 301 with a grade of C or better and all other upper-division accounting courses with a grade of C- or better in order to graduate. In addition, a comprehensive assessment exam is given in ACCT 460 that covers the material from ACCT 301, 302, 311, 421, and 460.

#### Accounting minor course work

A minor in accounting requires the completion of ACCT 301 with a grade of C or better and nine hours of 300- and/or 400-level accounting courses. All courses at the 300 and 400 levels must be preceded by listed prerequisites with ACCT 201-202 or ACCT 226-227 being prerequisites to ACCT 301. Students may not take ACCT 367, 368 or 369 to satisfy the minor elective. To receive a minor, the student must achieve a minimum overall cumulative grade point average of 2.00 in all 300- and/or 400-level accounting courses required for the minor exclusive of 200-level courses and prerequisite courses. In addition, a grade of C- or better is required in all 300-and/or 400-level accounting courses counted toward the minor. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

#### Fast-Track Undergraduate Admission

Undergraduate students majoring in accounting at Old Dominion University may apply for provisional status in the Master of Science in accounting program after completing ACCT 301, Intermediate Accounting I, with a minimum overall and accounting grade point average of 3.00. These students can then achieve regular admission status by completing their undergraduate degree with a minimum overall and accounting grade point average of 3.00 and obtaining an acceptable GMAT score.

## Bachelor of Science in Business Administration- Decision Sciences Major

G. Steven Rhiel, Chair  
Kelly Alvey, Chief Discipline Advisor

Decision Sciences enables students to properly develop decision models and use computers to manipulate data and make appropriate information available for decision making with courses in a chosen functional area of business. Decision sciences graduates are often employed in their functional area as analysts. Many recent graduates have taken jobs in the supply chain management field.

#### Decision Sciences major course work

DSCI 407	Mgmt Science	3
DSCI 476	Sim Model & Analysis	3
Major electives*		9
Functional area electives**		9
Free electives		3
200-400 level business elective***		3
300-400 level business elective***		3

\* Major electives: six hours from DSCI 406, DSCI 432, or DSCI/MSCM 441; three hours from ACCT 311, DSCI 368, 406, 432, DSCI/MSCM 441, ECON 400, 425, FIN 413, 431, INBU 450, IT 473, MGMT 413, MKTG 407, MSCM 430

\*\* Student must choose and complete course work from the following functional areas:

ACCT: Two approved 300-400 level ACCT courses and an approved international business requirement (ACCT 450, ECON 450, FIN 435, IT 425, MGMT 361, 462, 463, 465, MKTG 411, MSCM 370)

ECON: ECON 450 and two approved 300-400 level ECON courses

FIN: FIN 435 and two approved 300-400 level FIN courses

INBU: ECON 450, FIN 435, MKTG 411

IT: Two approved 400-level IT courses and an approved international business requirement (for grade point calculation only). Note that only students who are also majoring in IT are permitted to use it as a functional area in the decision sciences major.

MGMT: MGMT 361 or 462 and two approved 300-400 level MGMT courses

MKTG: MKTG 411 and two approved 300-400 level MKTG courses

MSCM: MSCM 370 and two approved MSCM courses

\*\*\* Can be any 200-400 or 300-400 level course offered by the College of Business and Public Administration except ECON 200S, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: DSCI 407, 476, nine hours of Decision Sciences electives, and nine hours of Functional area electives.

#### Decision Sciences minor course work

The minor in decision sciences is comprised of DSCI 306, OPMT 303 (core business courses), DSCI 407 and DSCI 476. At least two of these courses must be completed through courses offered by Old Dominion University, and a 2.00 overall grade point average is required exclusive of prerequisite courses. Business majors who want to make themselves more marketable may choose a minor in Decision Sciences by taking two additional courses.

## Bachelor of Science in Business Administration- Economics Major

Christopher B. Colburn, Chair  
Eric Anderson, Chief Departmental Advisor

Economics is the study of how societies use their limited resources to produce wealth and how the distribution of the wealth among their members is determined. Knowledge of economics helps businesses and households understand how economic events will affect them, how they can best react to those events, and how to assess government economic policies. Majoring in economics is a springboard to a wide variety of careers in business, government agencies, and not-for-profit organizations. A major in economics is also excellent preparation for law school and graduate study towards master's and doctoral programs in economics, business administration, public administration, urban studies, international studies, marine affairs, and other fields.

#### Minimum Grade Requirements for Completion of the Major

For completion of a major in economics, a student must have a minimum overall cumulative grade point average of 2.00 in all 300-400 level economics courses taken except ECON 301. Students must also earn a grade of C or better in ECON 201S and 202S and must earn a grade of C- or better in every 300-400 level ECON course except ECON 301, in which a passing grade must be earned.

#### Economics major course work

Human Behavior Way of Knowing		3
ECON 304	Intermed Microecon	3
ECON 305	Intermed Macroecon	3
ECON 450	International Econ	3
ECON electives*		9
Free elective (not ECON 200S)		3
200-400 level free elective		3
300-400 level business elective **		6

\* ECON electives: 368, 369, 395/396, 400, 402, 407W, 421, 425, 427, 431, 435, 444, 445W, 447W, 451, 454W, 455, 456, 494, 495, 499 (no more than three credits of 368 and/or 369)

\*\* Can be any 300-400 level course offered by the College of Business and Public Administration or transfer courses of a business nature.

All upper-level economics courses taken are included in the grade point average in the major except ECON 301.

#### Economics minor course work

A minor in economics requires the completion of 12 hours of 300- and/or 400-level economics courses. The 12 hours must include either ECON 304 or

ECON 305, and may include both. The 12 hours may not include ECON 368, 369 or 436. All courses at the 300 and 400 levels must be preceded by listed prerequisites. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all economics courses exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. In addition, students must earn a grade of C or better in ECON 202S and a grade of C- or better in every upper-level ECON course taken. Students must also earn a grade of C or better in ECON 201S if they wish to take ECON 305.

A minor in economics will fulfill the Upper-Division General Education requirements for all B.S.B.A. majors.

## Bachelor of Science in Business Administration- Finance Major

Mohammed Najand, Chair  
John Griffith, Chief Departmental Advisor

The financial management major comprises three tracks: finance, real estate, and insurance and financial services. All satisfy the requirements listed below under one of the tracks. Finance graduates are qualified for corporate financial management positions such as financial analysts, capital budgeting managers, credit managers, or cash control and risk managers; portfolio management positions like securities analysts, account executives, or portfolio manager/analysts; bank management positions include lending officers, marketing officers, or loan analysts; or entrepreneurs running their own businesses. Real estate graduates are employed as appraisers, sales and leasing agents, property managers, developers, and lending officers. Insurance and financial services graduates become underwriters, claims adjusters, and sales managers.

### Finance major course work

FIN 317 or 319	Prin Ins Risk Mgmt or Real Estate	3
FIN 435	Intl Financial Mgmt	3
FIN 431	Investments	3
FIN 432	Intermed Fin Mgmt	3
FIN 439	Financial Dec Making	3
Major electives*		9
Free elective		3
200-400 level business elective**		3
300-400 level business elective***		3

\* Major electives: three hours from FIN 433, 434, 497, ACCT 301 or 311, ECON 431. Six hours from FIN 317 or 319, 367, 368, 369, 410, 411, 413, 433, 434, 450, 454, 497, ECON 421, 445W, 450, ACCT 301, 311

\*\* Can be any 200-400 level course offered by the College of Business and Public Administration except ECON 200S, providing that the student has the appropriate prerequisites.

\*\*\* Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 317 or 319, 435, 431, 432, 439, and nine hours of FIN electives.

### Finance major, Real Estate track course work

FIN 319	Prin of Real Estate	3
FIN 431	Investments	3
FIN 435	Intl Financial Mgmt	3
FIN 450	Real Estate Finance	3
FIN 451	Real Estate Appraisal	3
FIN 454	Real Est Invest Analys	3
Major electives*		6
Free elective		3
200-400 level business elective**		3
300-400 level business elective***		3

\* Major electives: ECON 445W, FIN 317, 367, 368, 369, 412, 432, 434, 497, MKTG 404, 407, 416, MGMT 451, CET 310, 445, 460, 465

\*\* Can be any 200-400 level course offered by the College of Business and Public Administration except ECON 200S, providing that the student has the appropriate prerequisites.

\*\*\* Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 319, 431, 435, 450, 451, 454, and six hours of major electives.

### Finance major, Insurance and Financial Services track course work

FIN 317	Principles of Insurance	3
FIN 435	Intl Financial Mgmt	3
FIN 413	Risk Analysis	3
FIN 443	Seminar in Insurance	3
Major electives*		12
Free elective		3
200-400 level business elective**		3
300-400 level business elective***		3

\* Major electives: 12 hours from FIN 367, 368, 369, 410, 411, 412, 431, 433, 434, ACCT 311

\*\* Can be any 200-400 level course except ECON 200S, offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

\*\*\* Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: FIN 317, 413, 435, 443, and 12 hours of FIN electives.

### Financial Management, Real Estate, and Insurance and Financial Services minor course work

A minor in financial management requires the completion of FIN 323, 431, 432, and six hours from FIN 433, 434, 435, and 439. A minor in real estate requires the completion of FIN 319, 450, 454, and six hours from FIN 431, 451, and 498. A minor in insurance and financial services requires the completion of FIN 317, 413, 443, and six hours from FIN 410, 411, 412, and 431.

For completion of a minor, the student must achieve a minimum overall cumulative grade point average of 2.00 in all finance courses required or allowed toward the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Bachelor of Science in Business Administration- Information Systems and Technology Major

G. Steven Rhiel, Chair  
Li Xu, Information Technology Area Coordinator  
Roya Ardalan, Chief Discipline Advisor

The information systems and technology major is designed to provide students with a technical background in information technology as well as a broad perspective of the business environment in which information technology plays a strategic role. The major emphasizes the development of business analysis and system implementation skills; these skills can provide a basis for job entry, career development and flexibility amid the rapid changes in information technology. Three distinct tracks are offered under the major.

### Information Systems and Technology major course work

IT 201	Intro to Info Systems	3
IT 210	Busn Apps with C++	3
IT 310	GUI Program with C++	3
IT 317	Principles of Tech Arch	3
IT 361	Systems Analysis	3
IT 415	Busn Telecomm & Networks	3
IT 450	Database Concepts	3
IT 464	Project Management	3
IT 473	Syst Design & Implement	3
IT elective*		3
Software elective**		3
International business elective***		3
300-400 level business elective****		3

\* IT electives: 367, 368, 369, 410, 416, 417, 420, 425, 430, 451, 453, 461, 474, 495, 497. IT 425 cannot be used as both the IT major elective and as the INBU elective.

\*\* Software electives: IT 372, 410, 420, 430, 461

\*\*\* International Business electives: IT 425, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

\*\*\*\* Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites, except IT 360T

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 464, 473 and the IT and software elective.

**Information Systems and Technology major, Database track course work**

IT 201	Intro to Info Systems	3
IT 210	Busn Apps with C++	3
IT 310	GUI Program with C++	3
IT 317	Principles of Tech Arch	3
IT 361	Systems Analysis	3
IT 415	Busn Telecomm & Networks	3
IT 450	Database Concepts	3
IT 451	Database Admin	3
IT 453	Database Deployment	3
IT 464	Project Management	3
IT 473	Systems Design & Implemt	3
Software elective*		3
International business elective**		3

\* Software electives: IT 372, 410, 420, 430, 461

\*\* International Business electives: IT 425, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 451, 453, 464, 473 and the software elective.

**Information Systems and Technology major, Network Engineering track course work**

IT 201	Intro to Info Systems	3
IT 210	Busn Apps with C++	3
IT 310	GUI Program with C++	3
IT 317	Principles of Tech Arch	3
IT 361	Systems Analysis	3
IT 415	Busn Telecomm & Networks	3
IT 416	Net Server Conf & Admin	3
IT 417	Mgmt of Info Security	3
IT 450	Database Concepts	3
IT 464	Project Management	3
IT 473	Syst Design & Implemt	3
Software elective*		3
International business elective **		3

\* Software electives: IT 372, 410, 420, 430, 461

\*\* International Business electives: IT 425, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 416, 417, 450, 464, 473 and the software elective.

**Information Systems and Technology major, E-Business and E-Commerce track course work**

IT 201	Intro to Info Systems	3
IT 210	Busn Apps with C++	3
IT 310	GUI Program with C++	3
IT 317	Principles of Tech Arch	3
IT 361	Systems Analysis	3
IT 415	Busn Telecomm & Net	3
IT 450	Database Concepts	3
IT 461	Implemnt Internet Apps	3
DSCI/MSCM 441	Supply Chain Mgmt & Logistics	3
MKTG 450	Marketing on Internet	3
IT 464	Project Management	3
IT 473	Syst Design & Implemt	3
International business elective*		3

\* International Business electives: IT 425, ACCT 450, ECON 450, FIN 435, MGMT 361, 462, 463, MKTG 411, MSCM 370

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: IT 201, 210, 310, 317, 361, 415, 450, 461, 464, 473, DSCI 441, MKTG 450, and the e-commerce elective.

**Information Systems and Technology minor course work**

The minor in Information Systems and Technology is designed primarily for students completing the Bachelor of Science in Computer Science, the Bachelor of Science in Computer Engineering, or the Bachelor of Science in Engineering Technology (Computer Engineering). The courses in the minor have a number of technical prerequisites that are normally waived for those students who have completed CS 150, CS 250, and either CS 170 or ECE 241 or equivalent major course work.

Students must complete 12 hours of course work from the following:

**Nine hours from the following list of required courses:**

IT 361\*, IT450\*\*, IT 473

**Three hours from the following list of electives:**

IT 310, IT 367\*\*\*\*, IT 368\*\*\*\*, IT 369\*\*\*\*, IT 372, IT 415\*\*\*, IT 420, IT 425, IT 430, IT 461, IT 464\*\*\*\*, IT 474, IT 495

\*ACCT 201 is a prerequisite for IT 361 and is not counted in the GPA calculation for the minor.

\*\*Students completing CS 450 must substitute another course for IT 450 from the elective list.

\*\*\*Computer Engineering and Computer Engineering Technology students completing CS 454 must substitute another course for IT 415 from the elective list.

\*\*\*\*Students completing CS 410 must substitute another course for IT 464 from the elective list.

\*\*\*\*\*Students seeking an internship, cooperative education or practicum must obtain permission from both the IT internship coordinator as well as the internship coordinator of the students' major department.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

**Bachelor of Science in Business Administration-International Business Major**

Bruce Seifert, Discipline Coordinator and Chief Discipline Advisor

A major in international business permits students to take an interdisciplinary approach to the study of global business. In addition to the core business and university requirements, all international business majors take specialized international courses in economics, finance, management and marketing.

Students also select an appropriate region: Europe, Latin America or East Asia. Unless they are already fluent in both English and another language, students will study and obtain a high level of competency in a foreign language appropriate for the region of interest. Students can opt to study a language other than French, Spanish, German, Chinese or Japanese. If Old Dominion does not offer all the required courses for this language, the student must find equivalent courses at other universities. The student must obtain written permission from the International Business discipline coordinator to take these courses at a particular university. The required courses for Europe and Latin America emphasis areas are intermediate 1 and 2 and the business language course. For East Asia emphasis areas the equivalent courses are the first 12 credit hours of the language. Students fluent in English and another language may fulfill the language requirement with an approved business minor (see discipline coordinator for information). Students must also study the culture and history of the specific region.

All students majoring in international business are required to participate in an approved study abroad program. International students are exempt from the study abroad requirement. However, these students are required to take an approved business minor. Exemptions need written approval of the discipline coordinator. Students can choose from an extensive list of sites abroad. International business students have recently studied in Denmark, England, Mexico, the Philippines and Korea.

International business students are encouraged to minor in a business functional area such as accounting, finance, marketing or management.

All international business students are required to take the international business and regional courses required for their region of the world.

**International Business major, East Asian emphasis in Chinese course work**

HIST 101H	Interpreting the Asian Past	3
POLS 100S	International Politics	3
CHIN 111F	Intro to Chinese I	6
CHIN 212	Intro to Chinese II	6
ECON 450	International Economics	3
FIN 435	International Finance	3
MKTG 411	Multi-national Mktg	3
INBU 433	Doing Business in Asia	3
INBU 450	Intl Business Operations	3
Major elective*		3
International Asia Regional Courses**		6

\* Major electives: ECON 454W, 455, INBU 367, 368, 434, 463, 495, IT 425, MGMT 462, 463, 465, MSCM 370

\*\* Asian Regional Courses choices: ASIA 460, GEOG 453, HIST 332, 336, 439, POLS 338W, 437

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 433, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

**International Business Major, East Asian emphasis in Japanese course work**

HIST 101H	Interpreting the Asian Past	3
POLS 100S	International Politics	3
BUSN 135	Intro to Prod Software	1
JAPN 111F	Beginning Japanese	6
JAPN 212	Intermediate Japanese	6
ECON 450	International Economics	3
FIN 435	International Finance	3
MKTG 411	Multi-national Mktg	3
INBU 433	Doing Business in Asia	3
INBU 450	Intl Business Operations	3
Major elective*		3
International Asia Regional Courses **		6

\* Major electives: ECON 454W, 455, INBU 367, 368, 434, 463, 495, IT 425, MGMT 462, 463, 465, MSCM 370

\*\* Asian Regional Courses choices: ASIA 460, GEOG 453, HIST 332, 336, 439, POLS 338W, 437

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 433, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

**International Business Major, European emphasis course work**

HIST 102H	Interpreting the European Past	3
POLS 100S	International Politics	3
BUSN 135	Intro to Prod Software	1
FL 201	See comments below*	3
FL 202	See comments below*	3
GER/FR/SPAN 366	Busn Language	3
ECON 450	International Economics	3
FIN 435	International Finance	3
MKTG 411	Multi-national Mktg	3
INBU 431	Doing Busn in Europe	3
INBU 450	Intl Business Operations	3
Major elective**		3
300-400 level business elective***		3
International European Regional Courses****		6

\* Language choices include: French, Spanish, German

\*\* Major electives: ECON 454W, 455, INBU 367, 368, 434, 463, 495, IT 425, MGMT 462, 463, 465, MSCM 370

\*\*\* Can be any 300-400 level course offered by the College of Business and Public Administration with the exception of ECON 200S and MGMT 361, providing that the student has the appropriate prerequisites

\*\*\*\* European Regional Courses choices: GEOG 451, FLET 410, HIST 316, 406, POLS 314, 332

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 431, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

**International Business Major, Latin American emphasis course work**

HIST 103H	Interpreting the Latin American Past	3
POLS 100S	International Politics	3
BUSN 135	Intro to Prod Software	1
SPAN 201	Intermediate Spanish I	3
SPAN 202	Intermediate Spanish II	3
SPAN 366	Business Language	3
ECON 450	International Economics	3
FIN 435	International Finance	3
MKTG 411	Multi-national Mktg	3
INBU 432	Doing Busn in Latin Am	3
INBU 450	Intl Business Operations	3
Major elective*		3
300-400 level business elective**		3
International Latin America Regional Courses***		6

\* Major electives: ECON 454W, 455, INBU 367, 368, 434, 463, 495, IT 425, MGMT 462, 463, 465, MSCM 370

\*\* Can be any 300-400 level course offered by the College of Business and Public Administration with the exception of ECON 200S and MGMT 361, providing that the student has the appropriate prerequisites

\*\*\* Latin America Regional Courses choices: GEOG 454, HIST 373, 470, 372, POLS 337, SPAN 321

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: INBU 432, 450, ECON 450, FIN 435, MKTG 411, and the three-hour INBU elective.

**International Business minor course work**

Students seeking the Bachelor of Science in Business Administration may also minor in international business by completing the following courses: ECON 450, FIN 435, MKTG 411, and either INBU 431, 432, 433, 450, MGMT 462, or 463. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

**Bachelor of Science in Business Administration-Management Major**

Paul J. Champagne, Chair and Chief Departmental Advisor

The management major is designed to develop a student's understanding of management as both an art and as a science along with those administrative skills necessary for positions of leadership and responsibility. The program recognizes that most students and managers will face several career changes and job choices following the first decade following graduation. The major provides students with a background in the principles and practices of management that will allow them to function in a variety of organizational environments.

For a major in management, all courses must be preceded by listed prerequisites. For completion of a major in management, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. In addition, a grade of C- or better is required in all management courses counted toward the major. A minimum of 12 hours in upper-level courses in the major must be taken through courses offered by Old Dominion University.

**Management major course work**

MGMT 340	Human Resource Mgmt	3
MGMT 361	Intl Busn Operations	3
MGMT 451	Organizational Behavior	3
MGMT electives*		12
200-400 level free elective		3
300-400 level free elective		3
Free electives		6

\* Management electives: MGMT 350, 360, 367, 368, 369, 413, 417, 418, 426, 427, 452, 462, 463, 495

All 300-400 level MGMT courses, except for MGMT 325 and 485W, are included in the calculation of the 2.00 overall grade point average for major course work for graduation.

**Management minor course work**

A minor in management requires the completion of MGMT 325 plus 12 hours of 300- or 400-level management courses except for MGMT 485W. All courses selected must be preceded by listed prerequisites. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses. In addition, a grade of C- or better is required in all management courses counted toward the minor. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

**Bachelor of Science in Business Administration-Maritime and Supply Chain Management Major**

G. Steven Rhiel, Chair  
Kelly Alvey, Chief Discipline Advisor

The maritime and supply chain management major is designed to provide students with an integrated working knowledge of maritime operations and supply chain management. It is the only undergraduate major of its kind east of the Mississippi River and graduates will be able to meet the needs of regional, national and international shipping, transportation and distribution industries. Students may concentrate in either the maritime management or supply chain management area by choice of their MSCM electives.

**Maritime and Supply Chain Management major course work**

MSCM 370	International Shipping	3
MSCM 430	Strategic Sourcing and Purchasing Mgmt	3
MSCM/DSCI 441	Supply Chain Management and Logistics	3
MSCM 471	Shipping Management	3
MSCM 472	Port Management	3
Major electives*		9
Free elective		3

\* ACCT 311, DSCI 407, 432, 476, ECON 402, FIN 435, MGMT 360, MSCM 368, 406, 495, 497

\*\* Can be any 300-400 level course offered by the College of Business and Public Administration, providing that the student has the appropriate prerequisites.

Courses included in the calculation of the 2.00 overall grade point average for major course work for graduation are: MSCM 370, 430, MSCM/DSCI 441, MSCM 471, 472 and all 300-400 level MSCM elective courses.

## Bachelor of Science in Business Administration- Marketing Major

Anusorn Singhapakdi, Chair  
Michelle Carpenter, Chief Departmental Advisor

Marketing is more than just buying and selling. Marketing is part of almost any transaction that occurs between people and organizations. Each party has objectives and goals it would like to realize. The marketing task is to facilitate the transaction so that these objectives are met. The principal objective of this major is educating students to be ethical and successful in today's and tomorrow's dynamic global marketing environment.

For completion of a major in marketing, a student must have a minimum overall cumulative grade point average of 2.00 in all courses taken toward the major. In addition, a grade of C- or better is required in all marketing courses counted toward the major.

### Marketing major course work

MKTG 402	Consumer Behavior	3
MKTG 407	Marketing Research	3
MKTG 411	Multi-national Mktg	3
MKTG 490	Mktg Policy & Strategy	3
MKTG electives*		12
200-400 level free elective		3
Free electives		6

\* Marketing electives: MKTG 367, 368, 369, 403, 404, 406, 412, 414, 416, 428, 450, 496

All 300-400 level MKTG courses, except for MKTG 311, are included in the calculation of the 2.00 overall grade point average for major course work for graduation.

### Marketing minor course work

A minor in marketing requires the completion of MKTG 311 plus 12 hours of 300/400-level marketing courses. All courses selected must be preceded by listed prerequisites. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses. In addition, a grade of C- or better is required in all marketing courses counted toward the minor. A minimum of six hours in upper-level courses in the minor must be taken through courses offered by Old Dominion University.

## MILITARY SCIENCE AND LEADERSHIP (Army Reserve Officers' Training Corps)

Carl L. Michaud, Jr., Chair

The Department of Military Science and Leadership offers courses that develop a student's ability to organize, motivate, and lead others. Although some military science graduates choose a career with the U.S. Army, many use their Army leadership and management experiences as a springboard for successful careers as entrepreneurs, corporate officers and managers, attorneys, and governmental executives. A variety of social and professional enrichment activities as well as adventure training opportunities are also available to students. Scholarships are available on a competitive basis.

The Army ROTC program is administratively located under the Director of Military Activities and is situated, for academic matters, within the College of Business and Public Administration.

### Mission

The mission of the Department of Military Science and Leadership is to commission the future officer leadership of the U.S. Army. The Old Dominion University Army ROTC program consists of structured study in the field of military science with the primary objective of developing leaders who will serve as commissioned officers in the U.S. Army Active and Reserve

components. Students develop maturity, responsibility, and dependability while earning the Gold Bar of an Army Second Lieutenant.

### Requirements

Army ROTC offers two different programs to all qualified university students. The traditional four-year program gives students the opportunity to take AROTC courses in each of their four years of college. The two-year program is available for any students who did not take ROTC during their first two years of college. There is no service obligation until students reach their junior year of college.

### Four-Year Program

**Basic Course.** Military Science Level I (MSL 101+, 102+ or 195, 196) and Level II (MSL 201+, 202+ or 295, 296, 250+).

**Advanced Course.** Military Science Level III (MSL 301, 395/311+, 302, 396/312+) and Level IV (MSL 401, 495/411+, 402, 496/412+).

Veterans and members of the Reserve or National Guard may be able to waive the Basic Course requirements.

### Two-Year Program

MSL 250+ (Basic Camp Leader's Training Course) and the Advanced Course listed above. Attendance at Leader's Training Course (not to be confused with the Basic Training) satisfies the Basic Course requirements.

### Minor in Military Leadership

The minor in military leadership is a high quality, interdisciplinary, multidimensional, experiential, and culturally diverse program that exposes students to, and prepares them for, real life leadership opportunities and challenges. Students explore issues of leadership, citizenship, and social change within the context of an inquiry, experiential, and competency-based instructional design. The minor is open to all students who have completed the prerequisite courses. Students who are not enrolled in the military science or naval science program will receive academic credit for the minor but will not receive credit for commissioning purposes.

The requirements for students in the Military Science and Leadership Department are completion of MSL 301, 302, 401, 402 and one course selected from ENMA 301, 401, ENGL 435W, HIST 360, 408, 410, MGMT 325, 340, NURS 480W, PHIL 441E, 442E, POLS 326, 327W, 350T, 421, PSYC 343, 345, and SOC 352. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100/200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

### Scholarships

Students may compete for four-, three-, and two-year scholarships that pay full tuition and gradually increasing stipend and book allowance annually. Nursing scholarships are plentiful for qualified applicants.

### Summer Training

Students may compete for Airborne, Air Assault, and other training during the summer. Third-year ROTC students may compete for Cadet Troop Leadership slots to various locations in the United States and overseas. All Advanced Course cadets attend the Leadership Development and Assessment Course (LDAC) before or after their senior year.

# Darden College of Education

Linda Irwin-DeVitis, Dean  
J. David Branch, Associate Dean, Undergraduate Education and College Services  
Sharon Judge, Associate Dean, Graduate Education and Assessment

The Darden College of Education is comprised of the following departments: Communication Disorders and Special Education; Counseling and Human Services; Educational Foundations and Leadership; Human Movement Sciences; Science, Mathematics, Engineering and Technology (STEM) Education and Professional Studies; and Teaching & Learning.

**Mission.** The Darden College of Education is committed to excellence in teaching, scholarly activities, and service in the context of a diverse student body, faculty, community, Commonwealth of Virginia, the nation, and world. The college strives to accomplish its goals of excellence by meeting the educational needs of these communities through the achievement of national and international prominence in the disciplines of the college and through the preparation of outstanding educators, leaders, and professionals.

**Vision.** The Darden College of Education will become known as one of the top 50 colleges of education in the country and will increase its rankings in national opinion surveys by focusing its resources to achieve

- collaboration among departmental, college, and University colleagues and with professional colleagues throughout the world;
- adherence to the highest standards of professionalism and by gaining prominence in the professions; and
- a reputation for innovation in teaching, research, and service in the preparation of teachers and other professionals, leaders, and scholars as the college meets the needs of Hampton Roads, the Commonwealth of Virginia, nation, and world.

The commitment to the college's mission and this vision add value to the academic degree programs of the college, the research and scholarly activities, and the service to the community, Commonwealth of Virginia, nation, and world.

**Purpose for Teacher Education.** Old Dominion University's major purpose in its teacher education programs is to prepare teachers and educational leaders who have knowledge of their teaching disciplines, abilities to practice state-of-the-art instruction to students of various cultural and socioeconomic backgrounds, and demonstrate dispositions which reflect commitment to teaching and learning as well as lifelong professional growth and development.

**Goals for Teacher Education.** The teacher preparation programs embrace several broad goals. Candidates will possess the following:

- a. Knowledge of their teaching field(s);
- b. Pedagogical knowledge of principles and strategies which pertain to classroom organization and instructional practices;
- c. Knowledge of curricular content, classroom organization, instructional materials, and instructional technology;
- d. Knowledge of learners' developmental characteristics and diversity;
- e. Knowledge of educational contexts, ranging from group dynamics in classrooms, to the governance and financing of school divisions, to the characteristics and expectations of communities which schools serve;
- f. Knowledge of educational values, purposes, ends, history, and philosophies which pertain to schooling in a democracy;
- g. Ability to conduct research and utilize research findings in decisions to improve long-range planning, school operation and student learning.

All education programs are accredited by the National Council for the Accreditation of Teacher Education (NCATE). Teacher licensure programs are also approved by the Department of Education of the Commonwealth of Virginia.

The graduate programs provide Virginia and other regions with ten broad majors for the Master of Science in Education, three majors in the Master of Science, two majors for the Education Specialist, and 11 majors for the Doctor of Philosophy. Within these graduate majors are over 40 related interest areas designed to address the professional needs of students and the communities they serve. The prime objective of graduate programs is to improve the professional skills and attitudes of students to enable them to influence the quality of education (teaching, leadership, counseling, research, training, and community services) at the state, regional, national, and international levels.

## Portfolio Assessment Policy

All individuals seeking admission into any teacher education program are required to purchase the Web-based Portfolio Assessment System approved by the Teacher Education Council upon enrolling/registering for their first education class. In addition, any student taking a course in which the instructor requires the Web-based Portfolio Assessment System will be required to purchase this system. Information can be found on the Darden College of Education website: [www.education.odu.edu](http://www.education.odu.edu).

## Fast Track Graduate Admission Policy

Fast Track graduate admission is available to undergraduate students completing an approved teacher preparation program at Old Dominion University. Students completing the Bachelor of Science Interdisciplinary Studies Teacher Preparation concentration may apply to an M.S.Ed. program in Early Childhood Prek-3, Elementary Education Prek-6, or Special Education. Candidates who complete their baccalaureate degree with initial licensure in art, dance, English, foreign language, history/social studies, marketing education, mathematics, music, health and physical education, biology, Earth science, physics, chemistry, technology education, and/or theatre may apply to an M.S.Ed. program for licensed teachers.

To be considered for Fast Track, candidates must meet the following criteria:

- Have an overall minimum 3.20 undergraduate cumulative GPA at Old Dominion University; and
- Have passing scores on EACH of the three sections of the Praxis I exam (reading 178, writing 176, and math 178 – composite scores will not be considered) or meet the approved Board of Education scores on the SAT or ACT as established by the Commonwealth of Virginia.

SAT as substitute for Praxis I – On March 24, 2004, the Board of Education approved the use of the SAT as a substitute test for the Praxis I (Mathematics, Reading, and Writing) required for initial licensure. The Board approved the following scores:

- SAT taken prior to April 1, 1995: a score of 1000 with at least 450 on the verbal and 510 on the mathematics tests
- SAT taken after April 1, 1995: a score of 1100 with at least 530 on the verbal and 530 on the mathematics tests.

ACT as substitute for Praxis I – On September 22, 2004, the Board of Education approved the use of the ACT as a substitute test for the Praxis I (Mathematics, Reading, and Writing) required for initial licensure. The Board approved the following scores:

- ACT taken prior to April 1, 1995: a composite score of 21, with the ACT mathematics score of not less than 21 and an ACT English Plus Reading score of not less than 37. ACT scores taken prior to 1989 are not valid.
- ACT taken after April 1, 1995: a composite score of 24, with the ACT mathematics score of not less than 22 and an ACT English Plus Reading score of not less than 46. ACT scores taken prior to 1989 are not valid.

**The Praxis/ VCTA score combination is not an approved option for Fast Track Graduate Admission.**

## Licensure and Baccalaureate Degree Requirements

The Darden College of Education offers teacher preparation programs as well as non-teaching programs in human services, exercise science, sport management, speech-language pathology and audiology, recreation and tourism studies, fashion merchandising, industrial technology, and training specialist. Teacher preparation programs focus on the acquisition of competence in the following areas:

1. subject matter;
2. preparing and presenting instruction;
3. diagnosing and assessing student achievement;
4. recognizing individual differences with respect to cultural diversity and the spectrum of exceptionalities;
5. implementing a sound philosophy of education based on an understanding of the foundations of American education; and
6. building and maintaining an effective classroom environment.

Program sheets are available in the Office of Teacher Education Services and appropriate departmental offices in the Colleges of Arts and Letters, Education, and Sciences. Students who wish to teach the disciplines of art, biology, chemistry, computer science, dance, Earth science, physics, English,

foreign languages, music, mathematics, social studies, and theatre must pursue appropriate majors in either the College of Arts and Letters or the College of Sciences. (See the College of Arts and Letters and the College of Sciences sections of this Catalog.) Students interested in teaching early childhood education, elementary education, or middle school must pursue a major in interdisciplinary studies through the College of Arts and Letters and a fifth year leading to a master's degree in elementary education or early childhood education through the Darden College of Education. Special education teacher candidates earn full licensure to teach special education general curriculum, K-12, with the completion of the B.S. degree with a major in Interdisciplinary Studies Teacher Preparation, Special Education Emphasis (see the College of Arts and Letters section of this Catalog) and courses in the Darden College of Education. Additionally, special education teacher candidates will be highly qualified to teach (1) elementary education or (2) secondary English and elementary education. (For education course requirements in these areas, see the Department of Teaching & Learning and the Department of Communication Disorders and Special Education sections of this Catalog.) Students interested in speech-language pathology and audiology must also complete a master's degree in that area. Students interested in teaching marketing education, technology education, or health and physical education must pursue a major in the discipline. (For details, see the Department of STEM Education and Professional Studies or the Department of Human Movement Sciences sections of this Catalog.)

## Post-Bachelor's Licensure Only Teacher Education Programs

### Policy

Many students already possessing an undergraduate degree enter Old Dominion University for the sole purpose of meeting Virginia's teaching licensure standards. When these students apply for admission into an approved teacher education program, they are considered to be post-bachelor's "licensure only" candidates and must meet the college's policy for admitting students into an approved teacher education program. Admission to Old Dominion University does not guarantee admission into degree and/or teacher preparation programs in the Darden College of Education.

### Procedure

Students seeking regular admission into the licensure only program must:

1. apply for admission to Old Dominion University as a non-degree seeking graduate student;
2. have achieved a cumulative GPA of 2.75 for all college credit courses taken in the baccalaureate degree program;
3. achieve passing Praxis I or the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program substitute test score for Praxis I described in this section of the catalog.
4. interview with and receive recommendation for admittance from a department representative, Teacher Education Services advisor, or site director;
5. submit an application for admittance into the Darden College of Education Teacher "Licensure Only" Program. Only 12 hours of professional education courses from another institution may transfer into a licensure only program. Practicum and/or student teaching courses are not eligible for transfer;
6. complete the professional dispositions self-survey; and
7. provide authorization for the release of any disciplinary action that is contained in the student records.

Students who do not meet regular admission requirements may meet provisional admission into the licensure only program. For provisional status, a student must:

1. apply for admission to Old Dominion University as a non-degree seeking graduate student;
2. have achieved a cumulative GPA of 2.50-2.74 for all college credit courses taken in the baccalaureate degree program;
3. achieve passing Praxis I or Virginia Board of Education-approved SAT or ACT score requirements as outlined by the Commonwealth of Virginia;
4. interview with and receive recommendation for admittance from a department representative, Teacher Education Services advisor, or site director;
5. submit an application for admittance into the Darden College of Education Teacher "Licensure Only" Program; and

6. provide authorization for the release of any disciplinary action that is contained in the student records.

Students who do not meet the admission requirements listed above may request an exception to the departmental requirements via the Licensure Only Exception Request form obtained from a Teacher Education Services advisor or a site director. This exception requires approval from the College of Education Appeals Committee.

Students who wish to apply to a graduate program while in the licensure only program must meet all graduate program entry requirements. Additionally, a maximum of 12 hours from a licensure only program will transfer into a graduate program.

In order to student teach and complete the approved teacher education program, students must also attain passing scores on the Praxis II exam, the Virginia Communication and Literacy Assessment (VCLA) and when appropriate the Virginia Reading Assessment (VRA), or the current Virginia Board of Education approved reading assessment.

## Admission, Continuance, and Exit Requirements for Approved Teacher Education Programs

Admission to Old Dominion University does not guarantee admission to degree and/or teacher preparation programs in the Darden College of Education. All such programs have admission, continuance, and exit requirements based on Virginia teacher-licensure regulations and specific departmental criteria. These criteria include minimum grade point averages as well as the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program described in this section of the catalog.

**Admission:** Students applying for admission to the teacher education program must have a minimum (may vary based on program) 2.75 grade point average overall, in the major, and in the professional education core. Additionally, students must earn at least a grade of C- in all courses taken in the major and in the professional education core, and achieved passing Praxis I or the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program substitute test score for Praxis I described in this section of the catalog. As part of the admission application, applicants are required to provide authorization for the release of any disciplinary action that is contained in their student records upon application. Although students may enroll in a limited number of education courses, admission into the teacher education program and passing Praxis I scores or approved equivalent test scores must be on file in the Teacher Education Services Office prior to students enrolling in any professional education practicum course. Applicants must also complete the professional disposition survey.

**Continuance:** Students must maintain a 2.75 minimum (may vary based on program) grade point average overall, in the major, and in the professional education core. Additionally, students must continue to earn at least a grade of C- (depending on program) in all courses taken in the major and in the professional education core for continuance in the teacher education program; have achieved passing Praxis I or the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program substitute test score for Praxis I; and achieve passing scores in the Prescribed Virginia Board of Education Professional Assessments for Licensure described in this section of the catalog, prior to the start of the teacher candidate internship.

Score reports for all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building. These score reports are to be provided by the candidate and will not be returned. For the most current information on prescribed Virginia Board of Education professional assessments for each individual passing score, visit the Teacher Education Services website, <http://education.odu.edu/tes> and review the *Teacher Education Handbook*.

**Exit:** Students must have 1) a minimum (may vary based on program) 2.75 grade point average overall, in the major content, and in the professional education core, 2) earned a passing grade in student teaching; 3) passed the Exit Examination of Writing Proficiency, and 4) completed the senior assessment.

The Virginia Department of Education requires all initially licensed teachers, school counselors, administrators, and other school personnel to receive training on the recognition of child abuse and neglect. This training is verified through specific courses in the approved professional education programs. Students who transfer courses into the approved programs in place of the courses that meet the child abuse and neglect requirements must provide documentation that they have met the recognition of child abuse and neglect standards. For more information contact the staff in the Teacher Education

Services and Advising Office, Education Building Room 152, or go to [www.odu.edu/tes](http://www.odu.edu/tes).

The Virginia Department of Education requires all initially licensed teachers, school counselors, administrators, and other school personnel to receive training in the area of technology. This training is received through specific courses in the approved professional education programs.

Prior to placements in practica and/or internships, students may be required to complete the Virginia State Police Criminal History Check (SP230), the Child Protective Service Central Registry Release of Information (032-02-1515/1), and a fingerprint check by the school district. Students may be liable for all costs incurred.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at [www.education.odu.edu](http://www.education.odu.edu).

For more information on requirements in specific programs, students should refer to the individual program listings in this section or contact the Office of Teacher Education Services or the appropriate department in the College of Arts and Letters, the Darden College of Education, or the College of Sciences.

## Observation and Participation

SEPS 297, TLED 290, or TLED 301 is the introductory undergraduate course in most programs in the Darden College of Education (equivalent course in the Department of Human Movement Sciences is HPE 230). The purpose of the course is to give students early opportunities for direct experience in elementary, middle, and high school classrooms. These experiences are designed to help prospective teachers decide whether or not teaching is the right choice for them, as well as to motivate them in preparing to teach.

## Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program

Old Dominion University students seeking admission to an approved teacher education program must satisfy the Virginia Board of Education Required Assessment for Admission to an Approved Teacher Education Program. This requirement can be satisfied by meeting a passing score in one of the selected criteria below:

- a. Passing PRAXIS I composite score of 532; **or**
- b. Approved substitute test score for Praxis I:
  1. SAT score of 1000 with at least 450 verbal and 510 mathematics taken prior to April 1, 1995; **or**
  2. SAT score of 1100 with at least 530 verbal and 530 mathematics taken after April 1, 1995; **or**
  3. ACT composite score of 21 with ACT mathematics score of at least 21, and ACT English plus Reading score of no at least 37, taken prior to April 1, 1995. ACT scores taken prior to 1989 are not valid; **or**
  4. ACT composite score of 24 with ACT mathematics score of at least 22, and ACT English plus Reading score of at least 46, taken after April 1, 1995; **or**
  5. PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy Assessment (hereafter referred to as the VCLA) score of 470; **or**
  6. SAT Mathematics test score of at least 510 taken prior to April 1, 1995 and a VCLA score of 470; **or**
  7. SAT Mathematics test score of at least 530 taken after April 1, 1995 and a composite VCLA score of 470; **or**
  8. ACT Mathematics test score of at least 21 taken prior to April 1, 1995 and a composite VCLA score of 470; **or**
  9. ACT Mathematics test score of at least 22 taken after April 1, 1995 and a composite VCLA score of 470.

For the most current information on the prescribed Virginia Board of Education admission assessment, visit the Teacher Education Services website, <http://education.odu.edu/tes> and review the *Teacher Education Handbook*.

## Early Field Experiences

A candidate may participate in a course with a field experience through one of two tracks:

- A. A candidate may be eligible to participate in the early field experience course if s/he has been admitted into an approved teacher education program. This requires that candidates achieve a passing Praxis I score or the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program. In addition, candidates must meet the GPA for their individual programs, professional education courses, and minimum grade requirements, along with any other course prerequisites.
- B. A provisionally licensed teacher may participate in a course if s/he is currently employed with a school division, has a letter from the Virginia Department of Education listing the course as a needed requirement, and has passing Virginia Communication and Literacy Assessment (VCLA) scores. The provisionally licensed teacher will have to meet all the requirements of the course as stated in the syllabus.

The college is committed to developing candidates skilled in teaching students of all cultural and socioeconomic backgrounds and with diverse learning needs in a fair and equitable manner. Thus, candidates must complete their early field experiences in a public or private school accredited by the Virginia Department of Education. Teacher candidates may request specific schools and districts. However, these requests are informal and ARE NOT guaranteed. Candidates may not contact school district personnel in order to request or obtain placement. Candidates may not complete their field experience at a school where an immediate relative is attending or working. Candidates are required to disclose this information on the on-line application.

## Prescribed Virginia Board of Education Professional Assessments for Licensure

Old Dominion University teacher candidates seeking initial licensure through the completion of an approved teacher education program must successfully pass the Prescribed Virginia Board of Education Professional Assessments for Licensure prior to the start of the teacher candidate internship. The following assessments must be completed with a passing score:

1. Virginia Communication and Literacy Assessment (VCLA) passing composite score of 470;
2. Praxis II specialty area exam passing score approved by the Virginia Board of Education; and
3. Virginia Reading Assessment (VRA) passing score of 235 for pre-3, pre-6, and k-12 special education endorsements, and 245 for the reading specialist endorsement, or the current Virginia Board of Education approved reading assessment.

For the most current information on the prescribed Virginia Board of Education professional assessments for each individual passing score, visit the Teacher Education Services website, <http://education.odu.edu/tes> and review the *Teacher Education Handbook*.

## Teacher Candidate Internship

Teacher internship is the culminating experience in the approved teacher education programs. This experience is a crucial part of a candidate's preparation to becoming a professional educator. During the teaching internship experience, candidates observe the operation of schools; analyze the implementation of curricula and instructional strategies; observe the growth and development of students; assist with classroom and extracurricular activities; and ultimately assume responsibility for the academic instruction and management of the classroom. Candidates' work is evaluated by clinical faculty (cooperating teachers in the schools) in conjunction with University supervisors.

To be eligible to participate in the teaching internship experience, the candidate must have been admitted into an approved teacher education program.

This requires the candidate to achieve passing Praxis I or the Prescribed Virginia Board of Education Assessment for Admission to an Approved Teacher Education Program substitute test score for Praxis I described in this section of the catalog. In addition, candidates must meet the GPA requirements for their individual programs, professional education GPA requirements, and minimum major content grade requirements. Also, candidates must successfully pass the Prescribed Virginia Board of Education Professional Assessments for Licensure prior to the start of the teacher candidate internship described in this section of the catalog. All assessments for student teaching must be in the Teacher Education Services Office (152 Education Building) prior to the first day of the ODU semester for student teaching. There are no exceptions.

The Darden College of Education is committed to developing candidates skilled in teaching students of all cultural and socioeconomic backgrounds with



diverse learning needs in a fair and equitable manner. Thus, teacher candidates may complete their teaching internships in public or private schools that have been accredited by the Virginia Department of Education or other State Department of Education. Candidates may request specific school districts and schools. These requests are informal and are not guaranteed. Candidates may not contact school district personnel in order to request or obtain a placement. Candidates may not complete their internship at a school where a relative is working. Candidates are required to disclose this information on the student teaching application. If a candidate is placed at a school where a relative is located, the candidate will be removed from the placement and will have to complete the internship the following semester.

Additionally, a negative tuberculin test is required prior to the teacher internship. Prospective candidates are required to provide authorization for the release of any disciplinary action that is contained in their student records. Prior to placement, students may be required to complete the Virginia State Police Criminal History Check (SP230), the Child Protective Service Central Registry Release of Information (032-02-1515/1), and a fingerprint check by the school district. Students may be liable to all costs incurred. Additionally, prospective teacher interns should avail themselves of liability or tort insurance, which can be obtained through membership in the Student Virginia Education Association of Old Dominion University.

## Advanced Placement

The Darden College of Education is comprised of a variety of undergraduate and graduate programs. The College provides a guarantee on all teacher candidates completing the state-approved programs with initial teacher licensure. Thus, experiential learning credit is not approved for education courses with field placements/practica or student teaching. For additional information on advanced placement and experiential learning, students may refer to the Policy on Experiential Learning at the Undergraduate Level found in this Catalog.

## Teacher Education Services

Leigh Butler, Assistant Dean  
152 Education Building  
757-683-6448

The staff in the Office of Teacher Education Services and Advising (TES) in the Darden College of Education supports teacher education programs in the College of Arts and Letters, the College of Sciences, and the Darden College of Education. In this role of support, the mission of the Office of TES is to provide, facilitate, promote, and uphold the standards of Old Dominion University to grant undergraduate and graduate degrees with a teacher education emphasis in PreK-3, PreK-6, 6-8, 6-12 and PreK-12, school counseling, educational leadership and speech language, which are accredited by the National Council for Accreditation of Teacher Education (NCATE) and approved by the Virginia Department of Education (VDOE).

The TES staff is committed to serving students pursuing either a professional education or human services emphasis through their respective college's academic departments and fostering a process with the following features:

1. academic advisement of prospective teacher candidates pursuing an undergraduate or graduate degree with either a professional education or human services emphasis, including development of appropriate academic plans;
2. promotion of professional education and human services programs, including informing candidates of scholarship and study abroad opportunities, as well as credentialing requirements;
3. communication with prospective teacher candidates regarding admission, continuance, and exit requirements for their respective education degree and initial licensure programs;
4. facilitation of the placement of field experiences for teacher candidates in appropriate K-12 classroom settings in order to meet observation, practicum, and student teaching internship requirements; and
5. coordination and presentation of supervisors and student teacher orientations.

## Programs for Continued Learning

The Programs for Continued Learning Department extends to the community special conferences, workshops, seminars, in-service training, and short courses. Drawing on the faculty of the college and experts in the field, programs are designed in areas such as leadership, counseling/interpersonal skills, learning and curriculum design, training and development, health

education, and physical fitness. Clients consist of educators as well as professionals in business, industry, and public, private and governmental agencies. Programs are designed to help professionals increase and upgrade their development activities. Professional and personal development programs are awarded continuing education credit (CEUs).

## COMMUNICATION DISORDERS AND SPECIAL EDUCATION

Nicholas G. Bountress, Chair

The Department of Communication Disorders and Special Education is dedicated to preparing professionals to serve in educational and clinical settings as well as community agencies. The department fulfills this mission through its undergraduate and graduate degrees as well as licensure programs. An undergraduate degree is offered in speech-language pathology and audiology. Graduate degree programs and licensure are offered in speech-language pathology and special education. Special education students may emphasize either a combination of learning disabilities, emotional and behavioral disorders, and mental retardation or early childhood special education and severe disabilities.

### Interdisciplinary Studies Undergraduate Preparation

Undergraduate students who are interested in special education can become eligible for licensure to teach special education through the College of Arts and Letters Interdisciplinary Studies Teacher Preparation program. See the Interdisciplinary Studies section of this Catalog or the web site for additional information, admission, continuance, exit and assessment requirements, program requirements and curriculum of study: <http://al.odu.edu/ids/tprep>.

### Minor in Special Education (15 hours)

Required courses are SPED 313, 400, 402, 411, and 415. SPED 415 requires passing the Prescribed Virginia State Board of Education Assessment for admission to an approved teacher education program (see Darden College of Education section for specific assessment information) For completion of a minor, a student must have a minimum grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement at Old Dominion University.

### Guaranteed Entry Program in Special Education

Undergraduate students will be automatically accepted into the graduate program in special education if they have met the following requirements.

1. 3.50 grade point average and 1100 SAT or 3.25 grade point average and 1180 SAT at the high school level.
2. A minimum 3.50 grade point average in undergraduate course work.
3. Permission of the special education faculty.
4. Passing scores on all parts of the Praxis I exam.

### The Child Study Center

The Lions Child Study Center, located on Hampton Boulevard on the Old Dominion University campus, serves as a cooperative link among the University, community, and early childhood, special education and speech pathology/audiology programs of the University. In conjunction with its mission of urban outreach, the center provides in-service education, consultation, and clinical services to the local community, agencies, institutions, and school systems. In addition to serving as a visible community resource for referral and information, the center also conducts on-site demonstrations for training and informational exchange, provides parent training, tutorial and assessment services, and develops intervention and service models.

### Programs for Children

**Mission Statement.** Old Dominion University's primary purpose in the children's programs at the Child Development and Child Study Centers is to train teacher candidates and provide a setting for research conducted by the University community. A secondary mission is to provide exemplary child care for the greater Hampton Roads community.

**The Child Development Center.** The Old Dominion University Child Development Center is a full-service, full-time program offering quality care for children ages eight weeks through kindergarten. In each of seven

classrooms, a lead teacher is assisted by practicum students from early childhood and other academic areas of study. The lead teacher is a master's-level professional, trained to be knowledgeable about and attentive to the individual needs of children. Teacher aides also are employed to work in the center and are chosen from students in various disciplines who are trained and interested in working with young children. The Child Development Center provides care for children 48 weeks of the year from 7:30 a.m. to 5:30 p.m. and is housed in two locations: 1520 West 48th Street (the five classes for younger children) and the Child Study Center on 45th Street (the two classes for the oldest children).

**The Preschool/Kindergarten Program.** The Preschool/Kindergarten Program operates three hours a day, five days a week and emphasizes developmentally appropriate practices for children ages 3-5. The overall curriculum includes art, music, science, reading and math readiness, physical education, computers, foreign language, and swimming. Children of kindergarten age are given a specific readiness program in preparation for their entrance into first grade. Lead teachers are assisted by graduate practicum students from early childhood education, as well as students from other academic areas of study, including speech-language pathology, psychology, recreation studies, elementary education and special education.

### The Kiwanis Parenting Center

Old Dominion University's Kiwanis Parenting Center, a resource for the Hampton Roads community, provides education, training, research and support services for parents, professionals and Old Dominion students. Its purpose, which is to benefit children and enhance the lives of families, is realized through lectures, workshops, seminars and support groups conducted by and for community and University personnel and patrons. It is located on the second floor of the Lions Child Study Center and includes a large lecture hall, a parent library and a children's play room.

### Speech and Hearing Clinic

The Speech and Hearing Clinic including the Scottish Rite Center provides diagnostic and remedial clinical services to speech-language and hearing impaired children and adults. It operates on a twelve-month, five day per week schedule. Referrals are accepted from medical and educational agencies. Speech-language services are provided by advanced undergraduate and graduate student clinicians in Old Dominion University's speech-language pathology program who are supervised by ASHA certified clinical faculty members. Audiology services are provided by clinical faculty members holding ASHA certification and by student clinicians who are supervised by these clinical faculty members. Clients typically served by the clinic display hearing, language, voice, fluency (stuttering) and articulation disorders as well as characteristics of social and foreign dialects.

## Bachelor of Science—Speech-Language Pathology and Audiology Major

Nicholas G. Bountress, Program Director

The undergraduate program in speech-language pathology and audiology is designed to provide students with the academic experiences needed to identify and assess speech, language and hearing disorders and to prescribe effective therapeutic procedures. The minimum number of hours required for the degree is 120. Consistent with the mandates of Public Law 99-457, undergraduate programs in speech-language pathology and audiology in the United States cannot prepare bachelor's level students for employment in any professional setting. Therefore, the undergraduate program at Old Dominion University serves as a feeder program to the master's degree program which prepares students for employment through advanced course work, on-campus and off-campus practica, and a student teaching experience.

### Admission, Continuance and Exit Requirements

**Admission.** Requirements are as follows: (1) Students must have completed one year of course work with a grade point average of at least 2.50, and (2) students must have an interview with a program advisor.

**Continuance.** A cumulative grade point average of 2.50 in all major courses is required for continuing status. Grades below C- in major courses must be retaken to attain a grade of C- or higher.

**Exit.** Undergraduate majors must have satisfied University and program requirements, passed the University Exit Examination of Writing Proficiency and have a grade point average of at least 2.50 in all major courses.

<b>LOWER DIVISION GENERAL EDUCATION</b>		<b>Credits</b>
Written Communication Skills		6
Oral Communication		3
Mathematical Skills		3
Language and Culture		0-6
Information Literacy and Research		3
Human Creativity		3
Interpreting the Past		3
Literature		3
Philosophy and Ethics		3
The Nature of Science		8
In accordance with University and national accreditation requirements, students must complete 8 credit hours of Natural Science, with 4 credit hours in biological sciences (e.g., BIOL 105N, 106N, 109N or 115N) and 4 credit hours in physical sciences (e.g., CHEM 105N/106N or 121N/122N, OEAS 106N, 110N or 111N, PHYS 101N, 103N, 111N or 231N).		
Human Behavior		3
Impact of Technology		3

### Major Courses 300-400 level (54 hours)

#### Third Year—first semester

CSD 351	Anatomy of Speech, Language and Hearing	3
CSD 450	Survey of Comm Disorders	3
CSD 460	Hearing Disorders and Basic Aud	3
CSD 449W	Orientation to Clinic Procedures	3
ENGL 350	Aspects of English Language	3

#### Third Year—second semester

CSD 352	Phonetics	3
SPED 400	Four Special Ed - Legal Aspects	3
CSD 451	Articulation/Phon Disorders	3
CSD 453	Language Develop & Disorders	3
CSD 461	Aural Rehabilitation I	3

#### Third Year—third semester

CSD 447	Intro to Language Disorders in Children	3
SPED 411	Behavior Management Tech	3
CSD	Elective	3

#### Fourth Year—first semester

SPED 313	Fundamentals of Human Growth and Development	3
CSD 465	Signing I-Begin Nonverbal Com	3

#### Fourth Year—second semester

CSD 452	Voice Disorders	3
CSD 458	Speech and Hearing Science	3
CSD 459	Seminar in Speech Path Methods	3

Major courses in which a grade below C- was earned must be repeated.

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.50 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Minor in Speech-Language Pathology and Audiology (18 Hours)

Required courses: CSD 450, 460. Elective courses (select four for a total of 12 credits): CSD 451, 452, 453, 458, 459, 461. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## COUNSELING AND HUMAN SERVICES

Danica Hays, Chair

The Department of Counseling and Human Services offers one undergraduate program, the Bachelor of Science with a major in human services. On the graduate level, the department offers the Master of Science in Education in counseling, an advanced Education Specialist degree in counseling, and a counseling emphasis in the Ph.D. in Education program. Once admitted to the human services program, students must consult their advisors regarding program requirements and selection of courses.

### Bachelor of Science—Human Services Major

Tammi Milliken, Coordinator

The program leading to the Bachelor of Science with a major in human services prepares students for entry-level positions in a wide variety of community service settings. Students in the program learn the roles and functions of the human service profession; characteristics of human growth and development; personal, social, and environmental factors affecting individual development; characteristics of human service agencies; theories and skills of human services; and how ethical issues, legal issues, and multicultural issues affect the work of the human service profession. Graduates are prepared to assist clients in coping successfully with developmental tasks of normal growth and in solving problems caused by personal, social, and environmental stress. Graduates may be employed in a wide variety of settings including mental health, mental retardation, substance abuse, aging/gerontology, domestic violence, child and youth services, correction/criminal justice, health care, recreation/fitness, and vocational rehabilitation.

#### Admission

Students must have a grade point average of 2.00 or above and have successfully completed ENGL 110C and 211C.

#### Program Requirements

All human services majors must satisfy the Bachelor of Science in human services core requirements, major requirements, minor requirements, any applicable electives, and General Education requirements as listed below.

A one-semester, unpaid internship (HMSV 468) is required after all other General Education courses, core courses, major courses, and minor courses are completed. Students are not to take any other courses when enrolled in the internship. Requirements for the internship include a minimum cumulative GPA of 2.0 overall and in the major and minor. Students must earn a grade of C (2.00) or better in HMSV 339, 341W, 343, 368, 440W and 441 before taking the internship. A grade of C or better must be earned in HMSV 468 to complete requirements for the major.

Students' prior coursework will be evaluated by the advisor at the time of admission to the program. Following admission, students must obtain permission from an authorized faculty advisor before registering. Students should obtain a curriculum sheet from the Human Services website [http://education.odu.edu/chs/academics/human\\_services/docs/HMSV\\_Major\\_Curriculum\\_Sheet\\_2010\\_11.pdf](http://education.odu.edu/chs/academics/human_services/docs/HMSV_Major_Curriculum_Sheet_2010_11.pdf) or from their academic advisor to assist in making course selections. Students must adhere to all course prerequisites and corequisites as stated in the course descriptions and on the curriculum sheets.

LOWER-DIVISION GENERAL EDUCATION	CREDITS
Written Communication Skills	6
Mathematical Skills (STAT 130M preferred)	3
Oral Communication (Satisfied by HMSV 339 in the major)	
Information Literacy and Research	3
Language and Culture	0-6
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
Human Behavior (PSYC 201S or 203S and SOC 201S required with a grade of C or better)	6
The Nature of Science	8
Impact of Technology	3

#### HUMAN SERVICES MAJOR REQUIREMENTS (45 HOURS)

HMSV 339	Interpersonal Skills (grade of C or better is required)	3
HMSV 341W	Introduction to Human Services (grade of C or better is required)	3

HMSV 343	Human Services Methods (grade of C or better is required)	3
HMSV 344	Career Development & Appraisal	3
HMSV 346	Diversity Issues in Human Services	3
HMSV 368	Field Observation in Human Services (grade of C or better is required)	3
HMSV 440W	Program Development, Implementation, and Funding (grade of C or better is required)	3
HMSV 441	Non-Profit Fund-Raising in Human Services (grade of C or better is required)	3
HMSV 444	Psychoeducational Groups	3
HMSV 447	Addictions: Theory and Intervention <u>or</u> HMSV 448 Advocacy with Children <u>or</u> HMSV 449 Theory and Practice of Prevention in Human Services	3
HMSV 491	Family Guidance	3
HMSV 468	Internship (grade of C or better is required)	12

#### UPPER-DIVISION GENERAL EDUCATION REQUIREMENTS: (6 hours minimum)

OPTIONS (select one):

- Approved Disciplinary Minor (a minimum of 12 hours determined by the department) or Second Major or Second Degree
- Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)
- International Business and Regional Courses or an approved Certification Program such as teaching licensure.
- Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

**ELECTIVES** (To meet minimum of 120 hours required for the degree)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major and minor, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment.

#### Minor in Human Services

The minor requires 15 credit hours of coursework that must include HMSV 339, 341W, and 346 from Area I and additional courses from Area II chosen from the following list: HMSV 343, 344, 447, 448, 449, and 491. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## EDUCATIONAL FOUNDATIONS AND LEADERSHIP

Jay Scribner, Chair

The Department of Educational Foundations and Leadership offers master's and education specialist degree programs in educational leadership and supervision and higher education. Educational leadership and higher education are offered at the doctoral level as emphasis areas in the Ph.D. in Education program. The department also offers a separate Ph.D. program in Community College Leadership. Please refer to the Graduate Catalog for information on these programs.

## HUMAN MOVEMENT SCIENCES

Robert J. Spina, Chair

The Department of Human Movement Sciences offers programs leading to the Bachelor of Science with a major in physical education (emphasis areas in exercise science, health and physical education PreK-12 teacher preparation, and sport management), the Bachelor of Science with a major in recreation and tourism studies (emphasis areas in recreational tourism management and therapeutic recreation), the Master of Science in Education with a major in physical education, and a human movement sciences emphasis in the Ph.D. in Education program.

# Bachelor of Science—Physical Education Major

## Program Requirements

All majors must satisfy the requirements in the appropriate emphasis area – exercise science, sport management, or teacher preparation – as described below in addition to minor requirements, any applicable electives, and General Education requirements.

### Sport Management Emphasis

Lynn Ridinger, Program Coordinator

This program is designed to prepare students for managerial positions within sport-oriented organizations. Careers in sport promotion, sport marketing, health and fitness center management, sport event management, sport facility/arena management and other sport-related businesses are targeted. This program is approved through the North American Society for Sport Management (NASSM) and the National Association for Sport and Physical Education (NASPE). The requirements for the emphasis are as follows:

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication Skills	6
Oral Communication	3
Mathematical Skills (MATH 102M or MATH 162M required)	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (Satisfied with SMGT 450W in the major)	
The Nature of Science	8
Human Behavior (ECON 202S required)	3
Impact of Technology	3

### Sport Management Core Requirements

SMGT 214	Introduction to Sports Management	3
SMGT 305	Sport Administrative Theory	3
SMGT 315	Sport Media and Public Relations	3
SMGT 331	Fiscal Planning/Mgmt–Sport and Recreation	3
SMGT 414	Sport Marketing	3
SMGT 421	Legal Aspects in Recreation and Sport Mgmt	3
SMGT 450W	Ethics and Morality in Sport	3
SMGT 452	Sport Facility Management	3
SMGT 453	Event Management and Sport Sponsorship	3
SMGT 455	Sport in Contemporary Society	3
SMGT 456	Sport Psychology	3
SMGT 368	Internship	12

All SMGT courses will be used to calculate the major grade point average, which must be 2.00 to graduate. In addition, a grade of C- or better is required in all SMGT courses.

### Additional Required Courses for Sport Management

ACCT 201	Principles of Accounting I	3
ACCT 202	Principles of Accounting II	3
ECON 436	Sports Economics	3
MKTG 311	Marketing Principles and Problems	3
MGMT 325	Contemp Org and Mgmt	3

### UPPER DIVISION GENERAL EDUCATION

Option A: Minor in Marketing

Option B: Minor in Management

Option C: Minor in Exercise Science

Students must follow the requirements for the selected minor option as outlined in this Catalog. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment.

### Exercise Science Emphasis

Courtney Monroe, Program Coordinator

This program is designed to prepare students for careers in preventive and rehabilitative exercise and wellness programs in settings such as hospitals, wellness and rehabilitation centers, sports medicine clinics, government

agencies, health and fitness centers, and corporate industry. Academic preparation focuses on the scientific aspects of exercise related to asymptomatic and symptomatic populations. The program also serves to prepare students for graduate studies in exercise science, physical therapy, and other allied health fields.

Students must achieve a minimum grade of C in BIOL 250 and MATH 102M or 162M before taking EXSC courses. The requirements for the emphasis are as follows:

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication Skills	6
Oral Communication	3
Mathematical Skills (MATH 102M or 162M)	3
Language and Culture	0-6
Information Literacy & Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (BIOL 115N-116N required)	8
Human Behavior (PSYC 201S required)	3
Impact of Technology (Satisfied with EXSC 417W in the major)	

### Exercise Science Requirements

BIOL 250	Anatomy and Physiology I	4
BIOL 251	Anatomy and Physiology II	4
CHEM 121N/122N	Foundations of Chemistry I Lecture and Lab	4
CHEM 123N/124N	Foundations of Chemistry II Lecture and Lab	4
EXSC 225	Introduction to Exercise Science	3
EXSC 250	Strength and Conditioning Leadership	3
EXSC 322	Anatomical Kinesiology-Human Anatomy	4
EXSC 340	Prevention/Care of Injuries	3
EXSC 408	Nutrition Fitness and Sport	3
EXSC 415	Exercise Test/Nml/Spc Pop	4
EXSC 417W	Adv Kinesiology/Biomechanics	4
EXSC 428	Exer Prescription/Chronic Dis	3
EXSC 431	Wellness Programming/Administration	3
PHYS 111N	Intro to General Physics I	4

### CHOOSE ONE OF THE FOLLOWING

#### Scientific Foundations of Exercise option:

PHYS 112N	Intro General Physics II	4
EXSC 420	Research Methods Exer Science	3
EXSC 426	Exercise Physiology I	3
EXSC 427	Exercise Physiology II	3
	Electives	10

#### Preventive/Rehabilitative Exercise option:

EXSC 368	Internship	12
EXSC 409	Physiology of Exercise	3
	Electives	8

All EXSC courses will be used to calculate the major grade point average which must be 2.00 to graduate.

### UPPER DIVISION GENERAL EDUCATION

Option A. Disciplinary Minor (a minimum of 12 hours determined by the department or Second Major or Second Degree)

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Additional free elective hours may be needed to make 120 credits total. A minimum 2.00 grade point average is required in the major, minor and overall to meet graduation requirements. Other requirements include completion of a minimum of both 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Writing Examination and completion of the Senior Survey.

### Health and Physical Education PK-12 Teaching Licensure Emphasis

Steve Knott, Program Coordinator

This program is designed to promote competencies involved in the teaching of health and physical education in pre-kindergarten through grade 12.

## Admission, Continuance, and Exit Requirements

**Admission:** All students must apply for and be admitted into the approved Health and Physical Education teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education Prescribed Entry Assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education Prescribed Entry Assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education Prescribed Entry Assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

### Required grade point averages (GPA):

A cumulative GPA of 2.75 is required.

A major /content GPA of 2.75 is required - all Health and Physical education courses must be passed with a grade of C- or higher.

A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved Health and Physical Education teacher preparation program prior to enrolling in any instructional strategies practicum education course (HPE 369).

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. English courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Health and Physical Education examination (0856) prior to or while enrolled in the student teaching seminar course. All assessments must be passed prior to start of the Teacher Candidate Internship Orientation session.

### Virginia Board of Education Prescribed Licensure Assessments:

**Virginia Communication and Literacy Assessment (VCLA)** – a passing composite score of 470 is required on this reading and writing assessment  
**PRAXIS II Health and Physical Education: Content Knowledge (test code: 0856)** – passing score of 151 is required

To review more information on the Virginia Board of Education Prescribed Licensure Assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Senior Assessment, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core; with no grade less than a C- in the major/content and in the professional education core; successful completion of the Teacher Candidate Internship and earn a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University.

All PE, HE, HPE, and EXSC courses and BIOL 250 will be used to calculate the major content grade point average, which must be 2.75 for admission into the approved teacher education program, for continuance, and for graduation. Additional elective hours may be needed to make 120 total hours.

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website: [www.odu.edu/tes](http://www.odu.edu/tes).

The curriculum is as follows:

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication Skills	6
Oral Communication (requires COMM 101R)	3
Mathematical Skills	3
Language and Culture	0-6
Information Literacy & Research	3

Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (BIOL 105N and 109N recommended)	8
Human Behavior (requires PSYC 201S)	3
Impact of Technology (satisfied by TLED 430 in the major)	

### Health and Physical Education Requirements

BIOL 250	Human Anatomy and Physiology	4
TLED 408	Reading Across the Content Areas	3
TLED 430	PK-12 Instructional Technology (meets impact of technology requirement)	3
PE 200	Foundations of HPE	3
PE 217	Fundamental Movement Skills and Dance	2
PE 218	Aquatics and Outdoor Education	2
PE 220	Teaching of Team Sports I	2
PE 221	Teaching of Team Sports II	2
PE 222	Teaching of Individual Sports	2
PE 224	Teaching Elementary Physical Ed	3
PE 300	Mgmt Skills for Teaching Health & PE	3
PE 301W	Teach Phys Ed in the Secondary School	3
PE 318	Motor Learning	3
PE 319	Physical Growth and Motor Dev	3
PE 404	Adapted Physical Education	4
EXSC 250	Strength and Conditioning Leadership	3
EXSC 322	Anatomical Kinesiology	4
EXSC 409	Physiology of Exercise	3
HE 224	First Aid	3
HE 230	Personal and Community Health	3
HE 402	Meth/Materials in Health Ed	3
HPE 230	Field Experience in PE and Health	2
HPE 369	Practicum in PE and Health	3
HPE 406	Tests/Measurement in Phys Ed	3
HPE 430	Teaching of Wellness and Health-related Fitness	3
HPE 485	Teacher Candidate Internship	12
HPE 487	Teacher Candidate Seminar	1

### UPPER DIVISION GENERAL EDUCATION

Satisfied by the required minor in health education included in the program (Option A) and completion of professional education courses (Option C).

All PE, HE, HPE, and EXSC courses and BIOL 250 will be used to calculate the major grade point average which must be 2.75 to graduate. Additional elective hours may be needed to make 120 total hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University.

### Driver Education Endorsement Area\*

PE 308	Driver Education Foundations of Traffic Safety	3
PE 309	Principles and Methodologies of Classroom and In-Car Instruction	3

PE 308 and PE 309 are required by the Virginia Department of Education for an endorsement in Driver Education. The courses provide prospective teachers with the essential knowledge, skills, and dispositions to effectively deliver the course content as presented in the Administrative and Curriculum Guide for Driver Education in Virginia.

\*Driver Education endorsement is strongly recommended for all teacher candidates desiring to teach at the secondary level.

## Bachelor of Science–Recreation and Tourism Studies Major

Edwin Gómez, Program Coordinator

This program is designed to prepare students to enter the professional fields of recreation and tourism management and therapeutic recreation. The recreation and tourism studies curriculum is accredited by the National Recreation and Park Association Council on Accreditation.

A minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, is required for the recreation and tourism studies major.

## Admission, Continuance, and Exit Requirements

**Admission.** Students must (1) have completed 15 semester hours of course work (including ENGL 110C) with a grade point average of 2.00; and (2) have a personal interview with a faculty member in the program.

**Continuance.** Students must (1) maintain an overall grade point average of 2.00; (2) maintain a grade point average of 2.00 in the major; (3) earn a C-grade or higher in RTS core courses; (4) take the University Exit Examination of Writing Proficiency in the junior year; and (5) complete an internship seminar and all core course work prior to the internship.

**Exit.** Students must (1) have an overall grade point average of 2.00; (2) have a grade point average of 2.00 in the major; (3) pass the University exit examination of writing proficiency; (4) complete an internship; (5) satisfy all course competencies; and (6) take the University assessment exam.

## Program Requirements

<b>LOWER DIVISION GENERAL EDUCATION</b>		<b>Credits</b>
Written Communication Skills		6
Oral Communication		3
Mathematical Skills		3
Language and Culture		0-6
Information Literacy & Research (IT 150G, CS 120G, CS 121G, STEM 251G)		3
Human Creativity		3
Interpreting the Past		3
Literature		3
Philosophy and Ethics		3
The Nature of Science		8
Human Behavior		3
Impact of Technology		3
<b>Recreation and Tourism Studies Core:</b>		
HE 224	Adv First Aid/Emer Care	3
RTS 201	Recreation Programming and Leadership	3
RTS 211	Foundations/Rec and Leisure	3
RTS 261	Intro Therapeutic Recreation	3
RTS 271	Intro Recreation/Tourism Studies	3
RTS 301	Youth Development Through Recreation	3
RTS 302	Facilitating the Recreation Experience	3
RTS 332	Personnel and Financial Mgmt in Rec	3
RTS 366	Internship Seminar	1
RTS 368	Internship	12
RTS 425	Facility Mgmt & Design	3
RTS 482W	Program Evaluation in Recreation	3
RTS 485	Philosophy of Play	3

### Pick one of the following two emphasis areas:

#### **Recreation and Tourism Management**

MGMT 325	Contemporary Organizations and Management	3
MKTG 311	Marketing Principles and Problems	3
RTS 433 or 490	Community Recreation Services/Convention Management Services	3
RTS 441	Service & Oper Strat Tourism/Rec	3
RTS 461	Tourism and the Hospitality Industry	3
RTS 475	Tourism and Cultural Heritage Management	3
RTS 491	Festival and Event Mgmt	3

#### **Therapeutic Recreation**

PSYC 203S	Lifespan Development	3
BIOL 250	Human Anatomy and Phys	4
PSYC 405	Abnormal Psychology	3
RTS 410	Clinical Aspects in Therapeutic Rec	3
RTS 420	Intervention Tech in Therapeutic Rec	3
RTS 430	Assessment and Documentation in Therapeutic Rec	3
RTS 450	Disabilities/Aging in Therapeutic Rec	3

## UPPER DIVISION GENERAL EDUCATION

Option A: Disciplinary Minor (a minimum of 12 hours determined by the department) or Second Major or Second Degree

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C: International Business and Regional Courses or an approved Certification Program such as teaching licensure.

Option D: Six hours of elective upper-division courses from outside the College of Education and not required by the student's major.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall, in the major and in the minor, 120 credit hours, which

must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Additional elective hours may be needed in order to complete the minimum 120 credits required for the degree.

## Minors

**Coaching Education.** BIOL 250 and HE 224 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are EXSC 409, SMGT 415, SMGT 456 and SMGT 368.

**Exercise Science.** BIOL 250 and EXSC 225 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are EXSC 322, 409, 415 and three hours from one of the following: EXSC 340, 369, 408, 420, 428, 431.

**Health Education—Nonteaching Track.** BIOL 250, HE 224 and HE 230 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Requirements for the minor are HE 402, HPE 430, PE 319, and an additional three-credit 300- or 400-level course approved by the advisor.

**Recreation and Tourism Management.** RTS 271 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours from the following: RTS 433, 441, 461, 475, 490, 491.

**Sport Management.** SMGT 214 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours from the following: SMGT 305, 315, 331, 414, 415, 421, 425, 450W, 452, 453, 455, 456.

**Therapeutic Recreation.** RTS 261 is a prerequisite for the minor and is not included in the calculation of the grade point average for the minor. Requirements for the minor are completion of 12 hours as follows: RTS 410, 420, 430, and 450.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses (2.75 for teacher licensure with no less than C- earned in all core courses) and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. To obtain a Virginia teaching license, all teacher education and licensure only students must attain a passing score on the appropriate Praxis II specialty area test.

## Interdisciplinary Minor - Health and Wellness

Robert J. Spina, Department of Human Movement Sciences, Coordinator

The Health and Wellness interdisciplinary minor explores personal involvement in and commitment to health and wellness and the factors that influence the health status of individuals and society. This interdisciplinary minor fosters an appreciation for personal responsibility for health and strategies to enhance and preserve the individual's and the public's health. Societal health and the factors that impact on the health and wellness of a community and the individual's role in health policy are examined. Students gain an awareness of the cultural, psychological, sociological and ethical issues affecting and effected by the health and wellness of individuals and the society in which they live.

Course options are as follows: CHP 360, 420, 425, 456, 465, 470; CRJS 401; CRJS/SOC 421, 427, 441; EXSC 340, 408, 409, 415; HE 402; HPE 430; HMSV 341W, 491; PE 300, 319; PSYC 306, 325, 351, 352, 353, 363, 405, 408, 410, 420, 424, 431, 460, 461; SPED 313.

The interdisciplinary minor in Health and Wellness requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

## Advanced Placement

Departmental examinations for advanced placement are available for selected courses in the undergraduate programs. Please contact the department chair for further details. Refer also to the Policy on Experiential Learning Credit Options at the Undergraduate Level in this Catalog.

# SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS (STEM) EDUCATION AND PROFESSIONAL STUDIES

Philip A. Reed, Chair

The Department of STEM Education and Professional Studies offers five majors under the Bachelor of Science degree. The five bachelor's-level majors offered by the department are marketing education, technology education, training specialist, fashion merchandising, and industrial technology. At the graduate level, the department offers the Master of Science degree with concentrations in community college teaching (occupational and technical), business and industry training, and career and technical education teaching; the Master of Science in Education degree with majors in instructional design and technology, mathematics education and science education; a concentration within the Education Specialist in educational leadership; and the Ph.D. in Education with concentrations in instructional design and technology and occupational and technical studies. The department also offers minors in fashion merchandising, training and development, and marketing education, a certificate in industrial training, and licensure/endorsement programs in marketing teacher education, technology education, and industrial cooperative training. Several licensure/endorsement areas are available for graduate students. The department provides a simulation-based instruction concentration in the Master of Science in Engineering modeling and simulation degree program.

## Bachelor of Science—Occupational and Technical Studies

### Admission, Continuance, and Exit Requirements

**Admission:** Students applying for admission to the teacher education programs in marketing education and technology education must (1) complete at least one semester at Old Dominion University, (2) have a 2.75 grade point average overall, in the major, and in the professional education core with no grade less than C- in all courses taken in the major and in the professional education core, (3) have a passing Praxis I composite score of 532 or qualifying SAT or ACT test scores or PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy Assessment (VCLA) score of 470 or SAT mathematics test score of 530 and a composite VCLA score of 470 or ACT mathematics test score of 22 and a composite VCLA score of 470, (4) present written recommendations from two faculty members from the STEM Education and Professional Studies Department, and (5) have an interview with the program leader. Although students may enroll in a limited number of education courses, students must be admitted into the approved marketing education or technology education teacher preparation program prior to enrolling in any instructional strategies practicum education course (SEPS 408). For admission to the other bachelor's degree programs, students must (1) complete one semester at Old Dominion University, (2) achieve a minimum grade point average of 2.00 on undergraduate course work completed at the time of application to the major, and (3) have an interview with the program leader.

**Continuance:** Students in marketing education and technology education licensure programs must (1) satisfy University requirements, (2) maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75 with no earned grade less than C- in all courses taken in the major and in the professional education core, (3) successfully complete SEPS 297 and a student teaching interview, and (4) take and pass the Virginia Communication and Literacy Assessment (VCLA) and the appropriate PRAXIS II (Technology Education – Content Knowledge, 0050 or Marketing Education – Content Knowledge, 0561) prior to or while enrolled in the Instructional Strategies course (SEPS 408). All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session. Students in other non-teacher education majors must (1) satisfy University requirements, (2) maintain a 2.00 overall grade point average, and (3) maintain a 2.00 grade point average in major courses.

**Assessments required for teacher education programs and licensure:** In order to obtain a Virginia teaching license, all teacher education students must attain passing scores on the appropriate teacher licensure exams. Students are required to take and pass the Virginia Communication and Literacy Assessment (VCLA) with a composite score of 470 or higher to be eligible for licensure. The VCLA should be taken during the semester prior to student teaching. It is recommended that the VCLA be taken after students have completed their English and reading course requirements. All students will take and attain a

passing score on the appropriate Praxis II specialty test (Technology Education – Content Knowledge, 0050 with a score of 610 or Marketing Education – Content Knowledge, 0561 with a score of 147) in order to be eligible for student teaching and licensure. Score reports of all examinations must be on file in the Teacher Education Services Office in room 152 of the Education Building. To review more information on the Virginia Board of Education Prescribed Assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Exit:** Students in marketing education and technology education licensure programs must have (1) a 2.75 grade point average overall, in the major, and in the professional education core, (2) earned a passing grade in student teaching, (3) passed the Exit Examination of Writing Proficiency, and (4) completed the senior assessment.

Students majoring in the other non-teacher education undergraduate programs must (1) meet all University requirements for graduation, (2) have an overall grade point average of 2.00, (3) pass the Exit Examination of Writing Proficiency, and (4) have a grade point average of 2.00 in major and minor courses.

Due to changing University requirements, national accreditation standards, and Commonwealth licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students should obtain current program information from their advisors and the Darden College of Education website at [www.education.odu.edu](http://www.education.odu.edu).

### Marketing Education Emphasis

This 123-hour program is designed to prepare students to teach marketing and related subjects in the secondary schools. It is an approved program for meeting licensure requirements to teach marketing education in Virginia. The requirements are as follows:

LOWER DIVISION GENERAL EDUCATION		Credits
Written Communication Skills		6
Oral Communication		3
Mathematical Skills		3
Language and Culture		0-6
Information Literacy and Research (STEM 251G required)		3
Human Creativity		3
Interpreting the Past		3
Literature		3
Philosophy and Ethics		3
The Nature of Science		8
Human Behavior (ECON 200S required)		3
Impact of Technology (Satisfied by STEM 370T in the major)		
<b>Technical Content Courses (39 hours)</b>		
SEPS 100	Sales Techniques	3
SEPS 102	Advertising & Promotion	3
ACCT 201	Accounting	3
SEPS 208	Buying	3
SEPS 220	Fashion Industry	3
SEPS 302	Workforce Supervision	3
MKTG 311	Mktg Principles and Problems	3
MGMT 325	Contemp Org and Mgmt	3
STEM 370T	Technology and Society (Writing Intensive)	3
MKTG 402	Consumer Behavior	3
SEPS 415	Advanced Merchandising	3
STEM 351	Communication Technology	3
SEPS 480	Senior Project: Merchandise Retailing	3
<b>Marketing Education Teaching Courses (37 Hours)</b>		
TLED 408	Reading and Writing in Content Areas	3
SPED 313	Fundamentals of Human Development	3
SEPS 297	Observation & Participation	1
SEPS 400	Instructional Systems Development	3
SEPS 401	Foundations of Career and Technical Education	3
SEPS 408	Advanced Classroom Issues and Practices	3
SEPS 485	Student Teaching	12
SEPS 402	Instructional Methods in OTS	3
SEPS 405	Directed Work Experience	3
SEPS 450	Assessment, Evaluation and Improvement	3

### UPPER DIVISION GENERAL EDUCATION

Option A: Approved Disciplinary minor (a minimum of 12 hours determined by the department or second degree or second major)

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C: International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D: Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.75 overall and in the major, 123 credit hours, which must include both a minimum of 31 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Technology Education Emphasis

This 123 hour program is designed to prepare students to teach technology education subjects in the secondary and middle schools. It is an approved program for meeting licensure requirements to teach technology education in Virginia. Requirements are as follows.

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication Skills	6
Oral Communication	3
Mathematical Skills (MATH 102M and STAT 130M required) (3 credits General Education; 3 credits departmental)	6
Language and Culture	0-6
Information Literacy and Research (STEM 251G required)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (PHYS 101N-102N required )	8
Human Behavior (PSYC 201S required)	3
Impact of Technology (Satisfied by STEM 370T in the major)	
<b>Technical Content (45 hours)</b>	
STEM 112      Communication Design	3
STEM 350      Communication for Technology Processes	3
STEM 351      Communication Technology	3
STEM 221      Industrial Materials	3
STEM 231      Materials and Processes Technology	3
STEM 320      Manufacturing and Construction Technology	3
STEM 323      Production Technology	3
STEM 241      Energy Systems: Basic Electricity	3
STEM 242      Technological Systems Control	3
STEM 330      Medical, Agricultural and Bio-related Technologies	3
STEM 343      Energy and Power Technology	3
STEM 360      Transportation Technology	3
STEM 370T      Technology and Society (Writing Intensive)	3
STEM 382      Industrial Design	3
STEM 417      Exploring Technology and Modern Industry	3
<b>Technology Education Teaching Courses (31 hours)</b>	
TLED 408      Reading and Writing in Content Areas	3
SPED 313      Fundamentals of Human Growth and Development	3
SEPS 297      Observation and Participation	1
SEPS 400      Instructional Design and Development	3
SEPS 402      Instructional Methods	3
SEPS 408      Advanced Classroom Issues and Practices	3
SEPS 485      Student Teaching	12
SEPS 450      Assessment, Evaluation and Improvement	3

### UPPER DIVISION GENERAL EDUCATION

Option A: Approved disciplinary minor, (a minimum of 12 hours determined by the department) or second degree or second major

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C: International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D: Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.75 overall and in the major, 123 credit hours, which must include both a minimum of 31 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Fashion Emphasis

This 120-hour program is designed to prepare students to enter the fashion industry to become buyers, fashion coordinators, and merchandise managers. Requirements are as follows:

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication Skills	6
Oral Communication	3
Mathematical Skills	3
Language and Culture	0-6
Information Literacy & Research (Satisfied in the major by STEM 251G)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Human Behavior (ECON 200S required)	3
Impact of Technology (satisfied by STEM 370T in the major)	
<b>Technical Content Courses (72 Hours)</b>	
SEPS 100      Sales Techniques	3
SEPS 102      Advertising & Promotion	3
SEPS 112      Communication Design	3
ACCT 201      Principles of Accounting	3
SEPS 208      Buying	3
SEPS 220      Fashion Industry	3
SEPS 234      Survey of Dress and Costume	3
STEM 251      Computer Literacy: Communication & Info	3
SEPS 302      Workforce Supervision	3
SEPS 303      Social Aspects of Clothing	3
STEM 370T      Technology and Society (Writing Intensive)	3
MKTG 311      Mktg Principles and Problems	3
MGMT 325      Contemp Org and Mgmt	3
SEPS 400      Instruction Design & Development	3
SEPS 402      Instructional Methods in Occup Studies	3
SEPS 405      Directed Work Experience	3
SEPS 415      Advanced Merchandising	3
SEPS 422      Fashion Product Development	3
SEPS 480      Senior Project: Merchandise Retailing	3
SEPS 481      Occupational Career Transition	3
Select four other Fashion courses from this list or other advisor approved electives	
SEPS 350      Communication Technology Processes	3
SEPS 409      Fashion Market Trip	3
SEPS 410      Foreign Fashion Markets	3
SEPS 411      Fashion Show Production	3
SEPS 423      Visual Merchandising and Display	3
SEPS 424      Fashion, Textiles, & Construction Analysis	3
SEPS 425      Fashion Accessories	3
SEPS 431      Web Based Organizations for Fashion	3
<b>Elective Courses (4 credits)</b>	
Consult the departmental advisor for a list of courses used to satisfy this requirement.	

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hour determined by the department) or second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C: International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D: Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Industrial Technology Emphasis

This 120-hour program is designed to prepare students to enter industry as supervisors, technical managers, or trainers. This major is also available through the University's distance learning TELETECHNET system. Additional industrial technology technical emphasis tracks are available for transfer



students. On approval of the program leader, select technical content areas from the community college can satisfy the 30 hours of technical content for this emphasis. Requirements are as follows:

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication Skills	6
Oral Communication	3
Mathematical Skills (MATH 102M and STAT 130M required) (3 credits General Education; 3 credits departmental)	6
Language and Culture	0-6
Information Literacy and Research (STEM 251G required)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (PHYS 101N-102N required)	8
Human Behavior (PSYC 201S required)	3
Impact of Technology (satisfied by STEM 370T in the major)	

<b>Technical Content-General Emphasis (30 hours)</b>		
STEM 112	Communication Design	3
STEM 221	Industrial Materials	3
STEM 231	Materials and Processes Technology	3
STEM 241	Energy Systems: Basic Electricity	3
STEM 242	Technological Systems Control	3
STEM 321	Manufacturing Technology	3
STEM 323	Production Technology	3
STEM 343	Energy and Power Technology	3
STEM 351	Communication Technology	3
STEM 382	Industrial Design	3

<b>Supervision (18 hours)</b>		
SEPS 302	Workforce Supervision	3
STEM 370T	Technology and Society (Writing Intensive)	3
SEPS 402	Instructional Methods in Occupational Studies	3
SEPS 400	Instructional Systems Development	3
PSYC 303	Industrial/Organizational Psychology	3
HMSV 343	Human Services Methods	3

<b>Business Cognate (21 Hours)</b>		
ACCT 201	Principles of Accounting	3
MGMT 325	Contemp Org and Mgmt	3
MGMT 340	Human Resources Management	3
MKTG 311	Marketing Principles and Problems	3
Approved Business Electives		9

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department) or second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C: International Business and Regional Courses or an approved Certification program such as teaching licensure

Option D: Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

#### Training Specialist Emphasis

This 120-hour program is designed to prepare students as training specialists who design, develop, and present training in business and industry. This major is also available through the University's TELETECHNET distance learning system. On approval of the program leader, select business-related technical content areas from the community college can satisfy 30 hours of technical content for this emphasis. Requirements are as follows:

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
Written Communication Skills	6
Oral Communication	3
Mathematical Skills	3
Language and Culture	0-6
Information Literacy and Research (STEM 251G required)	3
Human Creativity	3
Interpreting the Past	3
Literature	3

Philosophy and Ethics	3
The Nature of Science	8
Human Behavior (ECON 200S required)	3
Impact of Technology (satisfied by STEM 370T in the major)	

<b>Technical Content Courses (45 Hours)</b>		
ACCT 201	Accounting	3
HMSV 343	Human Services Methods	3
MGMT 325	Contemp Org and Management	3
MGMT 340	Human Resource Management	3
MKTG 311	Marketing Principles and Problems	3
SEPS 302	Workforce Supervision	3
STEM 370T	Technology and Society (Writing Intensive)	3
SEPS 389	Adult Education and Training	3
SEPS 402	Instructional Methods in Occupational Studies	3
SEPS 405	Directed Work Experience or Community College Co-op	3
STEM 351	Communication Technology	3
SEPS 450	Assessment, Evaluation and Improvement	3
SEPS 400	Instructional Systems Development	3
PSYC 201S	Introduction to Psychology	3
PSYC 303	Industrial/Organizational Psychology	3

**Training Electives** 28  
Consult the departmental advisor for a list of approved courses used to meet this requirement.

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department) or second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Education and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Teacher Education, Secondary Undergraduate Programs-Mathematics and Science

### Program Requirements

Students who wish to teach any of the disciplines listed below in secondary schools must pursue courses of study leading to baccalaureate degrees in either the College of Arts and Letters or the College of Sciences. (See either the College of Arts and Letters or the College of Sciences section of this Catalog for full and specific requirements in any prospective teaching subject in secondary education.) In addition, to be eligible for state licensure to teach in secondary schools, students must complete requirements (listed below by subject area) in the Darden College of Education.

### Admission, Continuance, and Exit Requirements

**Admission.** Students must (1) have an overall grade point average of 2.75 and a 2.75 in the academic major and the professional education core; (2) achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or the SAT or ACT; and (3) submit to the director of teacher education services an application form containing recommendations from two faculty members familiar with their work. (These forms may be obtained either in the Office of Teacher Education Services or in the appropriate chair's office in either the College of Arts and Letters or the College of Sciences.) No courses in the academic major or professional education in which the student has made below a C- (depending on the program) will be accepted for admission in the Darden College of Education. Students should be formally admitted to teacher education before taking TLED 451, 455, 483, STEM 453 or 454.

**Continuance.** Students must (1) maintain minimum overall grade point averages of 2.75 and 2.75 in the academic major and the professional education core; (2) successfully complete TLED 301 and a subsequent practicum; (3) be approved for teacher internship by the faculty; (4) pass the

VCLA; and (5) pass Praxis II in order to participate in the teacher internship. Passing scores must be attached to the teacher internship application.

**Exit.** Students must (1) have minimum overall grade point averages of 2.75 and 2.75 in the academic major and the professional education core; (2) successfully complete prescribed student teaching experiences; (3) have an exit interview; and (4) have completed all course requirements. No courses in the academic major in which the student has made below a C- (depending on the program) will be accepted toward meeting requirements in the College of Education

#### **Mathematics Education**

TLED 301, 360, 408, 430, 483, 485; STEM 453; SPED 313, 406.

#### **Science Education (Biology, Chemistry, Earth Science, Physics)**

TLED 301, 360, 408, 430, 483, 485; STEM 454; SPED 313, 406

#### **Minor in Fashion Merchandising**

The department offers a minor in fashion merchandising for students majoring in disciplines other than occupational and technical studies emphasis areas. Requirements for the minor are completion of 12 credit hours from among the following courses: MKTG 412, SEPS 303, 312, 409, 410, 415, 422, 423, 424, or 425. SEPS 208 or 220 are prerequisites for the minor and are not included in the calculation of the grade point average for the minor. Students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor through courses offered by Old Dominion University.

#### **Minor in Marketing Education**

The minor in marketing education is offered by the department to students majoring in disciplines other than occupational and technical studies emphasis areas. Requirements for the minor are SEPS 401, 402, 408, 450, and STEM 351. Students must pass the Praxis I examination prior to enrolling in SEPS 408. Students must have a minimum overall cumulative grade point average of 2.75 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and six hours of the 300/400-level courses must be taken through courses offered by Old Dominion University. All courses may be applied toward the licensure requirements to teach marketing education in Virginia.

#### **Minor in Training and Development**

The minor in training and development is offered by the department for students majoring in disciplines other than occupational and technical studies emphasis areas. The minor requires 15 hours of course work as follows: SEPS 389, 400, 402, 450, and STEM 351.

Students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of 100- and 200-level courses and prerequisite courses and six hours of the 300/400-level courses must be taken through courses offered by Old Dominion University.

#### **Interdisciplinary Minor - The Impact of Technology**

Philip A. Reed, Department of STEM Education and Professional Studies, Coordinator

This interdisciplinary minor develops a broader understanding of technology and its impact on individuals, societies, and the environment. It provides the social context and the historical and philosophical backgrounds needed by informed students to evaluate technology and its impacts. The minor equips students with skills to make better personal decisions about technology and more appropriate choices for their futures.

Course options are as follows: CHP 360; COMM 340, 372T, 400W, 401, 448; CS 300T, 312; ECON 402, 454W; ENGL 380, 382, 480; ENVH 301W, 302W, 410; GEOG 305, 306T; HIST 304T, 389T; HIST 386T/SCI 302T; IT 360T; MUSC 335T; OPMT 303; PHIL 355; 383T; POLS 350T; SOC 352; STEM 323, 370T, 382, 417; WMST 390T.

The interdisciplinary minor in the Impact of Technology requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old

Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

#### **Certificate Program in Industrial Training**

This program is designed especially for military and civilian instructors and trainers. It is directed to those individuals who possess technical skills in the military, industry, career and technical centers, or community colleges. This certificate requires successful completion of the following 21 credit hours (seven courses): SEPS 302, 400, 402; STEM 351, 370T; PSYC 303; HMSV 343.

#### **Licensure/Endorsement Programs**

##### **Licensure Program in Marketing Teacher Education**

The licensure program in marketing teacher education is designed to prepare a person who has a business-related baccalaureate degree to be a marketing education teacher-coordinator. Participants who successfully complete this program will qualify to apply for a Virginia teaching license to teach marketing education.

**Admission.** Prior to entering this program students must hold a business-oriented baccalaureate degree in which 30 hours of marketing-related courses have been completed including at least three semester hours each of courses covering the marketing process, economics, personnel, the sales process, operations and organization, and promotion. Students must also have completed a rigorous general education program as outlined by the Commonwealth in its Licensure Regulations for Teachers. They must be interviewed and accepted by the marketing education program leader. Finally, students must attain or exceed the minimum score required by Virginia on the Praxis I examination. The Praxis I exam must be passed prior to admittance into teacher education and taking SEPS 408/508.

**Exit.** Students must (1) complete the following courses: SEPS 297, SPED 313, TLED 408 or 680, SEPS 400/500, SEPS 401/501, SEPS 408/508, SEPS 450/550, and SEPS 485; (2) earn a 2.75 cumulative grade point average if licensure is at the undergraduate level and a 3.00 cumulative grade point average if licensure is at the graduate level; and (3) document at least 4000 clock hours of marketing-related work experience completed within the past five years or complete SEPS 405. Passing scores on Praxis II are required before teacher internship. Passing Praxis II scores must be attached to the teacher internship application.

Twelve hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, career and technical education teaching concentration.

##### **Endorsement Program in Industrial Cooperative Training**

The endorsement program in industrial cooperative training is designed to prepare a licensed teacher to be endorsed to teach industrial cooperative training in the public schools.

**Admission.** Prior to entering this program students must have or qualify for a Virginia Collegiate Professional or Postgraduate Professional License. Secondly, they must be interviewed and accepted by the program coordinator.

**Exit.** Students must (1) complete the following courses: SEPS 400/500, SEPS 401/501, SEPS 402/502, SEPS 408/508, SEPS 425/525, and SEPS 450/550; (2) earn a 2.75 cumulative grade point average if licensure is at the undergraduate level and a 3.00 cumulative grade point average if licensure is at the graduate level; and (3) document at least 4000 clock hours of acceptable employment in a trade, technical, or industrial education subject area completed within the past five years or complete SEPS 405.

Twelve hours of 500/600 level courses may be applied toward the Master of Science in occupational and technical studies, career and technical education teaching concentration.

#### **TEACHING & LEARNING**

Charlene Fleener, Chair

The Department of Teaching and Learning offers programs leading to the Master of Science in Education degree with majors in Early Childhood, Elementary, Reading, and Secondary Education, and the Doctor of Philosophy in Education degree with concentrations in Early Childhood, Literacy Leadership, and Curriculum and Instruction. Programs leading to the Master of Science in Education degree include the five-year undergraduate/graduate program leading to the Bachelor of Science in Interdisciplinary Studies through

the College of Arts and Letters with continuation into the Master of Science in Education degree with initial teacher licensure in Early Childhood or Elementary Education. State-approved teacher preparation programs at the graduate level are also available for individuals with non-teaching bachelor's degrees interested in licensure at the Elementary, Middle, or Secondary school grade levels. Additionally, the Department of Teaching & Learning offers programs leading to state licensure in Library Science, and programs for licensed teachers in Reading including the Reading Specialist endorsement, and the Field-Based Master's Program.

## **Teacher Education—Primary/Elementary Undergraduate/Graduate—Fifth-year Program with Initial Licensure**

### **Program Requirements**

Undergraduate students who plan to teach in primary and elementary schools (grades PreK-6) are required to pursue the Bachelor of Science degree interdisciplinary studies major, teacher preparation concentration, primary/elementary emphasis through the College of Arts and Letters, as well as a fifth year graduate program leading to a Master of Science in Education degree with licensure in the Darden College of Education. Please see the College of Arts and Letters section of this Catalog for baccalaureate degree requirements in interdisciplinary studies, teacher preparation concentration, primary/elementary emphasis.

Due to changing University requirements, national accreditation standards, and Commonwealth of Virginia licensure regulations, the programs in the Darden College of Education are under constant revision. Any changes resulting from these factors supersede the program requirements described in this catalog. Students should obtain current program information from their advisors and the Darden College of Education website at [www.education.odu.edu](http://www.education.odu.edu).

**Professional Education Requirements of the Undergraduate Interdisciplinary Studies Program Leading to Primary/Elementary Licensure.** (Academic undergraduate requirements are listed under Interdisciplinary Studies in the College of Arts and Letters.) Undergraduate courses required include: TLED 301, 430, 432, 435, 468, 478, 479; STEM 433, 434; SPED 313, 400.

Please refer to the Graduate Catalog for master's degree requirements for the fifth-year licensure program in PreK-3 and PreK-6.

## **Teacher Education, K-12 and Secondary Undergraduate Programs**

### **Program Requirements**

Students who wish to teach any of the disciplines listed below in secondary schools must pursue courses of study leading to baccalaureate degrees in either the College of Arts and Letters or the College of Sciences. (See either the College of Arts and Letters or the College of Sciences section of this Catalog for full and specific requirements in any prospective teaching subject in secondary education.) In addition, to be eligible for state licensure to teach in secondary schools, students must complete requirements (listed below by subject area) in the Darden College of Education.

### **Admission, Continuance, and Exit Requirements**

**Admission.** Students must (1) have an overall grade point average of 2.75 and a 2.75 in the academic major and the professional education core; (2) achieve passing scores (as established by the Commonwealth of Virginia) on the Praxis I Academic Skills Assessment or the SAT or ACT; and (3) submit to the director of teacher education services an application form containing recommendations from two faculty members familiar with their work. (These forms may be obtained either in the Office of Teacher Education Services or in the appropriate chair's office in either the College of Arts and Letters or the College of Sciences.) No courses in the academic major or professional education in which the student has made below a C (depending on the program) will be accepted for admission in the Darden College of Education. Students should be formally admitted to teacher education before taking TLED 451, 455 or 403; STEM 453, 454.

**Continuance.** Students must (1) maintain minimum overall grade point averages of 2.75 and 2.75 in the academic major and the professional education core; (2) successfully complete TLED 301 and a subsequent

practicum; (3) be approved for teacher internship by the faculty; (4) pass the VCLA; and (5) pass Praxis II in order to participate in the teacher internship. Passing scores must be attached to the teacher internship application.

**Exit.** Students must (1) have minimum overall grade point averages of 2.75 and 2.75 in the academic major and the professional education core; (2) successfully complete prescribed student teaching experiences; (3) have an exit interview; and (4) have completed all course requirements. No courses in the academic major in which the student has made below a C (depending on the program) will be accepted toward meeting requirements in the College of Education.

## **Professional Education Course Requirements—Secondary**

### **Art Education**

(This program leads to Licensure, K-12)

TLED 301, 408, 485; SPED 313, 406, ARTE 305, 406, 407, 408.

### **Dance Education**

(This program leads to Licensure, K-12)

TLED 301, 360, 408, 430, 485; SPED 313, 406, PE 217, EXSC 340.

### **English Education**

TLED 301, 360, 408, 430, 451, 483, 485; SPED 313, 406

### **Foreign Language Education**

This program leads to Licensure to teach French, German, and/or Spanish. Students wanting to be certified to teach a foreign language must have a grade point average of at least 2.75 in the language and are strongly encouraged to participate in a structured learning experience in a country where the language is spoken. No course in the language with lower than a C (2.00) grade will be counted toward the degree or toward the number of credits required for student teaching. In addition, students must receive passing scores on language proficiency exams before they are approved for a student teaching assignment.

TLED 301, 360, 408, 430, 485; SPED 313, 406; and FL 452, 456.

### **History/Social Sciences Education**

TLED 301, 360, 408, 430, 455, 483, 485; SPED 313, 406

### **Music Education**

(This program leads to Licensure K-12)

TLED 301, 360, 408, 485; SPED 313, 406; and MUSC 401, 402, 403, 404 (vocal) or MUSC 405, 406, 407, 408 (instrumental).

### **Theatre Education**

(This program leads to Licensure K-12)

TLED 301, 360, 408, 430, 485; SPED 313, 406

### **Add-on Endorsements**

Add-on endorsements are available in algebra I, computer science, English as a second language, journalism, and most other grade 6-12 areas. For information, please contact the Office of Teacher Education Services.

# Frank Batten College of Engineering and Technology

Oktay Baysal, Dean

A. Osman Akan, Associate Dean (Academics)

Linda Vahala, Associate Dean (Students)

Berndt Bohm, Assistant Dean (Administration)

## Mission Statement

In accordance with the mission of Old Dominion University, the Frank Batten College of Engineering and Technology promotes the advancement of engineering knowledge, both by its creation and dissemination, and by providing successful graduates and a continuously improving learning environment to its constituents, while maintaining ethical, multicultural and global standards.

## Overview

The Frank Batten College of Engineering and Technology at Old Dominion University offers degrees in engineering and in engineering technology. The course of study that leads to engineering degrees is characterized by a solid foundation in the theoretical underpinnings of engineering based in mathematics and physics. Graduates are well equipped to pursue graduate education, pursue professional registration, or enter the engineering profession. The course of study that leads to engineering technology degrees is characterized by strong laboratory experiences that will prepare the graduate to hit the ground running as a technical partner of the engineer who can implement advanced design and development concepts. The engineering technology degree is considered to be a terminal degree and graduates are not expected to pursue graduate degrees or professional registration, although they are not excluded from doing so.

The engineering and engineering technology programs at Old Dominion University are specifically designed to take advantage of the unique assets in the Hampton Roads area. These assets include: 1) a strong military presence with multiple high technology facilities, in particular, as it relates to modeling and simulation; 2) the NASA Langley Research Center with its focus on aerospace and virtual environments; 3) the Jefferson Laboratories, a major center of nuclear physics and home of a major Free Electron Laser; 4) one of the major international deepwater ports on the east coast of the United States; 5) a major ship building and ship repair industry, including Northrop Grumman Shipbuilding, the only builder of nuclear aircraft carriers in the U.S.; 6) Virginia Beach, the largest city in the state of Virginia; and, 7) a major high technology industry base. These assets have enabled the development of distinctive engineering and technology curricula. Points of distinction (from other programs in and out of the state) include the following.

**Career Advantage Program:** Engineering and technology graduates get a head start on the engineering job market by preparing academically and experientially for their engineering and technology careers.

**Career Management Center.** Students receive direct assistance in locating full- and part-time employment including co-op and internship opportunities through the college's Career Management office.

**Engineering Up-Front:** Freshmen immediately become engaged in practical engineering and technology activities through the one-year-long required course, Explore Engineering/Technology. Group projects allow students to experience the professional spectrum from idea generation through its translation into the design, manufacture and commercialization cycle. Students are encouraged to complete this course before declaring a specific engineering discipline as a major.

**Multi-Disciplinary Industry Senior Project:** Seniors may choose to join a multi-disciplinary team of students led by faculty and industry representatives to work on a project paid for by industry subject to specific deliverables and time and budget constraints.

**Accelerated Bachelor's/Master's Degree Programs:** The difference in lifetime earnings between the holder of a bachelor's and a master's degree may be in the millions of dollars. Students in the Batten College of Engineering and Technology may be accepted into both a bachelor's and master's program at the freshman year through the junior year and receive both degrees in five years. The degrees need not be in the same field of engineering.

## Professional Engineer (P.E.) Certification

The Frank Batten College of Engineering and Technology encourages all of its graduates to eventually be certified as Professional Engineers (P.E.). The certification requires taking the Fundamentals of Engineering (FE) Examination and the Professional Engineering (PE) Examination. All students are encouraged to take the FE Examination in their senior year after taking ENGN 401 Fundamentals of Engineering Review course. For details, contact the Dean's Office and the following web site: [www.dpor.virginia.gov](http://www.dpor.virginia.gov).

For further information, please visit the college's web site: [www.eng.odu.edu](http://www.eng.odu.edu).

## Programs of Study

	Bachelor's	Master's	Doctoral
<b>Engineering Programs</b>			
Aerospace		X	X
Biomedical			X
Civil	X	X	
Civil & Environmental			X
Computer	X	X	
Electrical	X	X	
Electrical and Computer			X
Engineering Management		X	X
Environmental		X	
Mechanical	X	X	X
Modeling & Simulation	X	X	X
Systems Engineering		X	
	Bachelor's	Master's	Doctoral
Engineering Technology			
Civil (CET)	X		
Electrical (EET)	X		
Mechanical (MET)	X		
General (GET)	X		

## Enterprise Centers

The Frank Batten College of Engineering and Technology is a catalyst for the economic development of Hampton Roads. To this end, the college has established a number of centers to serve as engines for enterprise development. These centers utilize all University resources, including students and faculty.

### Applied Research Center (ARC)

Dr. Hani Elsayed-Ali, Director

ARC is an advanced materials engineering and laser technology research center. Staffed with industry/university teams utilizing the Jefferson Lab technologies, ARC provides commercial product-related research in the areas of thin film technology, laser and plasma processing of materials, materials analysis, and devices and sensor fabrication. For more information: [www.eng.odu.edu/arc](http://www.eng.odu.edu/arc)

### National Center for System of Systems Engineering (NCSOSE)

Dr. Charles Keating, Director

National Center for System of Systems Engineering (NCSOSE) is a collection of independent, nonprofit, engineering research and application organizations, government entities, and universities that have joined together with a common goal to solve problems, develop technologies, and direct research focused on critical issues related to the integration of complex systems of systems.

## Departmental Institutes

**Coastal Engineering** is part of the college's Department of Civil and Environmental Engineering. Its mission is to foster interdisciplinary educational and research opportunities for faculty and students interested in applied coastal science and engineering. Director: Dr. David R. Basco

**Lean Institute** was established to find solutions for issues related to enterprise productivity. The institute also addresses issues related to other business functions such as supply chain logistics, technology management, human resources, design, and contracting. Director: Dr. Alok K. Verma

**Laser and Plasma Engineering Institute (LPEI)** is focused on conducting fundamental and applied research using laser and plasma technologies. The

LPEI provides state-of-the-art equipment and a vibrant academic environment where faculty, graduate students and undergraduate students engage together in advanced research encompassing fundamental matter, plasma synthesis of nanomaterials, and the physics and applications of cold plasmas. Director: Dr. Mounir Laroussi

**Ship Maintenance, Repair and Operations** works to make ship repair and operations more cost effective, while meeting or exceeding environmental requirements. Director: Dr. Han Bao

**Institute for Multidisciplinary Parallel and Vector Computations** promotes interactions (and/or collaborations) among researchers in the areas of engineering applications, large scale computations, and parallel software and algorithm developments. Director: Dr. Duc T. Nguyen

**Institute for Sustainable Development** promotes and provides engineering, ecological, environmental, and economic assistance to local, regional, and national governmental agencies, as well as international organizations and businesses. The institute actively participates in community service by conducting waste minimization and pollution prevention assistance to local businesses. Director: Dr. Mujde Erten-Unal

**Institute of Micro and Nanotechnology** focuses on fundamental and applied research in micro- and nano-electronics, mechanics and transport phenomena; synthesis and characterization of nano-materials; and development of new technologies and devices. Ongoing research includes micro- and nano-fluidics for point-of-care devices; MEMS; micro- and nano-electronics; nanophotonics; interfacial interactions in complex fluids and colloidal systems; atomic layer deposition; synthesis and functionalization of polymeric nanostructures and nano-capsules. Director: Dr. Ali Beskok

**Transportation Research Institute (TRI)** in the Civil and Environmental Engineering Department is focused on addressing critical issues in the surface transportation system. The institute is actively involved in multidisciplinary research in areas of transportation operations, intelligent transportation systems, transportation safety, transportation planning, freight and inter-modal transport, and energy and sustainable transport. Director: Dr. Asad Khattak

## Affiliated Centers

### Mid-Atlantic Regional Spaceport (MARS)

Billie Reed, Executive Director

MARS, formerly the Virginia Space Flight Center (VSFC), is a full-service, FAA-licensed spaceport. The state-owned spaceport is located on the NASA Wallops Flight Facility on Virginia's Eastern Shore, an ideal site for access to the International Space Station. MARS provides low-cost access to mid-inclination and sun synchronous orbits for small- to medium-class expendable launch vehicles with payloads up to 12,000 pounds. For more information: [www.marsspaceport.com](http://www.marsspaceport.com).

### Virginia Modeling, Analysis and Simulation Center (VMASC)

Dr. John Sokolowski, Director

VMASC is a multi-disciplinary research center of Old Dominion University. Working with more than 100 industry, government, and academic members, VMASC furthers the development and applications of modeling, simulation and visualization as enterprise decision-making tools to promote economic, business, and academic development. For more information: [www.wmasc.odu.edu](http://www.wmasc.odu.edu)

### Frank Reidy Research Center for Bioelectronics

Dr. Richard Heller, Director

The mission of the center is to increase scientific knowledge and understanding of the interaction of electromagnetic fields and ionized gases with biological cells and to apply this knowledge to the development of medical diagnostics, therapeutics, and environmental decontamination. The objectives of the center are to perform leading edge interdisciplinary and multi-institutional research, recruit top faculty and exceptional graduate students, support regional, national, and international programs, and increase external funding and institutional visibility. For more information: [www.odu.edu/engr/bioelectronics/](http://www.odu.edu/engr/bioelectronics/)

## Old Dominion University Business Gateway (ODUBG)

Jerry B. Robertson, PE, Executive Director

The Old Dominion University Business Gateway serves as the University's front door for the needs of Virginia business. The Gateway exists to identify the appropriate University resource as needed. Services include prototyping, customized testing, manufacturing process improvements, product development, sales and marketing, strategic planning, and performance benchmarking to name a few. Special Veteran-owned and disadvantaged business assistance is also available. Customized training and Professional Development courses in a variety of subject areas are available. For more information: [www.ODUBusinessGateway.com](http://www.ODUBusinessGateway.com), 757-683-5505.

## SPECIAL PROGRAMS

### Cooperative Education Program

The cooperative education programs in the Frank Batten College of Engineering and Technology at Old Dominion University are of the highest academic quality. These programs allow students to combine academic study with professional-level training. Cooperative education positions are based on the alternating program style in which periods of full-time study are alternated with periods of full-time employment. Full-time employment periods must accumulate to the equivalent of one calendar year. Participation in the cooperative education program can be a source of financial support to help meet a substantial portion of college expenses. All departments in the Frank Batten College of Engineering and Technology strongly endorse the concept of cooperative education.

### Accelerated Bachelor's/Master's Degree Programs

These are designed to allow qualified students to secure a space in a master's program available in the Frank Batten College of Engineering and Technology while they are still pursuing their undergraduate degrees. An eligible student can choose a master's program in the same discipline as his/her bachelor's program or in a complementary discipline. Subject to the approval of the undergraduate and graduate program directors, a student enrolled in an accelerated program can count up to six credit hours of course work towards both the undergraduate and the graduate degrees. Full-time students can complete the requirements for the bachelor's degree in four years and the master's degree in one additional year.

Qualified students are encouraged to pursue accelerated programs because increased education in the engineering fields is rewarded with higher career earnings. The accelerated programs also provide unique opportunities for students to be involved in industrial, governmental and academic research projects in areas of engineering and engineering technology where there is a great need for advanced technical expertise. Old Dominion University's geographical proximity to such enterprises as the NASA Langley Research Center, the Northrop Grumman Shipyard, the Thomas Jefferson National Laboratory, the Defense Department's Joint Training Analysis and Simulation Center, and Norfolk's unique position as host to the largest Naval Base in the world provides excellent opportunities for students in these programs to be involved in practical engineering and applied research projects, while simultaneously pursuing their academic degrees. In addition, the accelerated programs prepare students for a successful professional career and/or for further academic work. Graduates may apply for admission to Ph.D. programs in engineering or engineering management.

Students who are matriculated in an undergraduate major in the Frank Batten College of Engineering and Technology with a GPA of at least 3.00 overall and 3.00 in the major are eligible to apply for admission to an accelerated bachelor's/master's program. Transfer students who desire to be admitted to an accelerated program at the time they join an undergraduate major at Old Dominion University are eligible to apply if their overall GPA at their previous institution is 3.25 or higher. Prerequisite courses may be required for engineering technology majors to pursue a master's degree in engineering.

Continuance in an accelerated bachelor's/master's program requires maintenance of a GPA of 3.00 or higher overall and in the major.

## Old Dominion University/Eastern Virginia Medical School Joint Program in Medicine

The joint program in medicine is designed to encourage highly qualified students to receive a B.S. from Old Dominion University and an M.D. from Eastern Virginia Medical School. Students apply after completion of their freshman year at Old Dominion University. Upon successful completion of requirements and graduation from Old Dominion University, a student accepted in the ODU/EVMS Joint Program in Medicine will be guaranteed admission to Eastern Virginia Medical School. Engineering and engineering technology students are encouraged to apply for this program. Complete information can be found in the College of Sciences section of this catalog.

## Direct Bachelor-to-Ph.D. and Integrated Bachelor/Ph.D. Programs

For a select number of exceptionally well-qualified students, the college has established an accelerated doctoral program that enables students to be admitted directly into the Ph.D. program upon completion of the baccalaureate degree. The total number of graduate course credits required is 48 plus a 24-credit dissertation. That is six credit hours shorter than the regular path, where a student obtains a master's degree and then pursues Ph.D. study. The philosophy of the college is that the quality of the dissertation is judged more by the quality of research performed, rather than by the number of courses taken.

A select number of exceptionally well-qualified students can be admitted to the Integrated Bachelor/Ph.D. program while they are pursuing their junior year in one of the undergraduate programs at Old Dominion University. This program encourages admitted students to work closely with individual faculty members during the remainder of their undergraduate program. Just as in the five-year Bachelor/M.S. program, six credit hours of graduate course work may again be counted towards the undergraduate degree and doctoral course work mentioned above for the integrated Bachelor/Ph.D. program. Therefore, the total graduate credit hours after obtaining the bachelor's degree at Old Dominion can be 42 credit hours of graduate courses plus a 24-credit dissertation. That is 12 credits shorter than the regular path. Students in these programs must maintain a GPA of 3.50 or better throughout their bachelor's and doctoral studies.

The student may opt to obtain the master's degree along the way to the doctorate. To obtain the master's degree, the student must utilize the six graduate credits obtained as part of their undergraduate program, use 18 credits of the graduate course work that is part of the Ph.D., and also write a master's thesis.

## UNDERGRADUATE PROGRAMS

The Bachelor of Science in Civil Engineering, the Bachelor of Science in Computer Engineering, the Bachelor of Science in Electrical Engineering and the Bachelor of Science in Mechanical Engineering are accredited as engineering programs by the Engineering Accreditation Commission (EAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone: (410) 347-7700. The Bachelor of Science in Modeling and Simulation Engineering plans to apply for accreditation by the Engineering Accreditation Commission (EAC) of ABET when it becomes eligible following the graduation of the first senior class in 2013.

The Bachelor of Science in Engineering Technology has programs in civil engineering technology, electrical engineering technology, and mechanical engineering technology that are accredited as engineering technology programs by the Technology Accreditation Commission (TAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012 – telephone: (410) 347-7700.

For the list of institutions accredited by ABET, refer to: [www.abet.org/accreditation/accredit.htm](http://www.abet.org/accreditation/accredit.htm).

## ENGINEERING FUNDAMENTALS DIVISION

Linda Vahala, Director  
Bonita Anthony, Assistant Director

The Engineering Fundamentals Division (EFD) is designed to provide support to students as they make the transition into the Frank Batten College of Engineering and Technology. All students are admitted to this division until they are prepared to successfully take courses in their major. While in this division, students receive individualized counseling, mentoring, and advising support designed to prepare them for success in their chosen engineering or technology major. A key experience for students in this division is the year-

long course in the Fundamentals of Engineering. This group-oriented course uses hands-on projects to expose students to the spectrum of engineering practices from innovation through design, manufacture and commercialization of a product or process. It also provides students with an opportunity to experience various aspects of engineering and have a basis for selecting their major.

**Admission.** Students who qualify for regular admission to the University will be accepted into EFD. Students in EFD may identify a desired degree program or may declare that they are undecided among engineering and engineering technology programs. They will be assigned an intended major code classification, which indicates that they are enrolled and, if appropriate, which is their preferred program.

**Matriculation into a Degree Program.** Students should apply to the desired program during the semester in which they complete the requirements in the Engineering Fundamentals Division. Students will be notified of the admission decision before the start of the next term. To be eligible for admission into a degree program, students must (1) complete the courses Explore Engineering and Technology I and II, (2) complete at least 30 credit hours applicable toward a degree, (3) have an overall GPA of 2.00 or higher, and (4) meet any other additional degree program admission requirements. Normally, students are not eligible to enroll in major courses until they are accepted into the degree program. Students may petition to waive this rule when extenuating circumstances warrant.

**Continuance.** Students are eligible to continue in the EFD as long as they (1) meet the continuance regulations of the University and (2) make reasonable progress toward matriculation into an engineering or engineering technology program. A student who has ceased reasonable progress toward matriculation into a college degree program will be notified in writing. One semester following this notification, if reasonable progress has not resumed, the student will be referred to Advising and Transfer Programs in Academic Enhancement. A student who successfully completes the requirements must apply to and be accepted by a college degree program. Students not accepted into a degree program during a period of one semester beyond completion of the requirements will be referred to Advising and Transfer Programs in Academic Enhancement.

## Computer Requirement

The Frank Batten College of Engineering and Technology requires that all incoming freshmen to the college have a notebook or laptop computer that meets or exceeds the Mobile Monarch Student Notebook Program's recommended models for engineering majors. Students are strongly encouraged to consider purchasing one of the Mobile Monarch Student Notebook Program's notebooks; however, students may bring their own notebook if it meets the specifications. More information, including the notebook loaner program, can be found at <http://www.eng.odu.edu/efd>.

## Engineering Fundamentals—Engineering Programs

### Freshman First Semester (16 Credit Hours)

Course Number	Course Title	Credits
ENGN 110	Explore Engineering & Technology	2
MATH 211	Calculus I	4
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
ENGL 110C	English Composition	3
GEN ED	Way of Knowing	3

### Freshman Second Semester (17 Credit Hours)

Course Number	Course Title	Credits
CEE/ECE/MAE/MSIM/		
ENGT 111	Information Literacy and Research (meets information literacy and research general education requirement in conjunction with courses in the major)	2
MATH 212	Calculus II	4
CHEM 117	Foundations of Chemistry II	3
PHYS 231N	University Physics I	4
CS 150	Introduction to Programming	4

## Engineering Fundamentals—Engineering Technology Programs

Refer to the program curriculum listing appearing in the Engineering Technology section.

## Advanced Placement

## Bachelor of Science in Civil Engineering

The University provides for possible advanced placement for up to 60 semester hours of course work. The student should refer to the advanced placement policy of specific departments (Mathematics and Statistics, Physics, Chemistry and Biochemistry, etc.) and the Policy for Experiential Learning Credit Options at the Undergraduate Level found in this Catalog.

Qualified students may take advanced placement examinations in certain courses in the various departments of the Batten College of Engineering and Technology. The student should contact the chair of the department offering the course for information on applicability and approval.

Prospective freshmen are encouraged to take as many advanced placement courses as possible in high school. Further, prospective freshmen are encouraged to take as many AP examinations of the Educational Testing Service and CLEP examinations as possible. Qualifying scores on these examinations may result in advanced placement credit. However, freshmen should still consult with their faculty advisor before "skipping" courses given at Old Dominion University.

### Transfer Students

Transfer students seeking admission to an engineering or engineering technology program at Old Dominion University must complete the standard admission procedures as established by the Office of Admissions.

Transfer students are usually in one of the following categories: (a) students who have completed some course work, but who have not completed associate degrees; and (b) students who have completed associate degrees in appropriate fields before transferring.

Certain special policies have been developed for students in category (b). If the overall educational background of the transfer student who has completed an associate degree is felt to be sufficiently strong to permit him or her to pursue upper-division work satisfactorily, a composite or "package" evaluation of transfer credit may be made. This approach will permit some flexibility in accommodating students with slightly different but equally appropriate backgrounds, dependent on the engineering or engineering technology program involved. Certain deficiencies can be made up while the student is pursuing upper-division studies.

To be admitted as a transfer student with departmental junior standing, the student should have either completed an associate degree in an acceptable program or received full credit for two years of work indicated by the completion of the equivalent number of semester hours in the chosen engineering or engineering technology curriculum with a grade of C or better in each course.

Transfer students must earn a minimum of 25 percent of the total number of credits required for the degree from Old Dominion University and complete a minimum of 12 credit hours in upper-level courses in the major program from Old Dominion University.

### Certificate of Career Experience

The Certificate of Career Experience provides an opportunity to document career experience contained in the student's program of study. The certificate consists of a five-credit core including cooperative education, job search strategies, and fundamentals of engineering. The remaining requirements are satisfied by major courses including senior design projects, professional communication and elective courses. Information concerning specific requirements is available on the Career Management Center website.

## CIVIL AND ENVIRONMENTAL ENGINEERING

Gary C. Schafran, Chair

The Department of Civil and Environmental Engineering offers an undergraduate four-year program leading to the Bachelor of Science in Civil Engineering. The program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>. The department also offers a varied program of graduate study and research leading to the Master of Science, Master of Engineering, Doctor of Engineering, and Doctor of Philosophy degrees with majors in civil or environmental engineering. Areas of specialization include coastal, environmental, geotechnical, hydraulics and water resources, transportation, and structural engineering. For further information, please visit the web site: [eng.odu.edu/cee](http://eng.odu.edu/cee).

The undergraduate degree in civil engineering prepares graduates for entry into professional practice and continued intellectual and professional development throughout their career. The program prepares its graduates to serve as master planners, designers, constructors, and operators/managers of the built environment as well as stewards of natural resources and the environment. Civil engineering graduates are also prepared to serve as both innovators and integrators in the application of existing and developing technologies in the creation and maintenance of society's infrastructure. They also serve as evaluators and managers of risk and uncertainty and apply engineering knowledge and science to the protection of the built environment and public health.

The curriculum in civil engineering is designed to provide education in fundamental engineering sciences, certain nontechnical subjects, and all major areas of civil engineering, which will serve as a basis for entrance into civil engineering practice and/or graduate study. Technical elective courses are available that allow pursuit of several programs of study or specialization: geotechnical, hydraulics and water resources, environmental, transportation, and structural engineering. In addition, course work in General Education skills and ways of knowing is required to assure a well-rounded program of study.

### Civil Engineering Program Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the civil engineering program, established with participation of all constituencies, are consistent with the mission of Old Dominion University and the Department of Civil and Environmental Engineering.

The objectives of the civil engineering program are to produce graduates who will:

- practice civil engineering successfully in different professional settings,
- be able to pursue advanced studies in civil engineering or related fields,
- understand and effectively communicate technical, environmental, and social implications of civil engineering solutions,
- understand, appreciate, and be able to apply the state-of-the-art practice in civil engineering, and
- understand, appreciate, and apply engineering ethics.

### Civil Engineering Program Outcomes

The program outcomes are statements that describe what students are expected to know and be able to do by the time of graduation. The program outcomes have been established based on the program educational objectives, in consultation with the advisory council as documented in the minutes of the Civil and Environmental Engineering Visiting Council (CEEVC) meetings.

Students who qualify for graduation will:

1. Be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry, and engineering science and have the ability to apply knowledge in these areas to civil engineering problems.
2. Have ability to design and conduct experiments and to critically analyze and interpret data in various civil engineering fields.
3. Be able to develop design criteria to meet desired needs and to design a civil engineering system, component, or a process satisfying these criteria.
4. Have ability to function on multi-disciplinary teams.
5. Be able to identify and formulate an engineering problem, to collect and analyze relevant data, and to develop a solution.
6. Understand and appreciate professional and ethical responsibilities and professional practice issues such as procurement of work, bidding versus quality-based selection processes, and interaction between design and construction professionals.
7. Be able to effectively present ideas and technical material to diverse audiences in writing, visually, and verbally.
8. Have the broad education necessary to understand the impact of engineering solutions in a societal and global context.
9. Understand and appreciate the importance of professional licensure and commitment to life-long learning.
10. Have knowledge of current issues and awareness of emerging technologies.
11. Have an ability to use modern engineering techniques, skills, and tools including computer-based tools for civil engineering analysis and design.

In addition, students will have had opportunities for work experience through internships, practicum, and cooperative education. They will also have

had opportunities to participate in student organizations for exposure to community service and for developing leadership skills. The students will be able to apply knowledge in environmental, geotechnical, structural, transportation, and water resources engineering.

### Civil Engineering Curriculum\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
MATH 211	Calculus I	4
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
ENGL 110C	English Composition	3
ENGN 110	Explore Engr & Tech	2
Gen Ed	Human Creativity Way of Knowing	3
<b>Freshman Second Semester (17 Credit Hours)</b>		
MATH 212	Calculus II	4
CHEM 123N	Foundations of Chemistry II	3
PHYS 231N	University Physics	4
CS 150	Introduction to Programming	4
CEE 111	Information Literacy and Research	2
<b>Sophomore First Semester (18 Credit Hours)</b>		
CEE 204	Statics	3
PHYS 232N	University Physics	4
MATH 312 (285)	Calculus III	4
Science Elective	BIOL 108N or OEAS 111N	4
COMM 101R	Public Speaking	3
<b>Sophomore Second Semester (16 Credit Hours)</b>		
ME 220	Engr Mechanics II - Solid Mech	3
ME 205	Dynamics	3
CET 319	Surveying for Engineers	1
ENGL 211C	English Composition	3
MATH 307 (280)	Ordinary Diff Equations	3
Gen Ed	Literature Way of Knowing	3
<b>Junior First Semester (15 Credit Hours)</b>		
CEE 320	CE Materials	3
CEE 305	C&E Engineering Computations	3
CEE 330	Hydromechanics	3
CEE 350	Environ Pollution & Control	3
CEE 304	Probability, Statistics, and Risk in CE	3
<b>Junior Second Semester (16 Credit Hours)</b>		
CEE 310	Structures I	3
CEE 323	Soil Mechanics	3
CEE 340	Hydraulics & Water Resources	3
CEE 335	CE Soils & Hydraulics Lab	1
CEE 240	Geo Information Sys in C&E Engr	3
Gen Ed	Interpreting the Past Way of Knowing	3
<b>Senior First Semester (17 Credit Hours)</b>		
CEE 470	Transportation Engineering	3
CEE 410	Concrete Design I	3
CEE 430	Foundation Engineering	3
ENGN 401	FE Review	1
Gen Ed	Human Behavior Way of Knowing	3
Gen Ed	Upper Level Requirement 1	3
CEE 402	Professional Practice of Engineering	1
<b>Senior Second Semester (15 Credit Hours)</b>		
CEE 403W	Civil Engineering Design Project	3
CEE 4XX	Transportation or Environ Engr Elective	3
CEE 4XX	Civil Engr Elective	3
Gen Ed	Upper Level Requirement 2	3
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3
<b>Total Credits</b>		<b>130</b>

\* Does not include the University's General Education language and culture requirement. Additional hours may be required.

The General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major.

## ELECTRICAL AND COMPUTER ENGINEERING

Shirshak Dhali, Chair

The Department of Electrical and Computer Engineering offers undergraduate four-year degree programs leading to the Bachelor of Science in Electrical Engineering and the Bachelor of Science in Computer Engineering. These programs are accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>. The undergraduate programs provide a broad foundation in electrical and/or computer engineering through combined lecture and laboratory work and prepare the student for entering the profession of electrical and/or computer engineering. In addition, these programs prepare the students for further study at the graduate level.

The department also offers programs of graduate study leading to the degree of Master of Engineering and Master of Science in electrical or computer engineering and Doctor of Philosophy in electrical and computer engineering. Faculty members in electrical and computer engineering are actively engaged in research, and the department maintains extensive laboratory facilities to support the research work. Areas of specialization include bioelectronics, plasmas, breakdown in liquid/solids, microelectronics/nanotechnology, atomic layer deposition, laser processing, multivariate systems/nonlinear control, computational intelligence and machine vision, modeling/simulation/visualization, medical modeling, computer networks, and communications.

### Mission Statement

The Department of Electrical and Computer Engineering at Old Dominion University is a partnership among students, faculty and staff in Service to the profession of Electrical and computer engineering through academic excellence, Research and real-world experiences, dedicated to a Vision of the future that includes Industry and community, Continuous improvement, and personal Enrichment and growth (SERVICE).

### Bachelor of Science in Electrical Engineering

Vishnu K. Lakdawala, Chief Departmental Advisor

The electrical engineering undergraduate curriculum begins with a solid foundation in math, science, English, circuits, linear systems, electronics, electromagnetics, digital systems, and microelectronics. Adequate elective freedom is available to the senior student to allow specialization in three emphasis areas, system science, physical science, and digital design. Emphasis is placed on understanding principles through theoretical investigation and experimental verification. In addition, course work in General Education skills and ways of knowing are required to assure a well-rounded program of study.

### Electrical Engineering Educational Program Objectives

The electrical engineering program seeks to prepare graduates who, after the first few years of their professional career, have: (a) established themselves as practicing engineering professionals in industry or government, or engaged in graduate study; (b) demonstrated their ability to work successfully as members of a professional team and function effectively as responsible professionals; and (c) demonstrated their ability to adapt to new technology and career challenges.

### Program Outcomes

The electrical engineering program outcomes are as follows. Graduates must attain:

1. an ability to apply knowledge of mathematics, science, and engineering.
2. an ability to design and conduct experiments, as well as to analyze and interpret data.
3. an ability to design an electrical system, component, or process to meet desired needs, considering all realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. an ability to function on both intra-disciplinary and multi-disciplinary teams.
5. an ability to identify, formulate, and solve electrical engineering problems.
6. an understanding of professional and ethical responsibilities.
7. an ability to communicate technical ideas effectively in writing and speaking.
8. the broad education necessary to understand the impact of electrical engineering solutions in a global and societal context.
9. a recognition of the need for and an ability to engage in life-long learning.



10. a knowledge of contemporary issues.
11. an ability to use the techniques, skills, and modern engineering tools necessary for electrical engineering practice.
12. an ability to apply the knowledge of advanced mathematics of differential equations, linear algebra, complex variables, vector calculus, and discrete mathematics to electrical engineering problems.

### Electrical Engineering Curriculum\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
ENGL 110C	English Composition	3
MATH 211	Calculus I	4
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
ENGN 110	Explore Engr & Tech	2
COMM 101R	Public Speaking	3
<b>Freshman Second Semester (17 Credit Hours)</b>		
MATH 212	Calculus II	4
CS 150	Intro to Programming	4
CHEM 123N	Foundations of Chemistry II	3
PHYS 231N	University Physics	4
ECE 111	Information Literacy and Research	2
<b>Sophomore First Semester (17 Credit Hours)</b>		
ECE 200	Engineering Analysis Tools	3
ECE 201	Circuit Analysis	3
MATH 307 (280)	Differential Equations	3
PHYS 232N	University Physics	4
ECE 241	Fundamentals of Computer Engr	4
<b>Sophomore Second Semester (15 Credit Hours)</b>		
ECE 202	Circuits, Signals & Linear Systems	3
ECE 287	Fundamental Circuits Lab	2
MATH 312 (285)	Calculus III	4
Engr	Nonmajor Engr Elective	3
Gen Ed	Human Creativity Way of Knowing	3
<b>Junior First Semester (16 Credit Hours)</b>		
ECE 313	Electronic Circuits	4
ECE 303	Intro to Electrical Power	3
ECE 332	Microelectronic Materials & Processes	3
Gen Ed	Interpreting the Past Way of Knowing	3
ECE 381	Discrete-time Signal Processing	3
<b>Junior Second Semester (15 Credit Hours)</b>		
ECE 304	Probability, Statistics, & Reliability	3
ECE 323	Electromagnetics	3
ECE 387	Microelectronics Fabrication Lab	3
ENGL 231C	Intro to Tech & Scientific Writing	3
Gen Ed	Literature Way of Knowing	3
<b>Senior First Semester (16 Credit Hours)</b>		
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3
ECE 485W	Electrical Engineering Design I	3
ECE 486	Prep to ECE Design II	1
ECE 4XX	Technical Elective 1	3
ECE 4XX	Technical Elective 2	3
Depth	Upper-Division Gen Ed	3
<b>Senior Second Semester (15 Credit Hours)</b>		
ENGN 401	FE Review	1
ECE 487	ECE Design II	2
ECE 4XX	Technical Elective 3	3
ECE 4XX	Technical Elective 4	3
Gen Ed	Human Behavior Way of Knowing	3
Depth	Upper-Division Gen Ed	3
<b>Total Credits</b>		<b>127</b>

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

The General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major.

Electrical engineering majors must earn a grade of C or better in all 200-level ECE courses prior to taking the next course in the sequence.

### Bachelor of Science in Computer Engineering

Vishnu K. Lakdawala, Chief Departmental Advisor

The computer engineering undergraduate degree program is designed to provide both a broad engineering background and a comprehensive foundation in the technical principles underlying the computer area. Students develop a background through course work in mathematics, the basic sciences, and general engineering. The technical core consists of course work from electrical engineering to address hardware aspects of computer engineering and course work from computer science to address software aspects. Adequate elective freedom is available to senior students to allow specialization in four emphasis areas: modeling and simulation, computer hardware, computer networks and signal/image processing. In addition, course work in General Education skills and ways of knowing is required to assure a well-rounded program of study.

### Computer Engineering Educational Program Objectives

The computer engineering program seeks to prepare graduates who, after the first few years of their professional career, have: (a) established themselves as practicing engineering professionals in industry or government, or engaged in graduate study; (b) demonstrated their ability to work successfully as members of a professional team and function effectively as responsible professionals; and (c) demonstrated their ability to adapt to new technology and career challenges.

### Program Outcomes

The computer engineering program outcomes are as follows. Graduates must attain:

1. an ability to apply knowledge of mathematics, science, and engineering.
2. an ability to design and conduct experiments, as well as to analyze and interpret data.
3. an ability to design a digital hardware and/or software system to meet desired needs, considering all realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. an ability to function on both intra-disciplinary and multi-disciplinary teams.
5. an ability to identify, formulate, and solve computer engineering problems.
6. an understanding of professional and ethical responsibilities.
7. an ability to communicate technical ideas effectively in writing and speaking.
8. the broad education necessary to understand the impact of computer engineering solutions in a global and societal context.
9. a recognition of the need for and an ability to engage in life-long learning.
10. a knowledge of contemporary issues.
11. an ability to use the techniques, skills, and modern engineering tools necessary for computer engineering practice.
12. an ability to apply the knowledge of advanced mathematics of differential equations, linear algebra, and discrete mathematics to computer engineering problems.
13. an ability to apply advanced programming techniques to solve computer engineering problems.

### Computer Engineering Curriculum\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
MATH 211	Calculus I	4
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
ENGL 110C	English Composition	3
ENGN 110	Explore Engr & Tech	2
COMM 101R	Public Speaking	3
<b>Freshman Second Semester (17 Credit Hours)</b>		
MATH 212	Calculus II	4
CS 150	Intro to Programming	4
PHYS 231N	University Physics	4
CHEM 123N	Foundations of Chemistry II	3
ECE 111	Information Literacy and Research	2
<b>Sophomore First Semester (17 Credit Hours)</b>		
ECE 200	Engineering Analysis Tools	3
ECE 201	Circuit Analysis	3
PHYS 232N	University Physics	4
MATH 307 (280)	Differential Equations	3
ECE 241	Fundamentals of Computer Engr	4

### Sophomore Second Semester (16 Credit Hours)

ECE 202	Circuits, Signals & Linear Systems	3
ECE 287	Fundamental Circuits Lab	2
CS 250	Problem Solving & Programming	4
CS 252	Intro to Unix	1
CS 381	Discrete Structures	3
ENGL 231C	Intro to Tech & Scientific Writing	3

### Junior First Semester (16 Credit Hours)

ECE 313	Electronic Circuits	4
ECE 341	Digital System Design	3
CS 361	Advanced Data Structures & Algorithms	3
ECE 381	Discrete-time Signal Processing	3
Gen Ed	Literature Way of Knowing	3

### Junior Second Semester (15 Credit Hours)

ECE 304	Probability, Statistics, & Reliability	3
ECE 3XX	Technical Elective 1	3
ECE 346	Microcontrollers	3
CS 350	Software Engineering	3
Gen Ed	Human Creativity Way of Knowing	3

### Senior First Semester (16 Credit Hours)

ECE 484W	Computer Engineering Design I	3
ECE 486	Prep to ECE Design II	1
ECE 443	Computer Architecture	3
ECE 4XX	Technical Elective 2	3
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3
Gen Ed	Interpreting the Past Way of Knowing	3

### Senior Second Semester (15 Credit Hours)

ENGN 401	FE Review	1
ECE 487	ECE Design II	2
CS 471	Operating Systems	3
ECE 4XX	Technical Elective 3	3
ECE 4XX	Technical Elective 4	3
Gen Ed	Human Behavior Way of Knowing	3

**Total Credits** 128

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

The General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major. The upper-division General Education requirement is met through a built-in minor in computer science.

Computer engineering majors must earn a grade of C or better in all 200-level ECE courses prior to taking the next course in the sequence.

## Continuance Regulations

It is the policy of the Department of Electrical and Computer Engineering to deny a student eligibility to enroll in ECE courses after it becomes evident that he or she is either unable or unwilling to maintain reasonable standards of academic achievement. At the end of each semester, including summer sessions, the department reviews the records of all students.

1. A student will be placed on departmental academic probation whenever his or her major grade point average falls below 2.00 (after six or more hours have been attempted in the major.)
2. A student is subject to termination from the departmental engineering program if his or her record shows one of the following:
  - a. A deficiency of more than nine grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted fewer than 35 hours of their departmental engineering courses, including transfer hours.
  - b. A deficiency of more than six grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted 35 hours or more of their departmental engineering courses, including transfer hours.

Appeals of termination from the engineering program are in order if extenuating circumstances warrant. Appeals are to be made in writing to the chair of the department. Once the appeal is submitted, it is considered by the faculty of the department.

## MECHANICAL AND AEROSPACE ENGINEERING

Jen-Kuang Huang, Chair

The Mechanical and Aerospace Engineering (MAE) Department offers an undergraduate program leading to a Bachelor of Science in Mechanical Engineering. The program is accredited by the Engineering Accreditation Commission (EAC) of ABET, <http://www.abet.org>. The department offers a varied program of graduate study and research leading to the Master of Engineering, Master of Science, Doctor of Engineering and Doctor of Philosophy degrees with a major in mechanical engineering and aerospace engineering. For further information, please visit the web site: [www.eng.odu.edu/mae](http://www.eng.odu.edu/mae).

## Bachelor of Science in Mechanical Engineering

Sushil Chaturvedi, Chief Departmental Advisor

The mechanical engineering program is among the most basic of all engineering programs, with a curriculum that embraces the major areas of power, design, and mechanics. Seniors may enroll in one of three option areas: power/energy conversion, mechanical systems/design or aerospace engineering. The program is designed to prepare its graduates for professional practice in many facets of engineering, such as research, development, design, planning, testing, management, and consulting. The graduate is prepared to undertake challenging and creative engineering work in almost any industry, government agency, research organization, or consulting firm. The program also provides an excellent preparation for graduate school and the Fundamentals of Engineering (FE) Exam.

An undergraduate student handbook providing rules and a detailed semester-by-semester plan for the program is available on the department website. Courses are routinely scheduled in the evening to accommodate working students. Interested persons should contact the Department at 683-6363.

## Mechanical Engineering Mission

1. To develop and maintain high quality undergraduate program of study leading to the bachelor's degree in mechanical engineering.
2. To develop and maintain high quality graduate programs of study and research leading to the master's degree and doctoral degree in mechanical engineering and engineering mechanics.
3. To conduct a relevant and high quality research program in the mechanical engineering and engineering mechanics disciplines.
4. To provide practicing mechanical engineers in Virginia the opportunities to develop and maintain up-to-date technical knowledge and skills.
5. To provide the skills and knowledge uniquely those of the mechanical engineering profession to support existing government agencies, consulting firms and industry and help promote the development of more competitive and new industry in Virginia and the nation.

## Outcomes

The Mechanical and Aerospace Engineering Department has adopted, after deliberations by its constituents, 11 outcomes for the BSME program. These outcomes are listed below. The students who qualify for graduation will

1. Be proficient in mathematics through differential equations, probability and statistics, calculus-based physics, general chemistry, and engineering science and have the ability to apply knowledge in these areas to mechanical engineering problems.
2. Have ability to design and conduct experiments and to critically analyze and interpret data in various mechanical engineering fields.
3. Be able to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
4. Have ability to function on multi-disciplinary teams.
5. Be able to identify and formulate an engineering problem, to collect and analyze relevant data, and to develop a solution.
6. Understand and appreciate professional and ethical responsibilities and professional practice issues such as procurement of work and bidding versus quality-based selection processes.
7. Be able to effectively present ideas and technical material to diverse audiences in writing, visually, and verbally.
8. Have the broad education necessary to understand the impact of engineering solutions in a societal and global context.
9. Understand and appreciate the importance of professional licensure and commitment to life-long learning.
10. Have knowledge of current issues and awareness of emerging technologies.

11. Have an ability to use modern engineering techniques, skills and tools including computer-based tools for mechanical engineering analysis and design.

MAE 434	Project Design and Management I	3
MAE 433	Mechanical Engineering Design II	3
MAE 436	Dynamic Systems & Control	3
MAE	Option	3
General Education	Upper Division Course	3

## Mechanical Engineering Objectives

The program educational objectives describe the career and professional accomplishments that the program is preparing graduates to achieve within a few years after graduation. The educational objectives of the mechanical engineering program, established with participation of all constituencies, are consistent with the mission of Old Dominion University and the Department of Mechanical and Aerospace Engineering.

The objectives of the mechanical engineering program at Old Dominion University are to prepare mechanical engineers:

- To establish themselves as successful professionals in the general stems of thermal/fluid systems, mechanical systems and design, and materials and manufacturing in industry and government settings by demonstrating their ability to
  - conduct themselves consistently in a responsible, professional and ethical manner.
  - participate in continuing education, research and development, and in other lifelong creative efforts in science and technology.
  - lead others in support of activities that promote service to and economic development of the community, the region, state and nation.
- To successfully pursue and complete graduate programs in mechanical engineering or a related field if they so desire.

### Senior Second Semester (12 Credit Hours)

MAE 435W	Project Design and Mgmt II	3
MAE	Options (two)	6
General Education	Upper Division Course	3

**Total Credits 126**

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*ENMA 480 Ethics and Philosophy in Engineering Applications is preferred.

General Education requirements in information literacy and research and impact of technology are met through the major. For additional information consult the department undergraduate handbook.

Mechanical engineering majors must earn a grade of C or better in the following courses: MATH 211, MATH 212, PHYS 231N, MAE 204, MAE 205, MAE 220, MAE 303 and MAE 311.

## Continuance Regulations

It is the policy of the Department of Mechanical and Aerospace Engineering to deny a student eligibility to enroll in program courses after it becomes evident that he or she is either unable or unwilling to maintain reasonable standards of academic achievement. Courses in the mechanical engineering major are defined as courses with an MAE prefix.

- A student will be placed on departmental academic probation whenever his or her major grade point average falls below 2.00 (after six or more hours have been attempted in the major).
- A student is subject to termination from the program if his or her record shows either of the following:
  - A deficiency of more than nine grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted fewer than 35 hours in the major.
  - A deficiency of more than six grade points below that required to maintain a 2.00 cumulative average in the major. This rule applies to students who have attempted 35 hours or more in the major.

Appeals of termination from the program are in order if extenuating circumstances warrant. Appeals are to be made in writing to the chair of the department. Once the appeal is submitted, it is considered by the faculty of the department.

## MODELING, SIMULATION AND VISUALIZATION ENGINEERING

Roland R. Mielke, Chair

The Department of Modeling, Simulation and Visualization Engineering offers an undergraduate four-year degree program leading to the Bachelor of Science in Modeling and Simulation Engineering. The program was initiated in January 2010 and will be developed one program year at a time. The program will seek accreditation by the Engineering Accreditation Commission (EAC) of ABET as a general engineering program. The first accreditation visit is planned for fall 2013 immediately following the graduation of the first senior class. Program graduates will be prepared to enter the workforce as entry-level modeling and simulation engineers. In addition, graduates will be prepared to enter graduate study in modeling and simulation and, with appropriate use of elective freedom, other disciplines where modeling and simulation has application. Program graduates also will be prepared to seek certification as a Certified Modeling and Simulation Professional (CMSP) and licensure as an Engineer in Training (EIT).

The department also offers programs of graduate study leading to the degrees of Master of Engineering, Master of Science, Doctor of Engineering, and Doctor of Philosophy with a major in modeling and simulation. The department's academic programs are coupled with a strong departmental research program conducted jointly with researchers from the Virginia Modeling, Analysis and Simulation Center (VMASC). Research activities range from investigation of fundamental modeling and simulation methodologies and technologies to applications of modeling and simulation in medicine and health science, transportation, education, science and engineering, and business.

## Mechanical Engineering Curriculum\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
MATH 211	Calculus I	4
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
ENGL 110C	English Composition	3
ENGN 110	Explore Engr & Tech	2
COMM 101R	Public Speaking	3
<b>Freshman Second Semester (17 Credit Hours)</b>		
MATH 212	Calculus II	4
CHEM 123N	Foundations of Chemistry II	3
PHYS 231N	University Physics I	4
CS 150	Introduction to Programming	4
MAE 111	Information Literacy and Research	2
<b>Sophomore First Semester (18 Credit Hours)</b>		
PHYS 232N	University Physics II	4
MATH 312 (285)	Calculus III	4
MAE 204	Engineering Mechanics I Statics	3
MAE 201	Materials Science	3
MAE 203	ME Lab I-Materials	1
MET 120	Computer-Aided Drafting	3
<b>Sophomore Second Semester (16 Credit Hours)</b>		
MAE 205	Dynamics	3
MAE 220	Engr Mechs II-Solid Mechs	3
MAE 225	ME Lab II-Solid Mechanics	1
MATH 307 (280)	Differential Equations	3
ENGL 231C	Tech/Scientific Writing	3
Gen Ed	Interpreting the Past Way of Knowing	3
<b>Junior First Semester (16 Credit Hours)</b>		
MAE 311	Thermodynamics I	3
MAE 303	Mechanics of Fluids	3
MAE 305	ME Lab III-Thermo/Fluids	1
MAE 340	Computational Methods in ME	3
Gen Ed	Literature Way of Knowing	3
Gen Ed	Human Creativity Way of Knowing	3
<b>Junior Second Semester (16 Credit Hours)</b>		
MAE 312	Thermodynamics II	3
MAE 332	Mechanical Engineering Design I	3
MAE 315	Heat and Mass Transfer	3
ENGN 401	FE Review	1
Gen Ed	Philosophy and Ethics Way of Knowing**	3
Gen Ed	Human Behavior Way of Knowing	3
<b>Senior First Semester (15 Credit Hours)</b>		

# Bachelor of Science in Modeling and Simulation Engineering

James Leathrum Jr., Chief Departmental Advisor

The modeling and simulation engineering curriculum is based on a solid foundation in mathematics and basic science. Core program content includes a thorough introduction to key concepts from computer science, the major modeling and simulation paradigms, computer visualization, analysis methods, and simulation software design. Laboratory courses provide hands-on experience in the engineering of modeling and simulation systems. A capstone course sequence taken during the senior year provides an opportunity to exercise this cumulative preparation to solve a real engineering problem in a team setting. An important component of the program is the requirement that students complete courses in another academic program where modeling and simulation is used as a support tool. In addition, course work in General Education skills and ways of knowing is required to assure a well-rounded program of study.

## Program Educational Objectives

The program educational objectives describe the expected accomplishments of graduates during the first few years after graduation. The educational objectives of the modeling and simulation engineering program, established with participation of all program constituencies, are consistent with the mission of Old Dominion University and the Department of Modeling, Simulation and Visualization Engineering.

The program educational objectives of the modeling and simulation engineering program are as follows.

The modeling and simulation engineering program seeks to prepare graduates who, after the first few years of their professional careers, have:

- Established themselves as practicing professionals in modeling and simulation engineering or a related area;
- Demonstrated their ability to work successfully as members of a professional team and to function effectively as responsible professionals; and
- Demonstrated their ability to adapt to changing situations, evolving technologies, and new career challenges.

## Program Outcomes

The modeling and simulation engineering program must be designed to have an educational process to produce a set of outcomes that foster attainment of the program objectives and an assessment process that measures the degree to which the objectives and outcomes are achieved. The results of this assessment are applied to the further development of the program.

The modeling and simulation engineering program outcomes are as follows. Modeling and simulation engineering students who qualify for graduation have the following general education characteristics:

- a) An ability to apply knowledge of mathematics, science, and engineering;
- b) An ability to design and conduct experiments, as well as to analyze and interpret data;
- c) An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability;
- d) An ability to function on multidisciplinary teams;
- e) An ability to identify, formulate, and solve engineering problems;
- f) An understanding of professional and ethical responsibilities;
- g) An ability to communicate effectively;
- h) The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;
- i) A recognition of the need for, and an ability to engage in, life-long learning;
- j) A knowledge of contemporary issues; and
- k) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

In addition, students have the following characteristics specific to the modeling and simulation engineering discipline which expand on the above engineering program outcomes:

- l) An ability to model a variety of systems from different domains;
- m) An ability to communicate designs across technical and nontechnical boundaries;
- n) An ability to develop and input models based on observed data;

- o) An ability to select and apply appropriate simulation tools and techniques;
- p) An ability to develop a simulation in software
- q) An ability to apply the experimental process to acquire desired simulation results;
- r) An ability to apply visualization techniques to support the simulation process;
- s) An ability to use appropriate techniques to verify and validate models and simulations; and
- t) An ability to analyze simulation results to reach an appropriate conclusion.

## Modeling and Simulation Engineering Curriculum\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
MATH 211	Calculus I	4
ENGL 110C	English Composition I	3
CHEM 121N	Chemistry I	3
CHEM 122N	Chemistry I Lab	1
ENGN 110	Engineering & Technology	2
Gen Ed	Oral Communication	3
<b>Freshman Second Semester (17 Credit Hours)</b>		
MATH 212	Calculus II	4
CHEM 123N	Chemistry II	3
CS 150	Programming I	4
PHYS 231N	University Physics I	4
MSIM 111	Information Literacy and Research for Modeling and Simulation Engineers	2
<b>Sophomore First Semester (15 Credit Hours)</b>		
MSIM 201	Introduction to M&S	3
STAT 330	Probability & Statistics	3
PHYS 232N	University Physics II	4
CS 250	Programming II	4
CS 252	Introduction to UNIX	1
<b>Sophomore Second Semester (16 Credit Hours)</b>		
MSIM 205	Discrete Event Simulation	3
MSIM 281	Discrete Event Simulation Lab	1
MATH 307	Differential Equations	3
ENGL 231C	Technical Writing	3
Gen Ed	Human Creativity	3
Gen Ed	Literature	3
<b>Junior First Semester (16 Credit Hours)</b>		
CS 330	Object-Oriented Prog. & Design	3
CS 381	Discrete Structures	3
MSIM 320	Continuous Simulation	3
MSIM 382	Continuous Simulation Lab	1
Gen Ed	Human Behavior	3
Gen Ed	Upper-Division/Option D Pre-Req Elec	3
<b>Junior Second Semester (16 Credit Hours)</b>		
MSIM 331	Simulation Software Design	3
MSIM 383	Simulation Software Design Lab	1
MSIM 351	Analysis for M&S	3
MSIM 310	System Modeling	3
MSIM 4xx	Approved MSIM Elective I	3
Gen Ed	Upper-Division/Option D Course I	3
<b>Senior First Semester (16 Credit Hours)</b>		
MSIM 441	Computer Graphics & Visualization	3
MSIM 487W	Capstone Design I	4
Gen Ed	Upper-Division/Option D Course II	3
ENMA 401	Project Management	3
MSIM 4yy	Approved MSIM Elective II	3
<b>Senior Second Semester (16 Credit Hours)</b>		
ENMA 480	Engineering Ethics (meets philosophy and ethics requirement)	3
MSIM 488	Capstone Design II	3
Elect	Approved M&SE Elective	3
Gen Ed	Interpreting the Past	3
ENGN 401	FE Exam Review	1
Gen Ed	Impact of Technology**	3
Total Credits		128

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*Not necessarily met by the associate degree. Coursework may be taken either at Old Dominion University or the community college.

The General Education requirements in information literacy and research and philosophy and ethics are met through the major.

## Program Continuance Regulations

It is the policy of the Department of Modeling, Simulation and Visualization Engineering to deny a student eligibility to enroll in program courses after it becomes evident that the student is unable to maintain reasonable standards of academic achievement. This department continuance regulation is in addition to any University continuance regulations.

At the end of each semester, including summer sessions, the department reviews the records of all students. Depending on the number of credits attempted and the major grade point average earned, the following actions are taken prior to the beginning of the next term.

1. After six or more credits in the major have been attempted, if the major grade point average falls below 2.00 the student is placed on departmental academic probation.
2. A student who is on academic probation is subject to termination from the program under the following conditions: (a) if fewer than 35 credits in the major have been attempted and a deficiency of more than nine grade points below that required to maintain a 2.00 cumulative grade point average in the major exists; or (b) if 35 or more credits in the major have been attempted and a deficiency of more than six grade points below that required to maintain a 2.00 cumulative grade point average in the major exists.

Appeals of termination from the program are in order if extenuating circumstances warrant. Appeals are to be made in writing to the chair of the department. When submitted, an appeal is reviewed by the chair and a departmental faculty committee.

## ENGINEERING TECHNOLOGY

Mileta M. Tomovic, Chair

The primary goal of the Department of Engineering Technology and its programs is to provide a general yet sufficiently specialized education to equip the student for immediate employment in a variety of engineering and technical fields. In general, the engineering technology programs provide an opportunity for students who desire a technical undergraduate education with an emphasis directed toward applications of engineering knowledge to solve actual industrial problems. As a result, the engineering technology programs emphasize the practical application of technical knowledge with a strong laboratory program supporting the lecture content of the curricula. For further information, please visit the department web site: [www.eng.odu.edu/et](http://www.eng.odu.edu/et).

**Mission Statement:** The mission of the Engineering Technology Department is to provide students with preeminent, nationally recognized engineering technology programs that carefully balance theory, robust applied laboratory and engaging classroom experiences designed to serve as a strong foundation of knowledge and skills, enabling graduates to seize opportunities in traditional and emerging careers in civil, electrical and mechanical engineering technology.

The Department of Engineering Technology offers two program categories leading to the Bachelor of Science in Engineering Technology degree. The first program category includes programs that are accredited by the Technology Accreditation Commission (TAC) of ABET, <http://www.abet.org>. The programs in this category are civil engineering technology (CET), electrical engineering technology (EET), and mechanical engineering technology (MET). Graduates of TAC of ABET accredited programs are eligible to take the Fundamentals of Engineering (FE) or the Fundamentals of Land Surveying (FLS) examination in Virginia and in most states. The exam is the first step to licensure as a professional engineer. The programs in this category also offer different options and areas of specialization to meet student interests and industry needs. These options and areas of specialization are listed under each program.

The Department of Engineering Technology also offers a second type of degree option: the Bachelor of Science in Engineering Technology with a program in general engineering technology (GET). This program is designed primarily to meet the needs of students who have an associate in applied science degree from a community college in a variety of technical fields. The diverse technical education and career background of these students often requires an interdisciplinary mixture of courses utilizing more than one engineering technology field to meet specific educational and career objectives. The GET program meets this objective. The GET program includes the electromechanical systems option. Other options may be developed in coordination with the general engineering technology program advisor.

All upper-level courses required for all engineering technology programs are delivered via distance learning through ODU's TELETECHNET system. Thus, students with associate degrees may complete degree requirements without attending the main campus.

## Computer Requirement

The Frank Batten College of Engineering and Technology requires that all incoming freshmen to the college have a notebook or laptop computer that meets or exceeds the Mobile Monarch Student Notebook Program's recommended models for engineering majors. Students are strongly encouraged to consider purchasing one of the Mobile Monarch Student Notebook Program's notebooks; however, students may bring their own notebook if it meets the specifications. More information, including the notebook loaner program, can be found at <http://www.eng.odu.edu/efd>.

## Civil Engineering Technology

Carol Considine, Program Director

The civil engineering technology (CET) program is accredited by the Technology Accreditation Commission (TAC) of ABET, <http://www.abet.org>. The CET program offers areas of specialization in construction, structural design, and surveying and site development. Students in this program are prepared for employment in a wide range of professional and technical positions with the construction, consulting engineering, surveying and site development industries. Graduates are eligible to take the Fundamentals of Engineering exam, the first step to licensure as a professional engineer. CET courses include topics such as computer-aided drafting, statics, strength of materials, materials testing, surveying, building construction, steel and concrete design, soils and foundations, and hydrology and drainage. Effective written, oral and graphic communications are practiced throughout the curriculum along with computer literacy. The program culminates in a senior project that integrates course work with a practical project assignment in the student's area of interest. To satisfy the upper-division general education requirements, students are encouraged to complete a minor in engineering management, business management, environmental health and safety, or mechanical engineering technology.

**Construction Area of Specialization:** The construction area of specialization prepares students for careers in the construction industry by providing a combination of knowledge and skills from a number of disciplines. In addition to the basic technical skills in structures, materials, and fluids, students in construction take courses in scheduling, project management, estimating and other topics that allow projects to be completed on schedule and within budget. Graduates of the construction area of specialization are employed at both large and small companies as project engineers, field engineers, assistant superintendents, estimators, schedulers, and similar construction related positions.

**Structural Design Area of Specialization:** Students choosing the structural design area of specialization will take courses in structural analysis, structural steel design, and reinforced concrete design. Graduates of this area of specialization have found employment with public utilities and transportation agencies, architectural and structural engineering firms, and design-build contractors in positions such as designer or engineer.

**Surveying and Site Development Area of Specialization:** Students choosing this area of specialization will take course work in advanced surveying, hydrology, and site design. Graduates are employed with various governmental agencies and engineering and construction firms.

## Civil Engineering Technology Program

**Mission Statement:** The mission of the Civil Engineering Technology (CET) program is to sustain a high quality undergraduate program of study leading to the Bachelor of Science in Engineering Technology degree. The program prepares graduates to become certified in their area of specialization. Civil engineering technology is a significant component of the University's commitment to science, engineering and technology, particularly in structural building design, construction, surveying/land design and related fields, which are of major importance to civilization. Students around the world are enabled to expand opportunities to enhance their education and pursue baccalaureate level studies through the University's TELETECHNET distance learning program. Simultaneously, the program supports the general education components that yield a well-rounded graduate who is aware of and able to address societal needs and issues.

**Program Objectives:** The objective of the civil engineering technology program is to prepare graduates to establish themselves as successful

professionals in structural building design, construction, and surveying/land design or related areas during the first few years of their careers by having demonstrated their ability to:

1. Address and solve increasingly complex technical problems related to one's professional field and area of specialization.
2. Make well educated, responsible and ethical decisions that will have positive impact on organization and society.
3. Work effectively in teams and communicate ideas effectively.
4. Continue personal and professional growth.

Typical technical problems that CET graduates will be able to address include: building structures design and construction operations. Typical technical tasks the CET graduates will be expected to perform include: planning and design, field testing and inspection, on-site technical coordination and control, and other tasks relevant to one's emphasis area.

**Program Outcomes:** The civil engineering technology program has adopted, after deliberations by its constituents, 11 outcomes for the Bachelor of Science program in civil engineering technology. These outcomes are listed below.

- a. An appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines.
- b. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.
- c. An ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes.
- d. An ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives.
- e. An ability to function effectively on teams.
- f. An ability to identify, analyze and solve technical problems.
- g. An ability to communicate effectively.
- h. A recognition of the need for, and an ability to engage in, lifelong learning.
- i. An ability to understand professional, ethical and social responsibilities.
- j. A respect for diversity and a knowledge of contemporary professional, societal and global issues.
- k. A commitment to quality, timeliness, and continuous improvement.

### Civil Engineering Technology Curriculum\*

Critical CET course sequences within the Civil Engineering Technology curricula require a minimum grade of C before progressing to subsequent courses. Refer to the individual CET course descriptions at the end of the catalog for information on specific C grade prerequisites. A grade of C- does not satisfy the requirement for a C grade.

Course Number	Course Title	Credits
<b>Freshman First Semester (15 Credit Hours)</b>		
MET 120	Computer-Aided Drafting	3
ENGN 110	Explore Engineering & Tech	2
MATH 162M	Precalculus I	3
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1
Gen Ed	Human Behavior Way of Knowing	3
<b>Freshman Second Semester (15 Credit Hours)</b>		
Gen Ed	Human Creativity Way of Knowing	3
ENGT 111	Engineering Technology Information Literacy	2
MATH 163	Precalculus II	3
PHYS 111N	General Physics I	4
ENGL 110C	English Composition	3
<b>Sophomore First Semester (17 Credit Hours)</b>		
CET 200	Statics	3
MATH 211	Calculus I	4
PHYS 112N	General Physics II	4
ENGL 211C	English Composition	3
Gen Ed	Literature Way of Knowing	3
<b>Sophomore Second Semester (17 Credit Hours)</b>		
CET 220	Strength of Materials	3
CET 305	Principles of Surveying	3
CET 345W	Materials Testing Laboratory	2
EET 305	Advanced Technical Analysis	3
COMM 101R	Public Speaking	3
Gen Ed	Philosophy and Ethics Way of Knowing**	3
<b>Junior First Semester (16 Credit Hours)</b>		
CET 310	Fundamentals of Building Construction	3
CET 301	Structural Analysis	3

CET	CET Elective	3
MET 330	Fluid Mechanics	3
MET 335W	Fluid Mechanics Laboratory	1
Gen Ed	Upper-Division Gen Ed***	3
<b>Junior Second Semester (17 Credit Hours)</b>		
CET 340	Soils & Foundations	3
CET 341W	Soils Testing Laboratory	2
****CET 360	Plans and Specifications	3
CET	CET Elective	3
MET 310	Dynamics	3
ENMA 302	Engineering Economics	3

<b>Senior First Semester (17 Credit Hours)</b>		
CET 440	Contract Documents	3
CET 434	Intro to Senior Design	1
CET 450	Structural Steel Design	3
CET	CET Elective	3
Gen Ed	Upper Division Gen Ed***	3
Gen Ed	Interpreting the Past Way of Knowing	3
ENGN 401	FE Review	1

<b>Senior Second Semester (13 Credit Hours)</b>		
CET 400	Computer Applications in Structural Design	1
CET 410	Reinforced Concrete Design	3
CET 475	Senior Design Project	3
CET	CET Elective	3
Gen Ed	Impact of Technology Way of Knowing	3
<b>TOTAL</b>		<b>127</b>

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*ENMA 480 Ethics and Philosophy in Engineering Applications is preferred.

\*\*\*One or more additional courses will be required to complete a minor. See advisor for details.

\*\*\*\*Students with an interest in construction may substitute an alternate course with approval of their advisor.

The General Education information literacy and research requirement is met through the major.

### Electrical Engineering Technology

John R. Hackworth, Program Director

The electrical engineering technology (EET) program is accredited by the Technology Accreditation Commission (TAC) of ABET, <http://www.abet.org>. The EET program contains both an electrical systems technology option and a computer engineering technology option. Students in either option take courses in dc and ac circuits, electronic devices and circuits, digital electronics, linear electronics, microprocessors, and programming. Supporting laboratories provide experience in instrumentation, testing and trouble-shooting, and design and implementation. Graduates should be qualified for application positions in electronic and electrical product design and development, electronic and electrical system operation and maintenance, field operations, and various other technical functions.

**Electrical Systems Technology Option:** Students choosing the electrical systems technology option will take required courses in electrical power and machinery and transmission networks. The remainder of the technical program consists of senior electives in such areas as communications, high frequency and microwave technology, control systems, power systems, and other areas. To satisfy the upper-division general education requirement, students are required to complete any minor in the College of Engineering and Technology or the College of Sciences.

**Computer Engineering Technology Option:** Students choosing the computer engineering technology (ComET) option will take a series of courses offered by both the Department of Engineering Technology and the Department of Computer Science. These include additional C++ programming and problem solving, data structures, and software engineering. The remainder of the program will consist of a combination of senior electives in computer science and specific electrical courses that support the computer engineering technology option. Computer engineering technology majors will automatically satisfy a minor in computer science.

### Electrical Engineering Technology Program

**Mission Statement:** The mission of the Electrical Engineering Technology (EET) program is to sustain a high quality undergraduate program of study leading to the Bachelor of Science in Engineering Technology degree. It is a

significant component of the University's commitment to science, engineering and technology, particularly in fields of major importance to the region. Through the University's distance learning program, the electrical engineering technology program provides opportunities for technical personnel throughout the state and elsewhere to enhance their education and pursue baccalaureate level studies. Simultaneously, the program supports the general education components that yield a well-rounded graduate who is aware of societal needs and issues.

**Program Objectives:** The objective of the electrical engineering technology program is to prepare graduates to establish themselves as successful professionals in electrical systems technology, computer engineering technology or related areas during the first few years of their careers by having demonstrated their ability to:

1. Address and solve increasingly complex technical problems related to one's professional field and area of specialization.
2. Make well educated, responsible and ethical decisions that will have a positive impact on organization and society.
3. Work effectively in teams and precisely communicate ideas.
4. Continue personal and professional growth.

Typical technical problems that EET graduates will be able to address include: planning, specification, development, design, procurement of equipment and materials, implementation, and performance verification. Typical technical tasks the EET graduates will be expected to perform include: conduct engineering experiments, make observations, collect and analyze data, and formulate conclusions.

**Program Outcomes:** The electrical engineering technology program has adopted, after deliberations by its constituents, 11 outcomes for the Bachelor of Science program in electrical engineering technology. These outcomes are listed below.

- a. An appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines.
- b. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.
- c. An ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes.
- d. An ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives.
- e. An ability to function effectively on teams.
- f. An ability to identify, analyze and solve technical problems.
- g. An ability to communicate effectively.
- h. A recognition of the need for, and an ability to engage in, lifelong learning.
- i. An ability to understand professional, ethical and social responsibilities.
- j. A respect for diversity and a knowledge of contemporary professional, societal and global issues.
- k. A commitment to quality, timeliness, and continuous improvement.

## Electrical Engineering Technology Curriculum

Critical EET course sequences within the Electrical Engineering Technology curricula require a minimum grade of C before progressing to subsequent courses. Refer to the individual EET course descriptions at the end of the catalog for information on specific C grade prerequisites. A grade of C- does not satisfy the requirement for a C grade.

### Electrical Systems Technology Option\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
EET 120	Logic Circuits & Microprocessors	3
EET 125	Logic & Microprocessor Laboratory	2
ENGN 110	Explore Engineering & Technology	2
MATH 162M	Precalculus I	3
ENGL 110C	English Composition	3
Gen Ed	Human Behavior Way of Knowing	3
<b>Freshman Second Semester (15 Credit Hours)</b>		
EET 110	Electrical Circuits I	3
ENGT 111	Engineering Tech Info Literacy	2
MATH 163	Precalculus II	3
PHYS 111N	General Physics	4
Gen Ed	Human Creativity Way of Knowing	3
<b>Sophomore First Semester (16 Credit Hours)</b>		

EET 200	Electrical Circuits II	3
EET 205	Circuits Laboratory	2
EET 210	Electronic Devices & Circuits I	3
PHYS 112N	General Physics	4
MATH 211	Calculus I	4

### Sophomore Second Semester (15 Credit Hours)

EET 220	Electronic Devices & Circuits II	3
EET 225	Electronics Laboratory	2
**Science	Laboratory Science	4
COMM 101R	Public Speaking	3
ENGL 211C	English Composition	3

### Junior First Semester (16 Credit Hours)

EET 300	Advanced Circuit Analysis	3
EET 310	Digital Electronics	3
EET 315	Digital Electronics Laboratory	2
EET 360	Electrical Power & Machinery	3
EET 365W	Electrical Power & Machinery Laboratory	2
Gen Ed	Interpreting the Past Way of Knowing	3

### Junior Second Semester (15 Credit Hours)

EET 305	Advanced Technical Analysis	3
EET 320	Microprocessors & Microcontrollers	3
EET 325	Microprocessor Laboratory	2
EET 330	Linear Electronics	3
EET 340	Transmission Networks	3
ENGN 401	FE Review	1

### Senior First Semester (18 Credit Hours)

EET 335	Linear Electronics Laboratory	2
EET 434	Intro to Senior Design	1
EET	Senior Electives	3
EET 370T	Energy and the Environment	3
Minor***		6
Gen Ed	Literature Way of Knowing	3

### Senior Second Semester (15 Credit Hours)

EET 480W	Senior Project	3
EET	Senior Elective	3
Minor***		6
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3

**TOTAL 126**

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*CHEM 121N and 122N are recommended, especially for those who plan to take the Fundamentals of Engineering Examination.

\*\*\*Students must select from any minor in either the College of Engineering and Technology or the College of Sciences. Note that minors requiring more than four courses will increase the total credits required to complete the degree. The General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major.

### Computer Engineering Technology Option\*

Course Number	Course Title	Credits
<b>Freshman First Semester (16 Credit Hours)</b>		
EET 120	Logic Circuits & Microprocessors	3
EET 125	Logic & Microprocessor Laboratory	2
ENGN 110	Explore Engineering & Technology	2
MATH 162M	Precalculus I	3
ENGL 110C	English Composition	3
Gen Ed	Human Behavior Way of Knowing	3
<b>Freshman Second Semester (16 Credit Hours)</b>		
EET 110	Electrical Circuits I	3
ENGT 111	Engineering Tech Info Literacy	2
MATH 163	Precalculus II	3
PHYS 111N	General Physics	4
**Science	Laboratory Science	4
<b>Sophomore First Semester (16 Credit Hours)</b>		
EET 200	Electrical Circuits II	3
EET 205	Circuits Laboratory	2
EET 210	Electronic Devices & Circuits I	3
PHYS 112N	General Physics	4
CS 150	Introduction to Programming	4
<b>Sophomore Second Semester (15 Credit Hours)</b>		
EET 220	Electronic Devices & Circuits II	3
ENGL 211C	English Composition	3

MATH 211	Calculus I	4
CS 250	Problem Solving & Programming	4
CS 252	Introduction to UNIX	1

**Junior First Semester (17 Credit Hours)**

EET 300	Advanced Circuit Analysis	3
EET 310	Digital Electronics	3
EET 315	Digital Electronics Laboratory	2
CS 361	Advanced Data Structures & Algorithms	3
CS 312	Internet Concepts	3
Gen Ed	Interpreting the Past Way of Knowing	3

**Junior Second Semester (15 Credit Hours)**

EET 305	Advanced Technical Analysis	3
EET 320	Microprocessors & Microcontrollers	3
EET 325	Microprocessor Laboratory	2
EET 330	Linear Electronics	3
CS 451	Software Engineering Survey	3
ENGN 401	FE Review	1

**Senior First Semester (18 Credit Hours)**

EET 335	Linear Electronics Laboratory	2
EET 434	Intro to Senior Design	1
ComET	Senior Elective	3
EET 370T	Energy and the Environment	3
CS	Senior Electives	6
Gen Ed	Literature Way of Knowing	3

**Senior Second Semester (15 Credit Hours)**

EET 480W	Senior Project	3
ComET	Senior Elective	3
COMM 101R	Public Speaking	3
Gen Ed	Human Creativity Way of Knowing	3
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3

**TOTAL** 128

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*CHEM 121N and 122N are recommended, especially for those who plan to take the Fundamentals of Engineering Examination.

The General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major.

## Mechanical Engineering Technology

Cheng Y. Lin, Program Director

The mechanical engineering technology (MET) program is accredited by the Technology Accreditation Commission (TAC) of ABET, <http://www.abet.org>. The MET program offers areas of specialization in manufacturing systems, mechanical systems design, nuclear systems and marine systems. Students in this program take common courses in areas such as computer-aided drafting, statics, strength of materials, dynamics, thermodynamics, fluid mechanics, automation and controls, and computer solid modeling. The program culminates in a senior project that integrates course work with a practical project assignment in the student's area of interest. To satisfy the upper-division general education requirements, students are encouraged to complete a minor in engineering management, motorsports or other areas. Graduates should be qualified for application positions in mechanical product design, development and manufacturing, mechanical system operation and maintenance, field operations, and various other technical functions.

**Manufacturing Systems Area of Specialization:** Along with the courses previously mentioned, various senior electives are available in the manufacturing area such as robotics, computer numerical control in production, advanced manufacturing processes, and lean engineering. Graduates of the manufacturing systems area of specialization are prepared for employment in a wide range of professional and technical positions at both large and small companies in areas such as manufacturing engineering, quality control, production management, test engineering, and maintenance management.

**Mechanical Systems Design Area of Specialization:** The mechanical systems design area of specialization provides the skills for career success in designing, building, and installing mechanical systems of all descriptions including thermal and air conditioning systems, automated production equipment, and power systems. Graduates of this area of specialization are prepared for careers in engineering, fabrication, and technical support in both the public and private sectors.

**Nuclear Systems Area of Specialization:** The nuclear systems area of specialization is a special program available only to graduates of the U. S. Navy Nuclear Power School or programs related to nuclear power plant operation

through Dominion Energy. These students receive advanced standing credits that apply to the MET degree based on their professional education in nuclear power systems.

**Marine Systems Area of Specialization:** Senior electives related to this area of specialization include: MET 475 Principles of Marine Engineering I, MET 476 Principles of Marine Engineering II, and MET 485 Maintenance Engineering. It should attract students interested in ships' systems operation and the shipbuilding/repair industry.

## Mechanical Engineering Technology Program

**Mission Statement:** The mission of the Mechanical Engineering Technology (MET) program is to sustain a high quality undergraduate program of study leading to the Bachelor of Science in Engineering Technology degree. It is a significant component of the University's commitment to science, engineering and technology, particularly in fields of major importance to the region. Through the University's TELETECHNET distance learning program, the mechanical engineering technology program provides opportunities for technical personnel throughout the state and elsewhere to enhance their education and pursue baccalaureate level studies. Simultaneously, the program supports the general education components that yield a well-rounded graduate who is aware of societal needs and issues.

**Program Objectives:** The objective of the mechanical engineering technology program is to prepare graduates to establish themselves as successful professionals in mechanical systems or related areas during the first few years of their careers by having demonstrated their ability to:

1. Address and solve increasingly complex technical problems related to one's professional field and area of specialization.
2. Make well educated, responsible and ethical decisions that will have a positive impact on organization and society.
3. Work effectively in teams and precisely communicate ideas.
4. Continue personal and professional growth.

Typical technical problems that MET graduates will be able to address include: planning, specification, development, design, procurement of equipment and materials, implementation, and performance verification. Typical technical tasks the MET graduates will be expected to perform include: conduct engineering experiments, make observations, collect and analyze data, and formulate conclusions.

**Program Outcomes:** The mechanical engineering technology program has adopted, after deliberations by its constituents, 11 outcomes for the Bachelor of Science program in mechanical engineering technology. These outcomes are listed below:

- a. An appropriate mastery of the knowledge, techniques, skills, and modern tools of their disciplines.
- b. An ability to apply current knowledge and adapt to emerging applications of mathematics, science, engineering, and technology.
- c. An ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes.
- d. An ability to apply creativity in the design of systems, components, or processes appropriate to program educational objectives.
- e. An ability to function effectively on teams.
- f. An ability to identify, analyze and solve technical problems.
- g. An ability to communicate effectively.
- h. A recognition of the need for, and an ability to engage in, lifelong learning.
- i. An ability to understand professional, ethical and social responsibilities.
- j. A respect for diversity and a knowledge of contemporary professional, societal and global issues.
- k. A commitment to quality, timeliness, and continuous improvement.

## Mechanical Engineering Technology Curriculum\*

Critical MET course sequences within the Mechanical Engineering Technology curricula require a minimum grade of C before progressing to subsequent courses. Refer to the individual MET course descriptions at the end of the catalog for information on specific C grade prerequisites. A grade of C- does not satisfy the requirement for a C grade.

Course Number	Course Title	Credits
<b>Freshman First Semester (15 Credit Hours)</b>		
MET 120	Computer-Aided Drafting	3
ENGN 110	Explore Engineering & Technology	2
MATH 162M	Precalculus I	3
CHEM 121N	Foundations of Chemistry I	3
CHEM 122N	Foundations of Chemistry I Lab	1



Gen Ed	Human Behavior Way of Knowing	3
<b>Freshman Second Semester (15 Credit Hours)</b>		
MET 240	Computer-Solid Modeling	3
ENGT 111	Engineering Tech Info Literacy	2
MATH 163	Precalculus II	3
PHYS 111N	General Physics I	4
ENGL 110C	English Composition	3
<b>Sophomore First Semester (17 Credit Hours)</b>		
MET 200	Manufacturing Processes	3
ENGL 211C	English Composition	3
CET 200	Statics	3
MATH 211	Calculus I	4
PHYS 112N	General Physics II	4
<b>Sophomore Second Semester (15 Credit Hours)</b>		
CET 220	Strength of Materials	3
STEM 221 or 231	Industrial Materials or Materials and Processes Technology	3
Gen Ed	Human Creativity Way of Knowing	3
COMM 101R	Public Speaking	3
Gen Ed	Literature Way of Knowing	3
<b>Junior First Semester (18 Credit Hours)</b>		
MET 300	Thermodynamics	3
MET 310	Dynamics	3
MET 320	Design of Machine Elements	3
CET 345W	Materials Testing Laboratory	2
EET 305	Adv Technical Analysis	3
EET 350	Fundamentals of Electrical Technology	3
EET 355	Electrical Laboratory	1
<b>Junior Second Semester (17 Credit Hours)</b>		
MET 330	Fluid Mechanics	3
MET 335	Fluid Mechanics Laboratory	1
MET 350	Thermal Applications	3
MET 370**	Automation & Controls	3
MET 386**	Automation & Controls Laboratory	1
ENMA 480	Ethics and Philosophy in Engineering Applications (meets philosophy and ethics requirement)	3
Minor***		3
<b>Senior First Semester (16 Credit Hours)</b>		
MET 387	Power & Energy Laboratory	2
MET 434	Intro to Senior Design	1
MET Senior Electives		6
ENGN 401	FE Review	1
Minor***		3
Gen Ed	Interpreting the Past Way of Knowing	3
<b>Senior Second Semester (15 Credit Hours)</b>		
MET 435W	Senior Design Project	3
MET Senior Electives		6
Minor***		6
<b>TOTAL</b>		<b>128</b>

\*Does not include the University's General Education language and culture requirement. Additional hours may be required.

\*\*Must be taken together

\*\*\*Students must select from any minor in either the College of Engineering and Technology or the College of Sciences. Note that minors requiring more than four courses will increase the total credits required to complete the degree. General Education requirements in information literacy and research, impact of technology, and philosophy and ethics are met through the major.

## General Engineering Technology

Mileta M. Tomovic, Program Director

The Bachelor of Science in Engineering Technology with a concentration in general engineering technology (GET) is designed primarily to meet the needs of students who have an associate in applied science (A.A.S.) degree in a technical field from a community college. These A.A.S. programs include technical studies, information systems technology, manufacturing technology, industrial engineering technology, and other similar areas. The diverse technical education and career goals of these students often require an interdisciplinary mixture of courses utilizing more than one engineering technology field to meet specific educational and career objectives. The GET program is structured to provide this flexibility. GET graduates are employed in

a wide range of career positions including technical and facilities management, technical services, and plant engineering.

Through this program, students can finish the last two years of baccalaureate study in general engineering technology on the main campus or through the Old Dominion University Distance Learning system. To satisfy the upper-division general education requirements, GET students are encouraged to complete a minor in engineering management. Students should contact their local community college for information on articulation agreements and the GET program director for specific course selection guidance.

Many students will find that the GET option described below provides course content that integrates well with their associate degree education and their career goals in electromechanical systems. Please consult the department web site ([www.eng.odu.edu/et](http://www.eng.odu.edu/et)) for specific courses. Other options may be developed in coordination with the general engineering technology advisor.

**Electromechanical systems:** Complex machinery, automated manufacturing, and building systems often require integration of electrical and mechanical systems. This option is designed to support career goals and interests related to careers that involve this critical system interface area.

## General Engineering Technology Program Goals

The goals of the general engineering technology program are fully supportive of the urban mission of the University and can be summarized as follows:

1. Develop the student's capability to apply existing engineering methods and practices for the purposes of product design and improvement, testing, operations, and field support.
2. Provide opportunities for two-year associate-level engineering technicians to pursue baccalaureate level education in their fields.
3. Provide sufficient general and liberal arts education to permit graduates to communicate effectively and to function as responsible citizens.
4. Provide in-depth competencies in specialty areas listed above.

## Navy College General Engineering Technology Program

There is a specialized general engineering technology program for Navy personnel that offers advanced standing for specific military training. In this program, up to 24 lower-division technical credits are met by a relevant combination of credits earned through Navy technical schools, with credits awarded as recommended by the ACE Guide, or through other agreements. Some portion of the work must demonstrate basic computer proficiency. Contact the Department of Engineering Technology or the Office of Military Programs at Old Dominion University for additional details.

## NAVAL SCIENCE (Naval Reserve Officers Training Corps)

Thomas V. Halley, Jr., Department Chair

**Mission and Basic Program.** The primary mission of the Department of Naval Science is to provide professional and leadership instruction to students who desire to serve as commissioned officers in the United States Navy or Marine Corps. The Naval ROTC program is administratively located under the Director of Military Activities and is situated, for academic matters, within the Batten College of Engineering and Technology.

The NROTC program consists of two courses of instruction: the four-year program and the two-year program. Both apply to scholarship and nonscholarship (college program) students.

The four-year program is divided into a two-year basic course and a two-year advanced course. The basic course (NAVS 101, 201, 202, 320 and accompanying naval laboratory sessions) is normally pursued by NROTC midshipmen during their freshman and sophomore years. While most freshmen begin the basic course during the fall, it is possible to enter the program in the spring semester. The advanced course (NAVS 301, 302, 401, 402, and the accompanying laboratory sessions) is normally pursued during the junior and senior years. Students seeking a commission in the Marine Corps or Marine Corps Reserve are not required to take NAVS 201, 202, 301, and 302 but instead must take NAVS 310 and 410.

Scholarship recipients supplement classroom instruction with an at-sea training period each summer. College program students supplement classroom instruction with at-sea training during the summer between their junior and senior years. Similarly, Marine Corps option students attend the six-week Marine Officer Candidate School at Quantico, Virginia during the summer between their junior and senior years.

The two-year NROTC program is extended to students who do not participate in NROTC during their freshman and sophomore years.

Applications to join must be submitted during the sophomore year. For students entering this program, a six-week summer training period at the Naval Science Institute (NSI) in Newport, Rhode Island following their sophomore year replaces the basic course segment of the four-year program. Students successfully completing summer training enroll in the advanced course for their junior and senior years.

**Nuclear Power Option.** To be most competitive, those students interested in entering the Navy's nuclear power program should have a college grade point average greater than 3.00. While any major is acceptable, all applicants must have completed at least two semesters of calculus (MATH 211 and MATH 212, or equivalent) and two semesters of calculus-based physics (PHYS 231N and PHYS 232N). Those students with a major in science, math, or engineering are most desirable. While not required, the following courses are recommended regardless of major for those students interested in navy nuclear power: Modern Physics, Differential Equations, Thermodynamics (ME), Principles of Chemistry, and Circuit Analysis.

**Minor in Military Leadership.** A minor in military leadership is available. For further information, see the section on minors in the Batten College of Engineering and Technology.

For more information contact the Department of Naval Science at (757) 683-4741 or visit the web site: [web.odu.edu/ao/hmrotc/](http://web.odu.edu/ao/hmrotc/).

## MINORS IN THE BATTEN COLLEGE OF ENGINEERING AND TECHNOLOGY

The upper-division General Education requirement can be met by selecting a minor.

### Minor in Aerospace Engineering

The Department of Mechanical and Aerospace Engineering offers a minor program comprising the following four courses: MAE 403, 406, 417, 420. It may be possible to substitute other appropriate senior-level mechanical and aerospace engineering courses with prior approval of the Mechanical and Aerospace Engineering Department, such as MAE 460. All prerequisites and corequisites must be satisfied for all courses taken.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University.

### Interdisciplinary Minor – Biomedical Engineering

Stephen B. Kinsley, Department of Mechanical and Aerospace Engineering, Coordinator

This interdisciplinary minor is for students who would like to learn about processes encountered in biomedical engineering innovation and enhance their ability to integrate knowledge from different disciplines with principles used in biomedical engineering. The minor offers an opportunity for students to be recognized for study in this growing multidisciplinary field and to enhance competitiveness for job opportunities upon graduation.

Course options are as follows: BME 401 and 402, one elective course chosen from BIOL 446, 460, 490, BIOL/MAE 483, 496, EXSC 322, 417W, ECE 454, 462, MAE 303, MSIM 351, MEDT 324, NMED 331, and NURS 458, and one course from the student's major approved by the minor advisor.

The interdisciplinary minor in biomedical engineering requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

### Minor in Civil Engineering

An undergraduate minor in civil engineering may be obtained by students from outside of the major by successful completion of 12 or more semester credit hours in approved civil engineering course work at the 300 or 400 level.

In addition, a student seeking a minor in civil engineering must satisfy all pre- or corequisite requirements for the courses selected.

The course requirements are: CEE 323 or 340, 310, 470 or 4xx, and 4xx where CEE 4xx can be any senior-level elective in coastal, geotechnical, structural or water resources engineering. The precise course of study must be approved by the chief departmental advisor.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete a minimum of six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of a minor in civil engineering with a grade point average of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in civil engineering.

### Minor in Civil Engineering Technology – Construction

The minor in civil engineering technology – construction is open to all students (except civil engineering technology majors). The program consists of 12 credits and the specified courses are as follows: CET 310 Fundamentals of Building Construction, CET 445 Construction Planning and Scheduling, CET 460 Construction Estimating, and CET 465 Construction Project Management. The courses are offered both on campus and through TELETECHNET.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

### Minor in Computer Engineering

An undergraduate minor in computer engineering may be obtained by successful completion of 12 or more semester credit hours of approved electrical or computer engineering or computer science course work at the 300 or 400 level. In addition, a student seeking a minor in computer engineering must satisfy all pre- or corequisite requirements for the courses selected. The chief departmental advisor must approve the precise course of study.

The basic course requirements are as follows: CS 333, CS 361 and six hours from ECE 340 (not available to ECE students), 341, 346, 355, 381, 405, 406, 441, 455, 482, or 483. CS 250 and 252 may be substituted for CS 333. CS 150 is a prerequisite for CS 250 and 252 and is not included in the calculation of the GPA for the minor.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 for the courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete a minimum of six hours of upper division courses in the minor through courses offered by Old Dominion University. Completion of a minor in computer engineering with a GPA of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in computer engineering.

### Minor in Electrical Engineering

An undergraduate minor in electrical engineering may be obtained by successful completion of 12 or more semester credit hours of approved electrical engineering course work at the 300 level or above. In addition, a student seeking a minor in electrical engineering must satisfy all pre- or corequisite requirements for the courses selected. Tracks in systems science, physical electronics, digital design, and other options are available. The chief departmental advisor must approve the precise course of study. The basic course requirements for the three main tracks are as follows:

**Systems Science Track:** ECE 371, 303, 304 and three hours selected from ECE 451, 455, 461, or 481.

**Physical Electronics Track:** ECE 304, 323, 332, and three hours selected from ECE 472, 473, 474, or 478.

**Digital Design Track:** ECE 304, 340, 341, and three hours selected from ECE 443 or 346. The digital design track is not available for computer engineering majors.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of a minor in electrical engineering with a GPA of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in electrical engineering.

## Minor in Electrical Engineering Technology

The minor in electrical engineering technology is open to students (except electrical engineering technology majors) who have completed at least one three-credit course in calculus. It is particularly helpful for those who are preparing for the Fundamentals of Engineering examination. The courses are offered both on campus and through TELETECHNET.

The program consists of 12 credits. The specified courses are as follows: EET 350 Fundamentals of Electrical Technology, EET 360 Electrical Power and Machinery, EET 410 Communications Principles, and EET 415 Programmable Machine Controls. Certain substitutions are possible if suitable justification is provided.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Engineering Management

### Opportunities for Employment and Graduate Studies

According to a recent Income and Salary Survey by the National Society of Professional Engineers, the median annual income of engineers having executive/administrative job functions is approximately \$20,000 higher than those having technical functions. This program provides undergraduate students with a set of courses that provides some of the basic management concepts useful to those aspiring to an executive/administrative management position in technology-based, project-oriented organizations. Upon graduation, this knowledge will help individuals qualify for project management positions or for entrepreneurial activities. Students interested in obtaining a strong preparation in engineering management should consider this minor.

### Points of Interest

The minor in engineering management is intended for students with majors in engineering, engineering technology, computer science, physics, chemistry, mathematics, ocean, earth and atmospheric sciences, or biology. Students with majors in other disciplines may also pursue this minor, and they are encouraged to talk with their advisors to determine its appropriateness to their educational objectives. The minor develops the skills in team building, interpersonal communications, decision making, ethics and leadership, project management, risk analysis, and quality assurance that employers are increasingly looking for in both engineers and scientists, as well as in other employees in "high tech" organizations. The minor also satisfies the University's General Education upper-division requirement.

### Requirements

Applicants for the minor in engineering management must be juniors or seniors with a declared major and a minimum GPA of 2.00. The courses can also be taken by graduate students or other graduates. The minor requires completion of 12 credit hours of course work with a minimum grade point average of 2.00 in the courses required for the minor exclusive of lower-level courses and prerequisite courses. A minimum of six hours in upper-level courses in the minor requirement must be taken through courses offered by Old Dominion University.

### Curriculum

The course work for the minor in engineering management involves extensive writing assignments, oral presentations, and group projects, and is designed to develop the skills needed for rapid advancement in either industrial or government organizations. Twelve credit hours of course work is required to meet the requirements for the minor in engineering management. Any 300-400 level ENMA course is acceptable for the minor in engineering management. Students who intend to complete a master's in engineering management or in systems engineering should take ENMA 420 as part of their minor requirements as it is a prerequisite to both programs.

For additional information about the undergraduate minor in engineering management, contact:

Chair, Department of Engineering Management and Systems Engineering,  
Old Dominion University, Norfolk, VA 23529-0248  
Telephone: (757) 683-4558, FAX: (757) 683-5640

## Minor in Environmental Engineering

An undergraduate minor in environmental engineering may be obtained by successful completion of 12 or more semester credit hours in approved environmental engineering course work at the 300 or 400 level. In addition, a student seeking a minor in environmental engineering must satisfy all pre- or corequisite requirements for the courses selected.

Two tracks are available: aqueous environmental systems and environmental protection. The course requirements are as follows:

**Aqueous Environmental Systems:** CEE 350 and nine hours from CEE 440, 446, 450 and 451.

**Environmental Protection:** CEE 350 and nine hours from CEE 452, 454, 458 and 356.

For completion of a minor a student must have a minimum overall cumulative grade point average of 2.00 in courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete a minimum of six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. Completion of a minor in environmental engineering with a grade point average of 3.00 or greater partially satisfies the leveling requirements for graduate degrees in environmental engineering.

## Minor in Global Engineering

The minor in global engineering is for students who plan to seek career opportunities in companies with global operations. With globalization of design and manufacturing, it has become important for engineers, engaged in transnational projects, to not only have better teamwork and communication skills, but also a good understanding of the socioeconomic, environmental and cultural aspects of global engineering projects. The global engineering minor provides an understanding of these aspects through courses that develop an understanding of global technology, quality assurance standards, and differences in cultural, communication and business practices in a global work environment.

Students may obtain a minor in global engineering by successful completion of 12 semester credit hours in approved course work at the 300- or 400-level. In addition, a student seeking a minor in global engineering must satisfy all pre- or corequisite requirements for the courses selected. Two required courses in the minor are CEE 458 and an engineering cooperative education course, preferably at a multinational company (CEE 367, ECE 367, ENMA 367 or MAE 367). The remaining two courses must be selected from the following: GEOG 305, ENGL 371, and MKTG 411.

For completion of a minor, a student must have a grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Marine Engineering

The minor in marine engineering is open to all students with the exception of those students in the Mechanical Engineering Technology program's Marine Engineering option. Students seeking the minor must satisfy all pre- or corequisite requirements for the courses selected. The minor is multidisciplinary and consists of four courses in topics that are relevant to the shipbuilding, maintenance, repair and maritime operations industries. The course requirements are as follows: MET 475 Principles of Marine Engineering I, MET 476 Principles of Marine Engineering II, MAE 450 Principles of Naval Architecture and MAE 417 Propulsion Systems.

For completion of a minor, a student must have a minimum overall grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Mechanical Engineering

The Department of Mechanical and Aerospace Engineering offers a minor program with two emphases: thermal sciences and mechanics. The specific minimum courses required are as follows:

1. Mechanical Engineering Minor: Thermal Sciences-MAE 303, 311, 312 (or 414), 315.
2. Mechanical Engineering Minor: Mechanics-MAE 332, 340, 404, 436.

It may be possible to substitute other appropriate junior- or senior-level mechanical engineering courses for those specified above with prior approval

of the department. Exceptions are rare and are not encouraged. All prerequisites and corequisites must be satisfied for all courses taken.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Mechanical Engineering Technology

The minor in mechanical engineering technology is open to students (except mechanical engineering and mechanical engineering technology majors) who have completed at least one three-credit course in calculus. It is particularly helpful for those who are preparing for the Fundamentals of Engineering examination. The courses are offered both on campus and through Distance Learning.

The program consists of 12 credits and the specified courses are as follows: MET 300 Thermodynamics, MET 310 Dynamics, MET 330 Fluid Mechanics, and MET 350 Thermal Applications. Certain substitutions are possible if suitable justification is provided.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Military Leadership

The minor in military leadership is a high quality, interdisciplinary, multidimensional, experiential, and culturally diverse program that exposes students to, and prepares them for, real life leadership opportunities and challenges. Students explore issues of leadership, citizenship, and social change within the context of an inquiry, experiential, and competency-based instructional design. The minor is open to all students who have completed the prerequisite courses. Students who are not enrolled in the military science or naval science program will receive academic credit for commissioning purposes.

The requirements for students in the Naval Science Department are completion of NAVS 302 or 410, NAVS 301, 320 or 310, NAVS 401, NAVS 402, and one course selected from ENMA 301, 401, ENGL 435W, HIST 360, 408, MGMT 325, 340, NURS 480W, PHIL 441E, 442E, POLS 326, 327, 350T, 421, PSYC 343, 345, and SOC 352. For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Minor in Modeling and Simulation

An undergraduate minor in modeling and simulation may be obtained by successful completion of 12 or more credit hours of approved engineering and computer science course work at the 300 or 400 level. In addition, a student seeking a minor in modeling and simulation must satisfy all pre- or corequisite requirements for the courses selected.

The usual course requirements for the modeling and simulation minor are as follows:

- STAT 330 – Probability & Statistics
- ECE 405 – Discrete Event Simulation
- MSIM 351 – Analysis for M&S
- MSIM 320 – Continuous Simulation

When appropriate, other course work can be developed in consultation with the chief departmental advisor.

For completion of the minor, a student must pass each course required for the minor, achieve a cumulative grade point average of 2.00 for all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites, complete a minimum of twelve hours of upper-division courses in the minor, and complete at least six hours of upper-level courses in the minor requirement through courses offered by Old Dominion University. To enter the program, students must have completed calculus and one college-level computer-programming course (CS 150 or equivalent). For further information contact the Department of Modeling, Simulation, and Visualization Engineering.

## Minor in Motorsports Engineering

The minor in motorsports engineering is open to all students. Students seeking the minor must satisfy all pre- or corequisite requirements for the courses selected.

The minor is multidisciplinary and consists of four courses in topics that are relevant to the motorsports and automotive industries. Each course is practice-oriented and consists of integrated lectures and laboratories. The basic course requirements are as follows: MAE 407, MAE 457, MAE 467, and MET 480 or MAE 477.

For completion of a minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses, prerequisites and corequisites and complete at least six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

# College of Health Sciences

[www.hs.odu.edu](http://www.hs.odu.edu)

Shelley C. Mishoe, Dean  
Richard Benjamin, Associate Dean  
Deborah Blythe Bauman, Assistant Dean  
Sandra S. Breeden, College Advisor

The mission of the College of Health Sciences is to improve individual and community health by advanced professional education, influential research, and responsive service. The college vision is to be a nationally ranked and internationally recognized leader in advancing health care by educating competent health professionals, generating practically significant scientific knowledge and innovative technologies, fostering scholarly collaborations and promoting positive public health policies. The college values health and wellness, innovation and excellence, trust and professionalism, integrity and ethics, collaboration and partnership, cultural competence and diversity, safety and cost-effectiveness and life-long learning. The degree programs are competitive, fully accredited, and nationally recognized for quality graduates.

The college consists of the School of Community and Environmental Health, the Gene W. Hirschfeld School of Dental Hygiene, the School of Medical Laboratory and Radiation Sciences, the School of Nursing, and the School of Physical Therapy. These schools offer a variety of baccalaureate, master's, and doctoral degrees, undergraduate, graduate, and non-degree certificate programs, accelerated and degree completion programs, minors, and professional continuing education programs. In addition, many of these programs are offered off-campus and in a variety of distance learning formats. See individual program information or the Graduate Catalog for details.

## Program Application, Acceptance, and Continuance

A separate application must be submitted to be considered for acceptance into the health science majors. Application information, qualifications, deadlines, and advisors are listed in the specific program sections of the catalog and on the web site.

**Acceptance to the University does not constitute or guarantee acceptance into a health science major.** Students are notified by the program director of their acceptance and any other program specific requirements such as physicals, immunizations, technical standards, etc.

Continuance in the health science majors requires strong academic achievement, including successful demonstration of knowledge and use of practical and critical thinking skills in laboratory and in clinical rotations. Criminal background checks may be required as specified in course syllabi. Any student deemed unacceptable for clinical rotation due to results from a criminal background check will not be allowed to complete the program of study.

## Advanced Placement

Advanced placement credit may be earned for courses offered by the College of Health Sciences upon validation of mastery of the subject matter and skills covered in the respective course(s). A fee may be charged for the assessment of competency. Please check with the school offering the course for further information.

## Continuing Education Programs

[www.hs.odu.edu/hs/academics/continuing\\_education.shtml](http://www.hs.odu.edu/hs/academics/continuing_education.shtml)

Short courses, national conferences, workshops, refresher courses, certificate programs and seminars are offered by the different schools in the college on and off campus on a noncredit continuing education (CEU) basis. Professional continuing education programs cover a wide range of topics, including environmental health, occupational safety, industrial hygiene, dental hygiene, dental assisting, nursing, nuclear medicine technology, health-care management, medical technology, physical therapy, and community health.

Continuing education serves the following functions: (1) licensure and certification for professionals and practitioners, (2) credential and degree

achievement and (3) professional development to update knowledge and skills. Clientele served by the programs include nursing, public health and allied health professionals, human service workers, managers and supervisory personnel, technicians, laboratory personnel, and health educators.

Visit the website to view current offerings.

## COMMUNITY AND ENVIRONMENTAL HEALTH

[www.hs.odu.edu/commhealth/](http://www.hs.odu.edu/commhealth/)

Emmanuel M. Rudatsikira, Chair

The School of Community and Environmental Health offers undergraduate, graduate, and certificate programs that lead to careers in health services research, public health, community health, health care administration, environmental health, and occupational safety and health. Additionally, the Bachelor of Science in Health Sciences (B.S.H.S.) and the Master of Public Health offer practicing health care professionals the opportunity to complete their degrees in a distance format.

## Bachelor of Science in Environmental Health

[www.hs.odu.edu/commhealth/academics/bs\\_enviro/](http://www.hs.odu.edu/commhealth/academics/bs_enviro/)

A. James English, Program Director

Environmental health is the study and management of factors that adversely affect the environment and the health and well-being of humans. The curriculum in environmental health, which is accredited by the National Environmental Health Science and Protection Accreditation Council, encompasses a variety of disciplines in the preparation of environmental health specialists, industrial hygienists, and occupational safety specialists.

Environmental health specialists are responsible for education, consultation, and enforcement relating to local, state and federal laws, regulations, and standards governing the safety and sanitation of air, water, milk, food, solid, hazardous and infectious wastes, sewage, housing, institutional environments, and other health hazards. They are actively involved in the overall environmental quality within a community and prevention of diseases associated with environmental factors. Industrial hygienists conduct health hazard evaluations, perform health effects/risk assessment research, and manage health programs in industries or governmental organizations. They anticipate, recognize, evaluate, control, and eliminate health hazards in industry, the community, or the environment. Occupational safety professionals similarly anticipate, identify and evaluate hazardous conditions and practices in the workplace. They develop, implement, administer, measure and evaluate the effectiveness of hazard control programs.

The program requires six credit hours of field practice or internship within an environmental health setting, either a governmental or industrial site. A variety of internship sites are available in the Hampton Roads area for these experiences. Internship sites elsewhere in the state, nation, or world can also be arranged if desired. Internships are typically taken the summer between the junior and senior year. Students are responsible for providing their own transportation to these sites.

Upon graduation, students are eligible to sit for the professional licensing examination in environmental health. With experience, students are eligible to take the certification examination in industrial hygiene and/or occupational safety.

A broad spectrum of employment opportunities is available to graduates whose employment success has been outstanding. Graduates have found positions in local, state, and federal health and environmental agencies such as the FDA, USDA, EPA, OSHA, NASA, and DOD. Many work in hospitals, industries, insurance companies, laboratories, consulting firms, waste and wastewater plants, and other organizations, agencies and firms.

## Admission

Students may be admitted to the program on the satisfactory completion of 60 semester hours of recommended study of required prerequisite courses and with the approval of the program director. Applications to the program, including all materials, must be submitted no later than February 1 for consideration for admission the following fall. Exemptions may be appealed through the program director. Students who fail to meet the established deadline for formal admission will usually be allowed to take environmental

health courses if space is available; however, permission must be granted by the program director prior to registration.

## Requirements

### LOWER DIVISION GENERAL EDUCATION

	<b>Credits</b>
Written Communication (ENGL 110C and 231C required)	6
Oral Communication (COMM 101R required)	3
Mathematics (STAT 130M and MATH 162M required)	6
Language and Culture	0-6
Information Literacy and Research (HLTH 120G preferred)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E preferred)	3
The Nature of Science	12
(BIOL 108N-109N or BIOL 115N-116N and PHYS 101N, 102N, 111N, 112N, 231N, or 232N required)	
Human Behavior	3
Impact of Technology	3

### Departmental Requirements

BIOL 103	Basic Bacteriology	4
CHEM 211-212	Organic Chemistry with lab	5
CHEM 213	Organic Chemistry (lab not required)	3
BIOL 190, 250 or 251	Anatomy and Physiology	3-4

Students must complete the following courses prior to acceptance into the Environmental Health program:

BIOL 190, 108N-109N or 115N-116N; CHEM 121N/122N, 123N/124N, 211-212-213; COMM 101R; ENGL 231C; MATH 162M; BIOL 103; STAT 130M, and PHYS 111N.

### Major Requirements

ENVH 301W	Environmental Health	3
ENVH 401	Occupational Health	3
ENVH 402W	Environmental Law	3
ENVH 403 and 404 or ENVH 405	Internship I & II Internship III	6 6
ENVH 406	Occupational Safety	3
ENVH 420	Communicable Disease Control	3
ENVH 422	Water and Wastewater	3
ENVH 441	Industrial Hygiene	3
ENVH 443	Toxicology	3
ENVH 448	Epidemiology	3
ENVH 466	Risk Assessment	3
ENVH 499	Seminar	1
ENVH Electives	(consult with advisor for areas of specialization)	12-13

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12-24 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Minor in Environmental Health

A minor in environmental health requires a minimum of 12 semester hours of environmental health courses. Minor course requirements include ENVH 301W and three electives from the environmental health courses approved by the program director. For completion of the minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University. Twelve semester hours of science courses are preferred.

## Interdisciplinary Minor-Environmental Issues and Management

James English, Department of Community and Environmental Health, Coordinator

Continuing environmental degradation is a worldwide problem threatening the quality of life and its viability. The problem can only be understood and addressed by drawing upon the resources of multidisciplinary approaches. The multidisciplinary perspective center of this minor focuses on the human dimensions of the human-environment equation and includes geographical and ecological approaches, scientific and technological methodologies, planning and public policy issues, and ethical, political, economic, and legal considerations.

Course options are as follows: CEE 350, 355W, 356, 458; ECON 435, 447W; ENVH 301W, 402W, 420, 421, 422; GEOG 305, 306T, 400W, 420, 422W; OEAS 302, 310; PAS 300; PHIL 344E, 345E; POLS 300, 335, 401; RTS 405; SOC 309, 320, 325, 440; SOC/CRJS 444.

The interdisciplinary minor in environmental issues and management requires 12 credit hours of 300/400-level courses selected from at least three different disciplines. For completion of the interdisciplinary minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of lower-level courses and prerequisite courses. At least six hours of upper-level courses must be taken through courses offered by Old Dominion University. Three credit hours may be in the major, if a major course is listed as an option for the interdisciplinary minor. As such, it will be credited toward both the major and the interdisciplinary minor.

## Accelerated Program-Bachelor of Science in Environmental Health (B.S.E.H.) to Master of Public Health

B.S.E.H. students who have a 3.00 GPA and have senior standing may apply for acceptance into the B.S.E.H. to Master of Public Health accelerated program. This program allows gifted undergraduate B.S.E.H. students the opportunity to take up to 12 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Consult with the B.S.E.H. program director for more information.

## Minor in Occupational Safety

A minor in occupational safety is available in the environmental health program and requires a minimum of 12 semester hours of ENVH courses in safety. The minor in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty. Minor course requirements include ENVH 406, 407, 425 and 426. For completion of the minor students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

## Certificate in Occupational Safety

The certificate program in occupational safety is designed to prepare students to meet safety standards and guidelines in such areas as business, education and industry with the goal of managing operations to minimize financial losses resulting from accidents, health claims, legal actions and property damage. It is especially attractive to students in majors such as engineering, occupational and technical studies, and business who may reasonably anticipate assignment of safety as an additional duty, or to individuals already employed in the environmental health and safety field. Courses taken in the certificate program may be applied to degree requirements at both the undergraduate and graduate levels in environmental health. For completion of the undergraduate certificate program students must have a minimum cumulative grade point average of 2.00 (3.00 for the graduate certificate) in all courses taken toward the certificate. After successful completion of the program, a Certificate in Occupational Safety will be awarded.

A total of 15-16 semester hours is required comprised of three core courses and six to seven hours of electives. Core courses include: ENVH 406/506, 407/507, 425/525. Electives may be selected from the following courses: ENVH 401/501, 426/526, 440/540, 441/541, 442/542, 446/546, or NMED 335. There are no prerequisites.

## Bachelor of Science in Health Sciences (B.S.H.S.)

[www.hs.odu.edu/commhealth/academics/bshs](http://www.hs.odu.edu/commhealth/academics/bshs)

Jacqueline E. Sharpe, Program Director

The Bachelor of Science in Health Sciences (B.S.H.S.) degree is designed to offer advanced educational experiences to already practicing health professionals. This program builds upon the expertise of practicing health professionals and allows them the opportunity to enhance their formal learning. The program focuses on upper-level coursework and general education, along with a career choice chosen by the student. Areas of concentration within the program are either health services administration or human services minor.

To be eligible for admission into the program, the student must first be admitted to Old Dominion University. Eligibility must be documented with a separate admission form to the B.S.H.S. program director. Lower-division general education requirements for both the concentration in health services administration and the minor in human services may also be satisfied by prior coursework completed as part of an associate degree.

### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication	6
Oral Communication (can be satisfied in the major with CHP 400, 450 and 415W or 430W)	3
Mathematics (STAT 130M and MATH 162M required for public health concentration)	3-6
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (can be satisfied in the major with CHP 400)	3
The Nature of Science (BIOL 105N-106N or 108N-109N or 115N-116N required for public health concentration)	8
Human Behavior	3
Impact of Technology (can be satisfied in the major with CHP 485)	

### B.S.H.S. Major Electives for Both the Health Services Administration Concentration and the Human Services Minor (15 credits)

Choose five courses from any three-credit CHP course with permission of the program director. At least one course must be writing intensive (CHP 415W, CHP 430W).

Examples of courses to select from are as follows:

CHP 360	Introduction to Global Health
CHP 369	Practicum in Health Sciences
CHP 400	Ethics in Health Administration
CHP 415W	Critical Issues in Public/Community Health Administration
CHP 426/427	Skills in Health Services Administration I & II
CHP 430W	Community Health Resources and Health Promotion
CHP 450	Public and Community Health Administration
CHP 465	Policy and Politics of Health
CHP 475	Health Care Marketing
CHP 480	Health Ethics and the Law
CHP 485	Health Informatics

The following courses may also be taken as major electives:

ENVH 301W/401	Environmental Health/Occupational Health
DNTH 415	Research Methods in Health
MEDT 403W	Management in the Clinical Setting
NMED 300	Medical Terminology
CHP	Any other CHP course by permission

### B.S.H.S. Professional Electives for Both the Health Services Administration Concentration and the Human Services Minor (39-51 hours)

Current licensure as a health professional, an Associate of Applied Science degree from a Virginia Community College, and certification will be used toward satisfying the Professional Electives requirements. Certification refers to the passing of an exam upon completion of an educational program to demonstrate competency in a chosen profession. Consult the program director for specific information as additional programs may be considered. The following programs are some that have been accepted: Radiation Technology, Nursing, Occupational Therapy Assistant, Dental Hygiene, Emergency Medical Technology, Respiratory Therapy, and Physical Therapy Assistant. Others require a minimum of 15 credits from a professional health program and A.A.S degree.

### UPPER DIVISION GENERAL EDUCATION

Upper-division general education requirements for both tracks are satisfied through program-required courses in either the concentration in health services administration or the minor in human services. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall, in the major and in the minor, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Bachelor of Science in Health Sciences with a Concentration in Health Services Administration

The curriculum consists of lower-division general education, the major electives listed above, professional electives, and upper-division general education courses. A minimum of 120 credits is required for the B.S.H.S. with a concentration in health services administration, at least 30 of which must be taken in the B.S.H.S. program at Old Dominion University. Requirements include courses in the following areas: community and public health, research methods, health services administration and management.

#### Health Services Administration Concentration Electives (15 Credits)

MGMT 325	Contemporary Organizations and Management
MGMT 300-400	Electives chosen from: MGMT 340, 350, 360, 417, 418, 451, 452, 462

### Bachelor of Science in Health Sciences with a Human Services Minor

The curriculum consists of lower-division general education, major electives, professional electives, and upper-division general education courses. A minimum of 120 credits is required for the B.S.H.S. with a human services minor, at least 30 of which must be taken in the B.S.H.S. program at Old Dominion University. Requirements include courses in the following areas: community and public health, research methods, human services and counseling.

#### Human Services Minor (15 Credits)

HMSV 339	Interpersonal Skills
HMSV 341W	Intro to Human Services
HMSV 346	Diversity Issues in Human Services
HMSV Electives	Choose two from HMSV 344, 447, 448, 491

### Bachelor of Science in Health Sciences with a Concentration in Public Health

According to the American Public Health Association (APHA), "Public health protects individuals, families and communities from serious health threats—ranging from diabetes to bird flu—that are often times preventable." The public health profession provides essential services that allow successful tracking of the spread of chronic and communicable diseases, provide needed community health education, and detect health problems in newborns. Public health professionals strive to improve society's quality of life. Public health officials have many responsibilities and work to increase access to healthcare, reduce substance abuse and control infectious diseases in human populations. A public health undergraduate degree is preferred to begin a career as a public health professional. Earning a public health undergraduate degree qualifies an individual for entry-level positions in fields such as health services administration, epidemiology and health education.

The purpose of the track in public health is to provide students the necessary skills to enter the public health profession. Public health is a rapidly expanding profession and is critical to the current workforce shortage and vital to global health.

Lower-division General Education Requirements are as described in the B.S.H.S. program earlier in this section. BIOL 105N-106N or 108N-109N or 115N-116N, MATH 162M and STAT 130M are department requirements and are not automatically satisfied with an associate degree.

Students must choose one of the following emphasis areas and complete 36 credit hours. Students must complete 18 hours from either area and then apply and be accepted to the program to be allowed to continue with the public health concentration.

**SCIENTIFIC FOUNDATIONS EMPHASIS:** (36 hours from the 56 hours listed below)

BIOL 250	Anatomy and Physiology 1
BIOL 251	Anatomy and Physiology 2
CHEM 121N/122N	Foundations of Chemistry 1
CHEM 123N/124N	Foundations of Chemistry 2
CHEM 211/212	Organic Chem 1
CHEM 213/214	Organic Chem 2
PHYS 111N (or 101N)	Intro/Conceptual Physics 1
PHYS 112N (or 102N)	Intro/Conceptual Physics 2
MATH 163	Precalculus 2
MATH 211/212	Calculus 1 and 2 OR
MATH 200	Calculus for Business and Economics
MEDT 307/308	Microbiology
CYTO 404	General Pathology
CYTO 407	Clinical Histology
MEDT 310/313	Urinalysis and Body Fluids
MEDT 339/340	Parasitology
PSYC 201S or SOC 201S	Intro to Psyc or Soc

**ADMINISTRATION EMPHASIS:** (36 hours from the 51 hours listed below)

ECON 201S	Principles of Microeconomics
ECON 202S	Principles of Macroeconomics
MATH 200	Calculus for Business and Economics
ACCT 201	Accounting 1
ACCT 202	Accounting 2
FIN 331	Legal Environment of Business
IT 325	Web Site and Web Page Design
IT 360T	Principles of Info Technology
MATH 163	Precalculus 2
MKTG 311	Marketing Principles and Problems
MGMT 325	Contemporary Org and Mgmt
MGMT 340	Human Resources
MGMT 350	Employee Relations
BIOL 190, 103 or 250/251	Anatomy and Physiology or Bacteriology
CHEM 105N/106N- 107N/108N	Intro Chemistry and Intro Organic and Biochemistry
CYTO 404	General Pathology
PSYC 201S or SOC 201S	Intro to Psychology or Sociology

**PUBLIC HEALTH MAJOR COURSES (Prerequisite or corequisite is CHP 200 and 18 hours from one of the emphasis areas above):**

CHP 200	Intro to Public Health
CHP 360	Introduction to Global Health
CHP 450	Public and Community Health Administration
CHP 465	Policy and Politics of Health
DNTH 415	Research Methods for Hlth Professionals (Prereq STAT 130M)
ENVH 301W	Environmental Health
ENVH 448	Epidemiology and Biostatistics
CHP 369	Internship in Community Health

**CHOOSE TWO MAJOR ELECTIVES FROM BELOW:**

CHP 318	Principles of Nutrition
CHP 400	Ethics in Health Administration
CHP 415W	Critical Issues in Community Health Administration
CHP 420	Foundations of Gerontology
CHP 430W	Community Health Resources and Health Promotion
CHP 480	Legal Issues in Health Services Administration
NMED 300	Medical Terminology
ENVH 420	Communicable Diseases and Their Control

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

**ELECTIVES:** Elective credit will be needed to total 120 hours

**GRADUATION REQUIREMENTS:**

- Completion of a minimum of 120 semester credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University.
- Passing score on the Exit Exam of Writing Proficiency (may be taken upon completion of 58 hours)
- Completion of Senior Assessment (during last semester)
- Minimum grade point average of 2.0 overall and in the major

**Accelerated Program–Bachelor of Science in Health Sciences (B.S.H.S.) to Master of Public Health**

B.S.H.S. students who have a 3.00 GPA from each institution attended and who have senior standing may apply for acceptance into the B.S.H.S. to M.P.H. (Master of Public Health) accelerated program. This program allows gifted undergraduate B.S.H.S. students the opportunity to take up to 12 semester hours of graduate course work and apply them to both degrees. Other restrictions apply. Consult with the B.S.H.S. program director for more information.

**Minor in Community Health**

An undergraduate minor in community health can be obtained by the completion of 12 credit hours from the following courses: CHP 318, 360, 400, 415W, 420, 425, 426, 427, 430W, 440, 450, 455, 456, 465, 470, 475, 480 and 485. DNTH 415, ENVH 301W, ENVH 401, MEDT 403W, or NMED 300 may be substituted for one CHP course. For completion of the minor, a student must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and complete a minimum of six hours in upper-level courses in the minor requirement through courses offered by Old Dominion University.

**Bachelor of Science in Health Sciences (B.S.H.S.) Specialty Tracks**

Through special agreements and curriculum design, courses for the certificate programs in cytotechnology, offered by the School of Medical Laboratory and Radiation Sciences, and ophthalmic technology, offered by the Eastern Virginia Medical School, may be applied as specialty tracks in the Bachelor of Science in Health Sciences. Both tracks can be found in the School of Medical Laboratory and Radiation Sciences section of this Catalog. Students pursuing cytotechnology or ophthalmic technology who already have baccalaureate degrees from accredited institutions may opt for a certificate in these programs rather than a second baccalaureate degree.

**Cytotechnology Track in the B.S.H.S.**

Sophie K. Thompson, Program Director

This track is available to students who complete the requirements for the B.S.H.S. degree. Specific information on the cytotechnology program can be found in the School of Medical Laboratory and Radiation Sciences section of this Catalog.

**Histotechnology Track in the B.S.H.S.**

Sophie K. Thompson, Program Director

This track is available to students in the histotechnology program who complete all the requirements for the B.S.H.S. degree. Specific information can be found in the School of Medical Laboratory and Radiation Sciences section of this Catalog.



## Ophthalmic Technology Track in the B.S.H.S.

Lori J. Williams Program Director

Specific information on the ophthalmic technology program can be found in the School of Medical Laboratory and Radiation Sciences section of this Catalog.

## DENTAL HYGIENE

[www.hs.odu.edu/dental/](http://www.hs.odu.edu/dental/)

Michele L. Darby, Chair

The Gene W. Hirschfeld School of Dental Hygiene offers programs leading to the degrees of Bachelor of Science in Dental Hygiene and Master of Science with a major in dental hygiene. The dental hygiene program is accredited by the Commission on Dental Accreditation.

## Bachelor of Science in Dental Hygiene

The baccalaureate program in dental hygiene is designed to prepare men and women as professional dental hygienists qualified for positions in a variety of health-care settings and/or for graduate study in dental hygiene. A dental hygienist is a licensed professional and member of the oral health care team who provides services to promote optimal oral health. Dental hygienists serve as clinical practitioners, educators, researchers, administrators, managers, program developers, consultants, and/or dental product sales representatives, depending on the individual's employment setting and educational background. In addition, dental hygienists with a bachelor's degree may pursue careers in elementary and secondary schools, community and public health settings, institutional and industrial dental hygiene, professional education, and research. Other career opportunities exist in health maintenance organizations, community health agencies, private industry, and abroad with the Peace Corps, World Health Organization, and foreign governments.

Students successfully completing the Bachelor of Science in Dental Hygiene program are eligible to take the national, state, and regional board examinations in dental hygiene to become a licensed dental hygienist.

The baccalaureate degree completion curriculum is also designed to accommodate the needs of the licensed dental hygienist who graduated from an accredited dental hygiene program with an associate degree or certificate in dental hygiene.

The School of Dental Hygiene reserves the right to require remedial work of any student who does not perform at a level satisfactory for patient care. Annually, students are required to submit documentation of CPR certification and certain prescribed immunizations and diagnostic procedures. Students are strongly advised to obtain the hepatitis vaccine. The University maintains liability insurance on the students while enrolled in the School of Dental Hygiene.

### Admission to Bachelor of Science in Dental Hygiene (Entry Level)

Applicants for admission to the baccalaureate program in dental hygiene should apply initially to the Office of Admissions of Old Dominion University. Students cannot be accepted into the dental hygiene program without first being admitted to the University. Admission to the University does not constitute admission to the dental hygiene program.

Students are admitted to the school after completion of lower-level General Education courses and department prerequisite courses. Transfer students may complete prerequisite courses at another college or university but are responsible for having a transfer credit evaluation completed by Transfer Evaluation Services to be used as documentation that transfer courses are acceptable. Applicants for admission to the School of Dental Hygiene should indicate on the application to the University their intention to enter the dental hygiene program. Additionally, applicants should obtain a School of Dental Hygiene application from the web site.

Admission to the program is competitive. Admission decisions are determined by the selection committee of the School of Dental Hygiene on the basis of academic qualifications. Basic requirements and credentials for the Bachelor of Science program application are as follows.

1. Submission of the application to the University, official transcript(s), and required credentials to the Office of Admissions.
2. Completion of prerequisite courses prior to starting in the dental hygiene major, which are required by the Commission on Dental

Accreditation (BIOL 103, BIOL 250-251 or equivalent, CHEM 105N-106N, CHEM 107N-108N, ENGL 110C, SOC 201S, and PSYC 201S) and must be completed with at least a grade of C. Completion of lower-level General Education requirements will make the applicant more competitive in the application process.

3. A minimum grade point average of 3.00 makes the applicant most competitive.
4. Applicants must complete at least 12 hours of documented observation in a dental facility to familiarize themselves with oral health delivery.
5. Submission of School of Dental Hygiene application, official transcripts, two recommendation forms, and dental facility observation verification form by February 1. Incomplete application packets will not be reviewed and will be returned to the applicant.

Applicants accepted into the dental hygiene program will be formally notified in April by the chair of the School of Dental Hygiene and will be advised for registration purposes by the chief departmental advisor. Those applicants who are not accepted will receive notice and should pursue general academic and science courses prior to reconsideration for admission. Qualified high school seniors may apply for admission to the University with guaranteed entry into the dental hygiene program. For criteria and additional information, contact the Office of Admissions.

### Guaranteed Entry Program

The guaranteed entry program is designed for highly qualified high school students who are committed to completing a Bachelor of Science in Dental Hygiene at Old Dominion University. Students accepted into this program will be guaranteed a position upon completion of the prerequisites and candidacy requirements as outlined on the form by Old Dominion University School of Dental Hygiene at <http://hs.odu.edu/dental/academics/bs/about.shtml>.

### Bachelor of Science Requirements

All courses with the prefix DNTH must be completed in a prescribed sequence within two academic years due to scheduling and space limitations. A minimum grade of C (2.00) must be obtained in all DNTH courses.

**Prerequisite Courses.** Prerequisite requirements to the dental hygiene major are listed below. Students should enroll in other General Education courses in the prerequisite phase of study.

LOWER DIVISION GENERAL EDUCATION SKILLS	Credits
Written Communication	6
Oral Communication (satisfied in the major)	
Mathematics (STAT 130M required)	3
Language and Culture	0-6
Information Literacy and Research (satisfied in the major)	

LOWER DIVISION GENERAL EDUCATION WAYS OF KNOWING	Credits
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (satisfied in the major)	
The Nature of Science (CHEM 105N-106N and 107N-108N)	8
Human Behavior (PSYC 201S and SOC 201S required)	6
Impact of Technology (any T course outside the College of Health Sciences)	3

### DEPARTMENTAL REQUIREMENTS

Students must complete the following courses with a C or better.

CHP 318	Science of Nutrition	3
BIOL 103	Basic Bacteriology	4
BIOL 250-251	Anatomy and Physiology I & II	8

Students must complete the following courses prior to entering the School of Dental Hygiene program:

BIOL 103, BIOL 250-251; CHEM 105N-106N; CHEM 107N-108N; ENGL 110C; PSYC 201S; and SOC 201S.

### THIRD YEAR

Fall		
DNTH 300	Dental Hygiene Theory I	4
DNTH 301	Dental Hygiene Services I	3
DNTH 302	Oral Anatomy and Histology	4
DNTH 303	Applied Dental Materials	3
DNTH 304	Oral Radiology I	2
Spring		
DNTH 305	Dental Hygiene Theory II	3

DNTH 306	Dental Hygiene Services II	3
DNTH 307	Pharmacology and Medical Emergencies	2
DNTH 308	Oral Pathology	3
DNTH 309	Oral Radiology II	2
DNTH 310	Dental Hygiene Therapies and Practice	3
<b>Summer</b>		
DNTH 316	Dental Hygiene Theory & Services III	3
DNTH 317	Anxiety and Pain Control	2
Upper-division general education course		3
Upper-division general education course		3

#### FOURTH YEAR

##### Fall

DNTH 410	Dental Hygiene Theory IV	3
DNTH 411	Dental Hygiene Services IV	6
DNTH 413	Community Oral Health Planning	3
DNTH 414	Educational Concepts for Health Prof I	3
DNTH 415	Research Methods in the Health Sciences	3

##### Spring

DNTH 416	Admin, Leadership & Prof Develop	3
DNTH 417W	Dental Hygiene Theory V	3
DNTH 418	Dental Hygiene Services V	6
DNTH 419	Community Oral Health Practice	3

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

#### Requirements for Graduation

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 123 credit hours, which must include both a minimum of 31 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

#### Continuance Policy

In addition to the Old Dominion University continuance policies in this Catalog, the following policies are specific to all declared majors in the Gene W. Hirschfeld School of Dental Hygiene. A grade of D (1.00) in any dental hygiene course will result in academic dismissal from the program. Inability to attend clinical practice or community rotations due to an agency refusal will be cause for dismissal from the B.S.D.H. program.

#### Policy on Readmission

1. A student who must repeat one or more courses in dental hygiene must first be readmitted to the dental hygiene program.
2. A student can be readmitted to the program only once.
3. Readmitted students must maintain a minimum grade of C (2.00) in all DNTH courses taken with a passing grade in courses taken for remediation.
4. Procedure for readmission:
  - a. The student must submit a letter to the Chair of the School of Dental Hygiene outlining his or her intent for readmission.
  - b. The chair, in consultation with the faculty, will make a decision on the readmission request.
  - c. Readmission will be granted on a space-available basis only after regular admission has been filled. Cumulative and science course grade point averages are used for readmission criteria.

### Bachelor of Science in Dental Hygiene Degree Completion Program

The Bachelor of Science in Dental Hygiene (B.S.D.H.) degree completion program is designed for students who have completed a certificate or associate

degree from an accredited dental hygiene program and desire to continue their education toward a Bachelor of Science in Dental Hygiene. The program provides an opportunity for the licensed dental hygienist to gain knowledge, skills, and attitudes necessary for expanded career opportunities in education, oral health promotion, research, community and public health, management, and marketing. This program also provides a strong foundation for graduate studies. A minimum of 120 credit hours is necessary to obtain the baccalaureate degree. The length of time required to complete the program and University requirements is determined by the number of acceptable college transfer credits; at least 30 credit hours must be taken at Old Dominion University. Students can expect to complete the program in three to four academic semesters of full-time study. The B.S.D.H. degree completion program is available on-line or as a hybrid of on-line and on-campus courses.

#### Admission to the Bachelor of Science Degree Completion Program

A licensed dental hygienist educated at another institution who desires to pursue the Bachelor of Science in Dental Hygiene should apply to Old Dominion University as an upper-level dental hygiene transfer student. Formal acceptance as a dental hygiene major will be determined by the program director of the B.S.D.H. degree completion program.

Transfer applicants must meet the following requirements:

1. Graduation from an accredited dental hygiene program.
2. Submission of application and official transcripts to the Office of Admissions, Old Dominion University.
3. Submission of School of Dental Hygiene B.S.D.H. degree completion program application found on website.
  - a. Official transcripts from all academic institutions attended.
  - b. Copy of National Dental Hygiene Board Examination.
  - c. Two professional letters of recommendation.
  - d. Current CPR certificate/annually requested.
4. Applicants who hold an associate of applied science degree rather than an associate of science degree must meet the University's lower-level General Education requirements.

#### Curriculum for B.S.D.H. Degree Completion Program

##### Requirements

Transfer students must satisfy the following.

1. Certificate or associate degree in dental hygiene.
2. Successful completion of department requirements or the equivalent: STAT 130M Elementary Statistics, CHEM 105N and 106N Chemistry I, CHEM 107N and 108N Chemistry II, BIOL 250 Human Anatomy and Physiology I, BIOL 251 Human Anatomy and Physiology II, and BIOL 103 Basic Bacteriology.
3. Pass the Writing Sample Placement Test.
4. Successful completion of the University Lower-Level General Education requirements and/or equivalent. The general education requirements in oral communication and philosophy and ethics are not satisfied in the major for the degree completion program.
5. Successful completion of up to 15 Upper-Division General Education credit hours.
6. Successful completion of five major courses: DNTH 412W, DNTH 414, DNTH 415, DNTH 416, and DNTH 440T.
7. Current CPR certificate (renewed annually).
8. Successful completion of the Exit Writing Proficiency Exam and the Senior Assessment Survey.

**Continuance.** In addition to the Old Dominion University continuance policies, the following policy is specific to the B.S.D.H. degree completion program. A grade of C (2.00) is required in all DNTH courses for graduation. Inability to attend clinical practice or community rotations due to an agency refusal will be cause for dismissal from the B.S.D.H. program.

#### International Dental Hygiene

The School of Dental Hygiene, committed to solving global oral health problems, offers a variety of service learning programs in partnership with non-governmental agencies, academic institutions, and private organizations worldwide. Faculty-led experiences offer unique opportunities for students to travel abroad, develop cross-cultural competence, experience global health challenges, and engage in projects that advance oral health. International locations are determined by the School of Dental Hygiene in conjunction with the Office of Study Abroad. Program participation requires approval from the School of Dental Hygiene and the Office of Study Abroad.

## Accelerated Bachelor of Science to Master of Science Program

Entry-level and B.S.D.H. degree completion dental hygiene students who have a 3.25 grade point average from each institution attended and who have senior standing may apply to the bachelor's to master's accelerated program. This program allows gifted undergraduate students the opportunity to take up to 12 credit hours of graduate course work and apply them to both degrees. Other restrictions apply. All DNTH graduate courses can be taken online. Consult with the School of Dental Hygiene for more information.

### The Dental Hygiene Research Center

The focus of the Dental Hygiene Research Center is to support research through collaboration and partnerships that will provide a foundation for dental hygiene services and practice, advance the practice of dental hygiene, and improve the oral health status of the public. Research capabilities are multifaceted with a wide variety of projects relating to occupational risk assessment as well as product and device testing. Multidisciplinary and interdisciplinary projects are developed with healthcare facilities, private industry, and other academic institutions. Undergraduate and graduate students are integrated into the research process, which contributes to the understanding between theory and practice.

## MEDICAL LABORATORY AND RADIATION SCIENCES

[www.hs.odu.edu/medlab/](http://www.hs.odu.edu/medlab/)

Sophie K. Thompson, Chair

The School of Medical Laboratory and Radiation Sciences offers a coordinated program of courses and clinical experiences leading to degrees of Bachelor of Science in Medical Technology, Bachelor of Science in Nuclear Medicine Technology, a certificate for histotechnician, and a post-baccalaureate certificate in cytotechnology. Students may also pursue a major in cytotechnology, histotechnology, or ophthalmic technology through the Bachelor of Science in Health Sciences. In addition, the school offers a minor in medical technology and an accelerated, weekend program (BSMT) for medical laboratory technicians (MLT). Post-baccalaureate courses are available in molecular pathology and clinical diagnostics.

### Bachelor of Science in Medical Technology

[www.hs.odu.edu/medlab/academics/medtech](http://www.hs.odu.edu/medlab/academics/medtech)

Faye E. Coleman, Program Director

The medical technologist/medical laboratory scientist performs a vital role in the diagnosis and treatment of disease by performing clinical laboratory tests on patients' blood, body fluids, and other specimens. This includes clinical tests within the areas of chemistry, microbiology, hematology, immunology/serology, urinalysis, immunohematology, and molecular pathology.

The program is nationally accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N River Road, Suite 720, Rosemont, IL 60018, 773 714-8880. Satisfactory completion of the program entitles graduates to write national certification examinations.

### Admission

Admission to the University does not constitute admission to the medical technology program. Students are admitted to the program after completion of two years of college study, which includes all prerequisite courses. The students then enter two years of a combined didactic and clinical phase congruent with the 2 + 2 concept. A grade of C (2.00) or better is required in all medical technology course work for continuance in the program. The program does not offer just the final clinical phase to transfer applicants from 3 + 1 programs. Applications to the program, including all materials, must be submitted no later than February 1 for consideration for admission the following fall. Exemptions may be appealed only through the program director. Prospective students who fail to meet the February 1 deadline for formal admission will usually be allowed to take on-campus medical technology courses on a space-available basis. Permission must be first granted by the program director in advance of registration.

## Requirements

### LOWER DIVISION GENERAL EDUCATION Credits

#### Skills

Written Communication	6
Oral Communication (satisfied through major course requirements)	
Mathematics (STAT 130M required; MATH 102M required for BIOL 115N and CHEM 121N/122N,123N/124N)	3-6
Language and Culture	0-6
Information Literacy and Research	3
<b>Ways of Knowing</b>	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E)	3
The Nature of Science (BIOL 115N, CHEM 121N/122N, 123N,124N required)	12
Human Behavior	3
Impact of Technology (any T course outside the College of Health Sciences)	3

#### Departmental Requirements

Students must complete the following courses prior to entering the medical technology program: BIOL 115N, 250-251; CHEM 121N/122N, 123N/124N, 211-212; and STAT 130M.

#### Major Requirements

##### Third Year-Fall

MEDT 210	Orientation to Med Technology/ Clinical Lab Science	1
MEDT 307	Clinical Methods in Microbiology	2
MEDT 308	Clinical Microbiology	3
MEDT 311	Hematology	3
MEDT 312	Hematology Lab	1
MEDT 324	Clinical Instrumentation and Electronics	3
MEDT 325	Clinical Instrumentation Methods	1
MEDT 330	Clinical Immunology/Serology	2
MEDT 331	Clinical Immunology/Serology Lab	1

##### Third Year-Spring

MEDT 309	Medical Bacteriology	3
MEDT 310	Urinalysis/Body Fluids	1
MEDT 313	Diagnostic Methods in Urinalysis	1
MEDT 319	Medical Bacteriology Methods	2
MEDT 326	Immunohematology	3
MEDT 336	Immunohematology Lab	1
MEDT 327	Hemostasis	1
MEDT 337	Advanced Hematology	1
MEDT 339	Parasitology, Mycology and Virology Lab	1
MEDT 340	Medical Parasitology, Mycology and Virology	1
MEDT 351	Clinical Biochemistry	3

##### Third Year-Summer

MEDT 320	Phlebotomy Methods	2
Clinical Practica 5 to 6 credits from spring courses		

##### Fourth Year-Fall

MEDT 403W	Management in the Clinical Setting	3
MEDT 440	Statistical Applications & Data Analysis in the Clinical Laboratory	3

##### Fourth Year-Spring

MEDT 404	Clinical Hematology Practicum	4
MEDT 406	Clinical Microbiology Practicum	5
MEDT 452	Clinical Biochemistry Practicum	5
MEDT 454	Clinical Blood Bank Practicum	4
MEDT 457	Medical Technology Seminar	1
MEDT 458	Clinical Elective Practicum	1

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.  
 Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)  
 Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure  
 Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)  
 Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum of 121 credit hours, which

must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Bachelor of Science in Medical Technology— MLT to MT Weekend College Program

The B.S.M.T. Weekend Program is available for associate degree holders and former hospital or military program trainees. The curriculum is designed to meet the needs of local and distant practitioners. Program and University required courses are available on weekends and on TELETECHNET.

LOWER DIVISION GENERAL EDUCATION	Credits
<b>Skills</b>	
Written Communication	6
Oral Communication (satisfied through major course requirements)	
Mathematics (STAT 130M required; MATH 102M required for BIOL 115N and CHEM 121N/122N, 123N/124N)	3-6
Language and Culture	0-6
Information Literacy and Research	3
<b>Ways of Knowing</b>	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E)	3
The Nature of Science (BIOL 115N, CHEM 121N/122N, 123N/124N required)	12
Human Behavior	3
Impact of Technology (any T course outside the College of Health Sciences)	3

### Departmental Requirements

Students must complete the following courses prior to entering the medical technology program: BIOL 115N, 250-251; CHEM 121N/122N, 123N/124N, 211-212; and STAT 130M.

### Major Requirements

Electives (including transfer and Experiential Learning Credit from MLT Training Program)		
MEDT 309	Medical Bacteriology	3
MEDT 311	Hematology	3
MEDT 315	Clinical Laboratory Diagnosis	3
MEDT 324	Clinical Instrumentation and Electronics	3
MEDT 326	Immunohematology	3
MEDT 340	Medical Parasitology, Mycology, Virology	1
MEDT 350	Urinalysis	1
MEDT 351	Clinical Biochemistry	3
MEDT 403W	Management in the Clinical Setting	3
MEDT 440	Statistical Application & Data Analysis in the Clinical Laboratory	3
MEDT 441	Clinical Hematology Competencies	1
MEDT 442	Clinical Microbiology Competencies	1
MEDT 443	Clinical Biochemistry Competencies	1
MEDT 444	Clinical Blood Bank Competencies	1
MEDT 445	Advanced Clinical Practicum	3
MEDT 457	Medical Technology Seminar	1

### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, minimum 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Minor in Medical Technology

A minor in medical technology requires a minimum of 12 semester hours of 300/400-level MEDT courses. Students may choose courses from a specific

laboratory science discipline (hematology, microbiology, clinical chemistry, and immunohematology) or from several disciplines. All prerequisite courses must be completed. Selection of a plan or program of study must be done in consultation with the program director. For completion of the minor, students must have a minimum overall cumulative grade point average of 2.00 in all courses required for the minor exclusive of prerequisite courses and a minimum of six hours in upper-level courses in the minor requirement must be taken through courses offered by Old Dominion University. Substitutes of non-MEDT courses require the permission of the program director. Completion of the minor does not confer eligibility to write national certification examinations.

## Bachelor of Science in Nuclear Medicine Technology

[www.hs.odu.edu/medlab/academics/nmed/](http://www.hs.odu.edu/medlab/academics/nmed/)

Scott R. Sechrist, Program Director

Nuclear medicine technology is the medical specialty that utilizes sealed and unsealed radioactive materials in the diagnosis and treatment of disease. The nuclear medicine technology program at Old Dominion University is designed to prepare individuals as entry-level nuclear medicine technologists. Upon successful completion of the program, graduates are eligible to sit for a national exam for certification as a nuclear medicine technologist.

Nuclear medicine technologists are allied health professionals certified in nuclear medicine technology who, under the direction of an authorized physician user, are committed to applying the art and skill of diagnostic and therapeutic nuclear medicine procedures through the safe and effective use of radionuclides. Responsibilities include but are not limited to: direct patient contact, the preparation and administration of radiopharmaceuticals, patient imaging procedures including computer processing, laboratory testing, patient preparation, quality control and radiation safety. Nuclear medicine technologists can be employed in hospitals and imaging centers.

The program is accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology.

A grade of C (2.00) or better in all nuclear medicine course work is required to continue in the program.

### Admission

All admission materials must be received by October 15. Interviews are then scheduled for early November.

### Requirements

LOWER DIVISION GENERAL EDUCATION	Credits
<b>Skills</b>	
Written Communication	6
Oral Communication	3
Mathematics (STAT 130M and MATH 102M required)	6
Language and Culture	0-6
Information Literacy and Research	3
<b>Ways of Knowing</b>	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E)	3
The Nature of Science (CHEM 105N/106N, 107N/108N and PHYS 101N-102N required)	16
Human Behavior	3
Impact of Technology (HIST 304T or upper-division T course)	3

### Departmental Requirements

BIOL 250-251 Human Anatomy and Physiology I and II 8  
Students must complete the following courses (or equivalent) prior to entering the nuclear medicine technology program: BIOL 250-251; CHEM 105N-106N, 107N-108N; PHYS 101N-102N; and MATH 102M and STAT 130M.

### Major Course Requirements

#### THIRD YEAR

<b>Fall</b>		
NMED 300	Medical Terminology	3
NMED 331	Concepts in Nuclear Medicine Technology	4
<b>Spring</b>		
NMED 332	Instrumentation	4
NMED 335	Radiation Health	3

NMED 401	Nuclear Medicine Technology I	4
NURS 393	Clinical Skills for Non-Nursing Majors	2
<b>Summer</b>		
NMED 440	Clinical Nuclear Medicine Technology I	8
<b>FOURTH YEAR</b>		
<b>Fall</b>		
NMED 450	Clinical Nuclear Medicine Technology II	9
NMED 402	Nuclear Medicine Technology II	4
NMED 403	Radiopharmacy	3
<b>Spring</b>		
NMED 460	Clinical Nuclear Medicine Technology III	9
NMED 410	Non-Imaging Nuclear Medicine Technology	3
NMED 475W	Administration and Management in Nuclear Medicine Technology	3

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

A variety of clinical facilities in the Hampton Roads area are utilized for clinical education experiences. Students are responsible for providing their own transportation to these sites. Students must meet established programmatic technical standards. Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## Cytotechnology Track—Bachelor of Science in Health Sciences

[www.hs.odu.edu/medlab/academics/cyto/](http://www.hs.odu.edu/medlab/academics/cyto/)

Sophie K. Thompson, Program Director

The School of Medical Laboratory and Radiation Sciences offers a program in cytotechnology through the Bachelor of Science in Health Sciences.

Cytotechnologists are specially trained medical laboratory professionals who work with pathologists in detecting changes in cell samples from numerous body sites which allows the early diagnosis of cancer. This is done primarily with the use of the microscope to evaluate slide preparation of cell samples for abnormalities in structure, indicating cancer, precancerous lesions, benign tumors, infectious agents and inflammatory processes. They are also trained in specimen preparatory techniques.

The program of study is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; phone: 727-210-2350; e-mail: mail@caahep.org; website: [www.caahep.org](http://www.caahep.org), in association with the American Society of Cytopathology.

Theory is reinforced through an integrated clinical phase which allows the student direct experience in a hospital or lab setting providing additional training in screening techniques and diagnostic procedures. Graduates are eligible to sit for national certifying ASCP exams.

Application to the cytotechnology program must be submitted by February 1 for the fall semester.

### Requirements

#### LOWER DIVISION GENERAL EDUCATION

Skills	Credits
Written Communication (ENGL 110C and 211C)	6
Oral Communication (met in the major with CYTO 424 and 497)	
Mathematics (MATH 102M)	3
Language and Culture	0-6
Information Literacy and Research (HLTH 120G preferred)	3
<b>Ways of Knowing</b>	
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E recommended)	3

## 174 OLD DOMINION UNIVERSITY

The Nature of Science	16
(BIOL 115N-116N, CHEM 105N/106N, 107N/108N)	
Human Behavior	3
Impact of Technology (HIST 304T preferred but any T course outside the College of Health Sciences accepted)	3

#### Departmental Requirements

Health Sciences Core	
CHP 415W or MEDT 403W	3
CHP 450	3
DNTH 415 or NMED 300	3
Students must complete the following courses prior to entering the cytotechnology program: BIOL 115N-116N, 250-251, 103; CHEM 105N, 106N, 107N, 108N; and the nine hours from the health sciences core courses.	

#### Major Course Requirements

##### First Semester

CYTO 407	Clinical Histology (strongly recommended)	3
CYTO 428	Cytopreparatory Techniques and Processes	2

##### Second Semester

CYTO 403	Gynecological Screening Lab	3
CYTO 404	General Pathology	3
CYTO 405	Normal Gynecological Cytology	3
CYTO 415	Abnormal Gynecological Cytology	4
CYTO 458	Cytology Internship I	4

##### Third Semester

CYTO 424	Respiratory Cytology	3
CYTO 442	Gastro-Intestinal Cytology	2
CYTO 444	Genitourinary Cytology	2
CYTO 445	Breast Cytology	3
CYTO 446	Body Fluids Cytology	2
CYTO 468	Cytology Internship II	4

##### Fourth Semester

CYTO 448	Non-Epithelial Cytology	2
CYTO 455	Fine Needle Aspiration	5
CYTO 478	Cytology Internship III	8
CYTO 497	Cytology Senior Seminar	2

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### Certificate Option/Second Degree

A certificate in cytotechnology or second degree in health sciences is available to students who have a Bachelor of Science degree, with a minimum of 20 credit hours in biology and eight credit hours in chemistry.

## Ophthalmic Technology Track in the B.S.H.S.

[www.evms.edu](http://www.evms.edu)

Lori J. Wood, Program Director

The track in ophthalmic technology is designed to produce an ophthalmic technologist with a strong background in the basic sciences and a high degree of technical competence in ophthalmic technology. The certificate, offered by the School of Health Professions, Eastern Virginia Medical School, fulfills the professional elective requirements in the Bachelor of Science in Health Sciences offered by the College of Health Sciences, Old Dominion University. The preclinical and general education courses will be offered at Old Dominion University and the clinical program through Eastern Virginia Medical School and its clinical affiliates.

After successful completion of the program, the student will be awarded a certificate of completion from Eastern Virginia Medical School and Old Dominion University. All students must take the written examination for national certification through the Joint Commission on Allied Health Personnel in Ophthalmology in order to satisfy graduation requirements for the program.

Prior to consideration for admission to the ophthalmic technology program, each applicant must complete the required prerequisite courses, or equivalents, maintaining a grade point average of at least 2.00 (4.00 scale). For priority consideration, applications should be submitted no later than March 1 for the class starting in September. The program will accept applications until all slots are filled.

## Requirements

<b>FIRST YEAR</b>	<b>Credits</b>
<b>Fall</b>	
ENGL 110C English Composition I	3
The Nature of Science Way of Knowing (BIOL or CHEM preferred)	4
MATH 102M College Algebra or higher (department requirement; not satisfied automatically by associate degree)	3
Information Literacy and Research (HLTH 120G preferred)	3
Oral Communication	3
<b>Spring</b>	
The Nature of Science Way of Knowing (BIOL or CHEM preferred)	4
BIOL 250 Intro to Human Anatomy & Physiology	4
Human Behavior Way of Knowing (PSYC 201S preferred)	3
Math or Science Elective (STAT 130M preferred)	3
Human Creativity Way of Knowing	3
<b>SECOND YEAR</b>	
<b>Fall</b>	
Math or Science Elective (BIOL 103 preferred)	3-4
ENGL 211C, 221C or 231C English Composition II/Intro to Technical & Scientific Writing	3
Interpreting the Past Way of Knowing	3
Literature Way of Knowing	3
NMED 300 or DNT 415 Medical Terminology/Research Methods–Hlth Prof	3
<b>Spring</b>	
CHP 450 Public and Community Health Administration	3
CHP 415W, 430W or MEDT 403W Core Course in Community Health Professions	3
Philosophy and Ethics Way of Knowing (Upper-division Ethics “E” course preferred)	3
Impact of Technology (HIST 304T preferred)	3
Electives may be needed to total 120 credit hours.	
<b>UPPER DIVISION GENERAL EDUCATION</b>	
Option A. Approved Disciplinary Minor, 12-24 hours minimum; also second degree or second major.	
Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)	
Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure	
Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours). PHIL upper-division Ethics “E” course and upper-division Technology “T” course outside the College of Health Sciences can be used to meet this option.	
<b>THIRD YEAR</b>	
<b>Fall</b>	
OPHS 311 Patient Evaluation and Data Collection	4
OPHS 312 Ocular Anatomy and Physiology	3
OPHS 320 Clinical Sciences I	5
OPHS 321 Technical Skills I	3
<b>Spring</b>	
OPHS 330 Clinical Sciences II	3
OPHS 335 Special Diagnostic Testing	5
OPHS 337 Clinical Education I	4
<b>Summer</b>	
OPHS 350 Clinical Education II	5
OPHS 352 Clinical Topics/Problem Solving	2
<b>FOURTH YEAR</b>	
<b>Fall</b>	
OPHS 420 Special Rotation I	5
OPHS 421 Special Rotation II	5

OPHS 430	Advanced Topics I	3
<b>Spring</b>		
OPHS 422	Special Rotation III	5
OPHS 423	Special Rotation IV	5
OPHS 440	Advanced Topics II	3

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment. Additional hours may be required to meet the foreign language requirement.

## Histotechnician Certificate Program

[www.hs.odu.edu/medlab/academics/histo](http://www.hs.odu.edu/medlab/academics/histo)

The histotechnician is a highly skilled laboratory professional who prepares tissue samples for processing and performs routine staining and sectioning to be examined under the microscope by the pathologist for diagnosis of disease. This also includes training in special stains immunohistochemistry and stains for specific cellular elements.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences, 5600 N River Road, Suite 720, Rosemont, IL 60018, phone: 773-714-8880, e-mail: info@naacsl.org, website: [www.naacsl.org](http://www.naacsl.org). Upon completion of the program, students are eligible to sit for the National Certifying Examination given by the Board of Certification, American Society of Clinical Pathology.

## Admission

Formal admission to Old Dominion University is an initial requirement for students to enter the histotechnician certificate program. Application to the histotechnician program must be submitted by March 1 for fall semester. Three letters of reference are required. Applicants must possess eight semester hours of anatomy and chemistry and three semester hours of mathematics.

## Certificate Requirements

### First Semester

HTEC 301	Histo Microtechniques I	3
HTEC 305	Applied Chemistry for Histotechs	3
HTEC 390	Histotechnology Seminar I	1
CYTO 407	Clinical Histology	3

### Second Semester

HTEC 302	Histo Microtechniques II	3
HTEC 306	Special Procedures in Histopath	3
HTEC 367	Clinical Histopath Internship I	4
CYTO 404	General Pathology	3

### Third Semester

HTEC 303	Histo Microtechniques III	3
HTEC 368	Clinical Histopath Internship II	6

### Fourth Semester

HTEC 308	Advanced Procedures in Histopath	3
HTEC 369	Clinical Histopath Internship III	6
HTEC 391	Histotechnology Seminar II	1

## Histotechnology Track in the B.S.H.S.

Sophie K. Thompson, Program Director

This option is available to students in the histotechnology program who complete all the requirements for the B.S.H.S. degree. Courses in addition to the certificate requirement courses are listed below.

## Requirements

<b>LOWER DIVISION GENERAL EDUCATION</b>	<b>Credits</b>
<b>Skills</b>	
Written Communication (ENGL 110C and 211C)	6
Oral Communication	3
Mathematics (MATH 102M)	3
Language and Culture	0-6
Information Literacy and Research (HLTH 120G preferred)	3
<b>Ways of Knowing</b>	
Human Creativity	3

Interpreting the Past	3
Literature	3
Philosophy and Ethics (PHIL 345E recommended)	3
The Nature of Science	16
(BIOL 115N-116N, CHEM 105N/106N, 107N/108N)	
Human Behavior	3
Impact of Technology (any T course outside the College of Health Sciences)	3

#### Departmental Requirements

BIOL 250-251 and four additional credits in biology or chemistry  
MEDT 403W

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor, 12 hours minimum; also second degree or second major.

Option B. Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

## NURSING

[www.hs.odu.edu/nursing/](http://www.hs.odu.edu/nursing/)

Karen Karłowicz, Chair

The School of Nursing offers programs leading to the degrees of Bachelor of Science in Nursing, Master of Science in Nursing and Doctor of Nursing Practice.

### Bachelor of Science in Nursing

Kay Palmer, Undergraduate Program Director  
Jancie Hawkins, Chief Academic Advisor

Graduates of the baccalaureate program in professional nursing are generalists prepared to care for culturally diverse individuals and groups across the lifespan in a complex global community. Upon completion of the innovative, technology-enhanced program, graduates are knowledgeable about current trends in health care, assume responsibility for their professional growth, and are prepared for graduate study in nursing. The program is fully accredited by the Commission on Collegiate Nursing Education (CCNE) and approved by the Virginia State Board of Nursing.

The baccalaureate curriculum is designed to accommodate the needs of students desiring to become registered nurses (pre-licensure curriculum) and those who are already registered nurses holding hospital diplomas or associate degrees desiring to earn the B.S.N. degree (post-licensure). The pre-licensure curriculum is offered in a traditional 36-month (no summers) format and a 24-month accelerated schedule year-round format. Upon satisfactory completion of the program, a graduate is eligible to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN) for licensure as a registered nurse. The post-licensure curriculum is offered in both a full-time and part-time format. As part of the Distance Learning system, courses are offered on weekday evening times via live broadcast to a classroom or videostreamed to a computer. Additionally, an on-line program of study is available. Most students enroll on a part-time basis.

#### Admission

Applicants for admission to the undergraduate nursing major must initially apply and be accepted to the University and must complete prerequisite courses with a grade of "C" or better prior to being admitted to the School of Nursing. Transfer students may complete the prerequisite courses at another college or university but are responsible for having Transfer Evaluation Services determine that the courses are equivalent and acceptable to University requirements. In some cases, the admissions committee of the School of Nursing may require additional course work. Students must complete a School of Nursing Supplemental Application to be considered. The admission process is selective. The nursing application may be obtained directly from the School

of Nursing or from the School of Nursing website: [www.hs.odu.edu/nursing/](http://www.hs.odu.edu/nursing/). Admission decisions are based upon the applicant's completion of required courses and the cumulative college (all schools attended) grade point average. B.S.N. students must be admitted to the University as a degree-seeking student and to the School of Nursing.

1. Apply and be admitted to the University as a degree-seeking undergraduate student.
2. Submit a School of Nursing supplemental application directly to the School of Nursing with photocopies of all previous college transcripts attached. Submit all items in the same envelope. Do not mail transcripts in a separate envelope to the School of Nursing.
3. Have a transfer of credit evaluation completed by Transfer Evaluation Services.

Applicant review is based on the following criteria:

1. Admission to the University.
2. Successful completion of prerequisite courses with a grade of C or better.
3. College/university academic record(s).

#### Prelicensure Admission

Students who wish to enter the prelicensure nursing major must submit a nursing application to the School of Nursing by February 1 in order to be considered for fall admission. Late or incomplete prelicensure applications will not be considered. The prelicensure program admits students for the fall semester only. Admission to the School of Nursing prelicensure program is highly competitive.

#### Postlicensure Admission

Those desiring admission to the postlicensure curriculum must apply by May 1 for fall admission or October 1 for spring admission. Applications received after the deadline will be considered on a space-available basis. Registered nurse students must submit a photocopy of their license to practice as an RN with their application.

#### Guaranteed Entry Program

The nursing program offers a guaranteed entry program. This program is designed for highly qualified high school students who are committed to completing a Bachelor of Science in Nursing at Old Dominion University. Applicants must meet and maintain eligibility requirements as defined by the program. For more information, contact the pre-nursing advisor at 683-5137.

#### Transfer of Nursing Credits

Students seeking to transfer NURSING credits from another NLNAC or CCNE accredited B.S.N. program must submit photocopies of all nursing course syllabi for which they desire transfer credit approval. The School of Nursing Admission's Committee and nursing faculty will review the transfer course content for comparability with ODU nursing courses and determine if advanced placement in the B.S.N. curriculum is appropriate.

Because of the dynamic nature of the nursing profession, currency of both nursing content and clinical skills is essential. Patient safety is of critical concern and is compromised when a student has out-of-date knowledge and/or less than competent nursing care skills. Transfer of nursing credits into the B.S.N. curriculum may be affected if there has been a lapse of time greater than one year since previous nursing enrollment or by availability of clinical placements.

#### Continuance Policies

1. A grade of C (2.00) or better is required in all nursing courses to continue in the nursing program.
2. An average of 80% or better on objective tests within a nursing course is required to earn a grade of C (2.00). A student who earns an average less than 80% on objective tests for a nursing course is awarded a grade of D or F and will not be considered in good academic standing in the major.
3. A cumulative grade point average of 2.00 or better is required to continue in the nursing program.
4. A nursing student who fails a nursing course and is readmitted to the nursing program is allowed to repeat the failed course only once.
5. A student who leaves the major and is readmitted may be required to take additional course work prior to or concurrent with readmission.
6. A student may be readmitted to the nursing major only once.

**Note:** Policies and procedures are outlined in more detail in the School of Nursing Student Handbook (on the web). All students accepted into the nursing major are responsible for familiarizing themselves with this handbook upon entry into the major.

## Clinical Caution

Clinical Caution is a means by which difficulties meeting specific objectives in a clinical course can be identified and monitored within a single clinical course.

The evaluation of the student's clinical performance is based on the professional judgment of the clinical faculty. A student may be placed on Clinical Caution if the clinical faculty member determines that the student is having difficulties meeting specific clinical objectives. This is a method to identify and monitor behaviors that interfere with the attainment of clinical objectives identified on the Clinical Performance Appraisal. **A student on Clinical Caution must correct the deficiencies in order to pass the clinical course.**

- The student may be placed on Clinical Caution at any point in the clinical course.
- The student will be notified verbally of the Clinical Caution and the reason(s) for the Caution. The course coordinator must be notified of the Clinical Caution within 24 hours.
- The student will be given a "Plan for Success" that specifies the outcomes that must be attained for successful completion of the course.
- A copy of the "Plan for Success" will be e-mailed to the academic advisor and all clinical course coordinators for classes in which the student is enrolled. Clinical course coordinators will be responsible for notifying clinical course instructors of the Caution and the weaknesses noted.

If the student is able to attain minimum competence in all criteria identified on the "Plan for Success" but the clinical faculty assessment is that student behavior warrants continued monitoring, the clinical faculty and course coordinator may place a student on Clinical Notice at the end of the clinical rotation.

A student who successfully meets the criteria specified in the "Plan for Success" in addition to the course Clinical Performance Appraisal will receive a passing grade for the clinical course. An unsuccessful student may apply to the Undergraduate Admissions, Continuance, and Advanced Standing Committee to retake the course in the future unless this is the second failure of nursing undergraduate courses.

## Clinical Notice

Clinical Notice is a means by which patterns of concern and/or clinical course objectives in which the student is minimally competent can be identified and monitored between clinical courses and consecutive semesters.

The evaluation of the student's clinical performance is based on the professional judgment of the clinical faculty. A student may be placed on Clinical Notice if the clinical faculty member determines that the student is having difficulties meeting specific clinical objectives or displays patterns of concerning behavior in more than one course. This is a method to identify and monitor behaviors that interfere with the attainment of clinical objectives identified on the Clinical Performance Appraisal. **Clinical Notice can carry over between clinical courses or consecutive semesters.**

- The student may be placed on notice at any point in the clinical course based on the assessment of student performance. Clinical Caution is not required prior to Clinical Notice.
- The student will be verbally notified of the notice and the reason(s) for the Clinical Notice. The course coordinator must be notified of the Clinical Notice within 24 hours.
- A letter detailing the reason for Clinical Notice will be sent within five working days of verbal notification of being placed on notice and include the date, time and place for the counseling session.

A counseling session will be held with the student and Clinical Review Committee (CRC). The CRC constitutes the course coordinator from each clinical course in which the student is enrolled and may include clinical faculty.

- The student is expected to participate in the counseling session and will be given an opportunity to respond to the Clinical Notice letter with oral and written materials.
- A "Plan for Success" will be developed to include required activities, schedules for activities, criteria for removal from notice and deadline for completion.
- If at the conclusion of the counseling session the student does not agree with the Clinical Notice, the student may appeal the decision to the Undergraduate Program Director.

The student will be evaluated by the clinical faculty and course coordinator during and at the completion of the Clinical Notice period. The course coordinator will make a recommendation to the Clinical Review Committee

who then may remove the student from notice, extend the notice period or move to dismiss the student from the program at any time.

- If the student meets the requirements in the "Plan for Success," the Clinical Notice may be removed.
- If the notice is extended to a subsequent semester, the course coordinator for the clinical in which the Clinical Notice was initiated is responsible for notifying the course coordinators for the clinical courses in which the student will be enrolled during the next semester. The subsequent semester course coordinators will then constitute the Clinical Review Committee for the student.
  - The student may appeal the decision to extend the notice period with the Undergraduate Program Director.
- **If at any point the student clinical behaviors threaten patient safety and well-being or violate professional standards as determined by clinical faculty, the student will receive a grade of F and will not be allowed to continue in the clinical course.**
- A student who successfully meets the criteria specified in the "Plan for Success" in addition to the Clinical Performance Appraisal will receive a passing grade for the clinical course.
- An unsuccessful student may apply to the Undergraduate Admissions, Continuance, and Advanced Standing Committee to retake the course in the future unless this is the second failure of nursing undergraduate courses.
  - The student may appeal the decision to terminate the Clinical Notice period and/or continuation in the course with the Undergraduate Program Director.

Decisions of the Clinical Review Committee will be based on student performance during notice, past performance in the academic program, results of counseling sessions and all student data relative to their undergraduate performance. These are academic proceedings and legal representation is not allowed during these proceedings.

A student may be placed on Clinical Notice no more than twice during the program and the duration of any notice may not exceed two consecutive semesters. If a student is determined to require a third clinical notice or any single notice would enter a third semester, the student will earn an F for the course and, if eligible, reapply for admission to the BSN curriculum.

**Students on Clinical Notice will not be eligible to attend Transition to Professional Nursing Practice clinical NURS 431- Preceptorship.**

- Since the Preceptorship clinical experience does not include direct faculty supervision while providing patient care, no student will be allowed to begin the NURS 431 Preceptorship clinical if they are on Clinical Notice.
- Students who enter their last semester on Clinical Notice must complete NURS 441 Rehabilitation Nursing Clinical during the first half of the semester, meet all stipulations in the "Plan for Success" and be released from Clinical Notice prior to being allowed to begin the preceptored clinical experience.
- If a student is placed on Clinical Notice in NURS 441 and does not exceed the Clinical Notice semester stipulations as noted above, the student may not enter NURS 431 until the terms of the "Plan for Success" have been successfully met. A directed medical-surgical clinical experience (two semester credits) to demonstrate competencies in the "Plan for Success" will be required prior to entering NURS 431. The medical surgical experience will be arranged to coincide with a medical surgical clinical course offered in the subsequent semester.

All documentation will be placed in the student's academic folder in the undergraduate nursing program office.

## Dismissal

Notwithstanding any to the contrary, willful conduct jeopardizing patient safety will result in disciplinary action up to and including dismissal for the first offense.

The Clinical Review Committee may recommend to the Admissions, Continuance and Advanced Placement Committee that dismissal from the program is appropriate. A student may be dismissed from the program without having a notice period. The student will be notified at the time of the decision. Dismissal is based on the evaluation of the student's performance and abilities as well as demonstration of student behaviors that endanger patient safety and well-being and/or violate the standards of the profession. Dismissal is a result of inability to satisfactorily perform the required functions in clinical learning experiences, demonstrate a mastery of theoretical course work, violation of the Honor Code and/or violation of the standards of the profession.

The student may appeal the dismissal recommendation of the Clinical Review Committee in writing to the Undergraduate Program Director within



five working days. See the appeals process in the ODU School of Nursing Student Handbook, Undergraduate Policies.

A student who is found in violation of the University Honor Code and receives a sanction by the Honor Council or University Hearing Officer will be dismissed from the undergraduate program in nursing.

## Appeals Process

A student may appeal a course grade or dismissal decision on the basis of prejudice or caprice. The burden of proof rests with the student.

1. Students must initiate the appeal within one semester (fall, spring) of earning the grade or receiving the dismissal decision.
2. The student will first consult with the instructor (for a grade appeal) or the Clinical Review Committee (for a clinical dismissal appeal).
3. If the student is not satisfied with the results of the conference and wishes to pursue the appeal, the case must be presented in writing for a first-level appeal. The student's appeal letter must (1) state specific reasons and give examples of faculty prejudice or caprice, (2) show that prejudice or caprice affected the awarding of the final course grade or dismissal decision, and (3) be presented as a complete package and include all supporting documentation.
  - a. The student will submit the appeal letter to the undergraduate program director or, if the undergraduate program director is the course coordinator, to the chair of the School of Nursing.
  - b. If the chair of the School of Nursing is the instructor, the student will submit the appeal to the dean.
4. If it is concluded at the first-level appeal that there is no cause for complaint, the person to whom the appeal was submitted will notify the student in writing that the appeal is denied. The student may then submit a second-level appeal.
  - a. If the chair or undergraduate program director initially concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the dean. The student should request in writing that the chair forward the appeal package to the dean to initiate the second-level appeal.
  - b. If the instructor/course coordinator is the chair and the student has appealed directly to the dean and the dean concludes in the first-level appeal that there is no cause for complaint, the student has the right to appeal to the provost and vice president for academic affairs to initiate the second-level appeal.
5. If the person to whom the second-level appeal is submitted concludes that there is no cause for complaint, the student will be notified in writing that the appeal process is complete and no further appeal is allowed.
6. If during the first- or second-level appeal process it is concluded that there may be valid cause for complaint, the person to whom the appeal has been submitted should consult with the instructor and student and attempt to mediate the dispute. If mediation fails, the person to whom the appeal has been submitted will offer to form a committee to carry out an independent investigation and a hearing will be held.
  - a. The person to whom the appeal has been submitted will convene a committee from the school or college. The committee will consist of two faculty and one student. Both the instructor and student will have the right to challenge, for valid cause, any or all of the members of the committee, and in that event, replacements will be appointed and no further challenge will be permitted. The committee will hear the instructor, the student and other pertinent witnesses. The hearing will be taped, but the tapes will be erased after one year following disposition of the case. The committee, after careful deliberation, will make its recommendation to the person to whom the appeal was submitted, who will relay the information to the instructor and the student.
  - b. If the committee finds that there is no cause for complaint the appeal process is complete and no further appeal on the merits of the case is allowed. Only one hearing on the merits of the case is allowed.
  - c. If the committee finds on behalf of the student and recommends a change of grade or dismissal decision, appropriate action will follow.

- d. If either the instructor or student believes that the established procedures for the appeal have not been followed, an appeal for a rehearing may be made to the person identified as the second level of appeal. The only basis for appeal will be the failure to have been provided due process as prescribed by the policy.

For a complete explanation of the University's Grade Appeal Procedure, please refer to the Academic Information section of this Catalog.

## Honors Program for Prelicensure Nursing Majors

The School of Nursing has elected to offer departmental honors to interested and qualified undergraduate students. The honors curriculum reflects the school's commitment to scholarship, leadership, clinical practice and community service.

Application to the Honors Program take place during the semester when prelicensure students complete the Gerontology course. Postlicensure students may apply after completing two nursing courses. Acceptance is limited to approximately 10% of the class size.

Application to the Honors Program may be made by students who are interested in receiving a Bachelor of Science in Nursing degree with Honors and meet the following requirements:

1. A minimum GPA of 3.50.
2. Faculty recommendation.

Applications will be distributed in Gerontology class for the prelicensure students and may be found online for the postlicensure students. Honors advisors will obtain faculty recommendations for the applicants.

Students who are selected for the Honors Program must complete the following requirements in addition to regular course and clinical requirements.

1. Completion of required departmental honors courses
  - a. Nursing 387 Nursing Science in place of Nursing 363 (pre- and postlicensure students).
  - b. Nursing 487W in place of 480W (prelicensure students) or 488W Nursing Leadership in place of 490W (postlicensure students).
  - c. Nursing capstone course, Nursing 489 in place of 431 (prelicensure students) or 486 in place of 403 (postlicensure students).
2. Design and implement a community service project encompassing 40 or more volunteer hours. This is above and beyond the clinical hours in community health or participation in Student Nursing Association projects.

## Traditional Curriculum for Pre-licensure Students

The guide for the traditional curriculum lists the minimal prerequisite courses in the freshman year that must be completed with a grade of C or better for eligibility for admission to the major: Chemistry 105N/106N, Chemistry 107N/108N, Biology 250, Biology 251, English 110C and Sociology 201S. The curriculum guide below illustrates a suggested course of study for the four-year program. The nursing major begins in the sophomore year; additional non-nursing general education and support courses are also indicated. Students must complete the entire curriculum of 120-126 credits (depending upon foreign language exemption) to meet degree requirements. Nursing courses are taken in the order listed. Specified nursing departmental requirement courses must be taken prior to the junior year in nursing.

<b>FRESHMAN YEAR</b>	<b>Credits</b>
<b>Fall</b>	
* CHEM 105N/106N Introductory Chemistry	4
* BIOL 250 Anatomy & Physiology I	4
* ENGL 110C Composition I	3
Human Creativity Way of Knowing	3
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	14
<b>Spring</b>	
* CHEM 107N/108N Introductory Organic and Biochem	4
* BIOL 251 Anatomy & Physiology II	4
* SOC 201S Introduction to Sociology	3
**ENGL 211C Composition II	3
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	14

\*These courses are PREREQUISITES for the nursing major and must be completed before NURS 300. A grade of C or better is required in prerequisite courses.

## SOPHOMORE YEAR/NURSING MAJOR

<b>Fall</b>	
**NURS 300 Introduction to Nursing Theories & Concepts I	3

**NURS 302 Health Assessment Clinical Laboratory	2
**NURS 310 Therapeutic Diets I	1
**BIOL 103 Bacteriology	4
**STAT 130M Statistics (pre/co req for NURS 363)	3
**PSYC 203S Developmental Psychology	3
Elective	1
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	17

**Spring**

**NURS 301 Introduction to Nursing Theories & Concepts II	3
**NURS 303 Fundamentals of Nursing Practice	2
**NURS 374 Nursing Process and Drug Therapy I	2
**NURS 430 Nursing and the Gerontological Client	2
Interpreting the Past Way of Knowing	3
Literature Way of Knowing	3
Philosophy and Ethics Way of Knowing	3
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	18

\*\* These courses must be completed prior to the Junior year.

**JUNIOR YEAR**

**Fall**

NURS 320 Adult Health Nursing I	3
NURS 321 Clinical Management: Adult Health Nursing I	2
NURS 350 Psychiatric/Mental Health Nursing	3
NURS 351 Clinical Management of Psychiatric/ Mental Health Problems	1
NURS 363 Nursing Science	3
Upper Division Elective Course I (upper-division Technology T course outside the College of Health Sciences)	3
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**Spring**

NURS 311 Therapeutic Diets II	1
NURS 330 Nursing Care of the Childbearing Family	3
NURS 331 Clinical Management of the Childbearing Family	1
NURS 340 Adult Health Nursing II	3
NURS 341 Clinical Management: Adult Health Nursing II	2
NURS 375 Nursing Process and Drug Therapy II	2
Upper Division Elective Course II (outside the College of Health Sciences and not required by the major)	3
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**SENIOR YEAR**

**Fall**

NURS 312 Therapeutic Diets III	1
NURS 420 Nursing Care of Infants and Children	3
NURS 421 Clinical Management - Infants and Children	2
NURS 450 Adult Health Nursing III	3
NURS 451 Clinical Management: Adult Health Nursing III	2
NURS 470 Community Health Nursing I	2
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	13

**Spring**

NURS 480W Leadership and Management	3
NURS 431 Transition to Professional Nursing Practice	3
NURS 440 Nursing Process in Rehabilitation	2
NURS 441 Clinical Management of Rehab Clients	2
NURS 471 Community Health Nursing II	2
NURS 358 Nursing Elective	2
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	14

Please note: The University General Education requirement for six credits of foreign language must be met by any student not exempt from the requirement. The following exemptions exist for the foreign language requirement:

- High school graduate prior to December 31, 1985, or
- Three years of one foreign language in high school, or
- Two years in each of two different foreign languages in high school

Students may also meet the foreign language requirement by completion of a university-parallel associate degree.

The oral communication and information literacy general education requirements are met through the major.

**UPPER DIVISION GENERAL EDUCATION**

Option A. Approved Minor, 12-24 hours; also second degree or second major.

Option B. Interdisciplinary Minor, 12 hours specified by the department, 3 of which may be in the major area of study.

Option C. International business and regional courses or an approved certification program, such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Health Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-126 credit hours, which must include both a minimum of 30-32 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

**Accelerated Curriculum for Prelicensure Students**

The guide for the accelerated curriculum lists the prerequisites, general education and departmental requirement courses supporting the major. In addition to completing the prerequisite courses, students applying to this curriculum should complete all of the non-nursing courses prior to beginning the major. Nursing courses are taught in fall, spring and summer semesters for two calendar years. Summer enrollment is required.

Students desiring to enroll in the accelerated program should have completed the following courses prior to beginning the nursing major:

Biology 250*	4 credits
Human Creativity Way of Knowing	3 credits
Biology 251*	4 credits
Interpreting the Past Way of Knowing	3 credits
Chemistry 105N/106N*	4 credits
Biology 103	4 credits
Chemistry 107N/108N*	4 credits
STAT 130M	3 credits
English 110C*	3 credits
Philosophy and Ethics Way of Knowing	3 credits
English 211C	3 credits
Language and Culture I	3 credits
Sociology 201S*	3 credits
Language and Culture II	3 credits
Psychology 203S	3 credits
Literature Way of Knowing	3 credits
Elective	1 credit

\* Must be completed with a grade of C or better

**Please note:** All prerequisite courses must be completed with a grade of C (2.00) or better. (A grade of C- will not transfer to Old Dominion University.)

(See the traditional curriculum for prelicensure students or the General Education section of this Catalog for specific course numbers in Human Creativity, Philosophy and Ethics, Interpreting the Past, Literature and the possible exemption for foreign languages.)

<b>YEAR 1</b>	<b>Credits</b>
<b>FALL</b>	
NURS 300 Introduction to Nursing Theories and Concepts I	3
NURS 302 Health Assessment Clinical Lab	2
NURS 310 Therapeutic Diets I	1
NURS 430 Nursing and the Gerontological Client	2
Upper-Division Elective, General Ed Course I (upper-division Technology T course outside the College of Health Sciences)	3
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**SPRING**

NURS 311/312 Therapeutic Diets II & III	2
NURS 301 Introduction to Nursing Theories and Concepts II	3
NURS 303 Fundamentals of Nursing Practice	2
NURS 363 Nursing Science	3
NURS 374 Nursing Process and Drug Therapy I	2
Upper-Division Elective, General Ed Course II (outside the College of Health Sciences and not required by the major)	3
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**SUMMER**

NURS 320 Adult Health Nursing I	3
NURS 321 Clinical Management: Adult Health Nursing I	2
NURS 350 Psychiatric/Mental Health Nursing	3
NURS 351 Clinical Management of Psychiatric/Mental Health Problems	1
NURS 375 Nursing Process and Drug Therapy II	2
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<b>YEAR 2</b>			11
<b>FALL</b>			
NURS 330	Nursing Care of the Childbearing Family	3	
NURS 331	Clinical Management of the Childbearing Family	1	
NURS 340	Adult Health Nursing II	3	
NURS 341	Clin Mgmt: Adult Health Nursing II	2	
NURS 470	Community Health Nursing I	2	
			11

<b>SPRING</b>			
NURS 420	Nursing Care of Infants and Children	3	
NURS 421	Clinical Management of Infants and Children	2	
NURS 450	Adult Health Nursing III	3	
NURS 451	Clinical Management: Adult Health Nursing III	2	
NURS 471	Community Health Nursing II	2	
			12

<b>SUMMER</b>			
NURS 431	Transition to Professional Nursing Practice	3	
NURS 440	Nursing Process in Rehabilitation	2	
NURS 441	Clinical Management of Rehabilitation Clients	2	
NURS 480W	Leadership and Management	3	
NURS 358	Nursing Elective	2	
			12

### Postlicensure Curriculum (for Registered Nurses)

The postlicensure curriculum is available online or live on the main campus, at local higher education centers, at many TELETECHNET sites, and videostreamed using the Blackboard format. Please check with the School of Nursing for a complete listing of available sites. Students may start the major in the fall semester (online, TELETECHNET or videostreamed) or spring semester (only online).

Requirements for admission to the postlicensure curriculum are successful completion of all 100-200 level general education and departmental courses (see listing). A part-time sequence of major courses is provided. Attendance in summer session is necessary. Full-time study is available as well. To meet degree requirements, students must complete the entire curriculum of 120-126 credits (depending upon foreign language exemption). Based upon prior learning and successful progression in the major, registered nurse students are granted 33 experiential learning credits in nursing.

Required for admission (100-200 level courses)		Credits
ENGL 110C	English Composition	3
CHEM 105N/106N	College Chemistry I	4
CHEM 107N/108N	College Chemistry II	4
BIOL 250	Anatomy and Physiology I	4
BIOL 251	Anatomy and Physiology II	4
BIOL 103	Bacteriology	4
SOC 201S	Introduction to Sociology	3
ENGL 211C	English Composition II	3
STAT 130M	Elementary Statistics	3
Language and Culture		0-6
Human Creativity Way of Knowing		3
Interpreting the Past Way of Knowing		3
Literature Way of Knowing		3
Philosophy and Ethics Way of Knowing		3
PSYC 203S	Developmental Psychology	3
Elective		1

### UPPER DIVISION/MAJOR REQUIREMENTS

NURS 305	Health Assessment	3
NURS 306	Theoretical Foundations of Professional Nursing Practice	3
NURS 363	Nursing Science (STAT 130M required)	3
NURS 401	Career Pathway: Assessment (must be taken in the first semester)	4
NURS 402	Career Pathway: Development	4
NURS 403	Career Pathway: Expanding Horizons (must be taken in the last semester)	4
NURS 458	Nursing Elective	3
NURS 464	Developing Case Management Skills: Clinical Pathways and Outcomes	3
NURS 490W	Nursing Leadership	3
NURS 492	Community Health Nursing	3

Upper-division general education elective I		3
(upper-division Technology T course outside the College of Health Sciences)		
Upper-division general education elective II		3
(outside the College of Health Sciences and not required by the major)		
NURS 398	Advanced Placement Credits awarded upon completion of 14 credits in major.	
NURS 498	Advanced Placement Credits awarded upon completion of 26 credits in major.	

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120-126 credit hours, which must include both a minimum of 30-32 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

### RN to BSN/MSN Curriculum

Students accepted into this curriculum may use nine graduate credits to count toward both the B.S.N. and M.S.N. degrees. Students in this curriculum would take NURS 610 instead of NURS 306, NURS 611 instead of NURS 363, and NURS 640 instead of NURS 458. It is imperative to seek guidance from the Chief Academic Advisor for Nursing to correctly follow course sequencing. Requirements are listed below.

Students desiring to enroll must:

1. Complete all lower-division general education/departmental requirements prior to the start of the first graduate-level course.
2. Pass the Exit Examination of Writing Proficiency prior to the start of the first graduate-level course.
3. Complete and submit a supplemental nursing application for the M.S.N. program. This application is available on the School of Nursing website at [www.hs.odu.edu/nursing](http://www.hs.odu.edu/nursing).
4. Provide evidence of testing scores:
  - A. Miller Analogies Test (MAT) score of 400 or above; or
  - B. Graduate Record Examination (GRE) combined verbal and quantitative portion score of 1000 or above (or 1500 total on all three sections).
5. Present a cumulative and transfer grade point average of 3.0 or above.

**To continue in the RN to B.S.N./M.S.N. curriculum, a student must earn a grade of B or above in each graduate-level course.**

1. A student in the RN to B.S.N./M.S.N. curriculum who earns a grade of B- or below in a graduate course will not be able to continue in the M.S.N. curriculum as an undergraduate student.
2. A student in the RN to B.S.N./M.S.N. curriculum who earns a B-, C+ or C in a graduate course will be allowed to count that graduate course toward the B.S.N. degree requirements.
3. A student in the RN to B.S.N./M.S.N. curriculum who earns a grade below a C will be required to take the corresponding undergraduate course to complete the B.S.N. degree requirements. The student must seek readmission to the RN-B.S.N. program to continue. Students may be readmitted to the RN-B.S.N. program once.
4. Students not admitted to the RN to B.S.N./M.S.N. curriculum may apply to the M.S.N. program upon completion of the B.S.N. degree. A student who was ineligible to continue in the RN to B.S.N./M.S.N. curriculum may reapply for admission to graduate study upon completion of the B.S.N. degree.

### General Prelicensure Policies: Physical Exam/CPR/Liability Insurance

1. All students are required to have an initial physical exam completed and submitted by the first week of courses in the major.
2. Returning students (second year, third year) must have an annual PPD completed and submitted by the first week of courses in the fall semester.
3. All students must provide written documentation of Cardio-Pulmonary Resuscitation certification (professional level course) each year by the first week of courses in the semester.
4. Professional liability insurance is required for all clinical courses. The University covers this requirement for students enrolled in required clinical courses for the activities associated with those courses.
5. Due to the intimate nature of nursing practice with vulnerable populations, criminal background/sex offender status checks are required of all pre-licensure students.

## Computer Competency Requirements

It is strongly recommended that nursing majors (pre- and post-licensure) have a personal computer. It is also recommended that post-licensure RN>BSN students enrolled in online web courses in the major have access to a WebCam and headset, and this will be required in some online courses.

Faculty have identified the following basic computer skills as imperative for students in the B.S.N. program.

1. Locate a file on: hard drive, disk, and server if appropriate
2. Save a file on a specific drive and folder
3. Change drives
4. Connect to an ISP
5. Navigate between two or more applications without closing and reopening (multi-tasking)
6. Open a new file
7. Open an existing file
8. Save a file
9. Rename a file (save as)
10. Cut text
11. Paste text
12. Format text
13. Change line spacing
14. Download and upload e-mail attachment files

## Technical Standards

Students admitted to the undergraduate nursing program are expected to complete all program requirements. Any student who thinks he or she does not possess one or more of the following skills should seek assistance from an academic counselor, faculty advisor and Disability Services concerning any flexibility in program requirements and possible accommodation through technical aids and assistance. Students are expected to:

1. Assimilate knowledge acquired through lectures, discussions, demonstrations and readings and make appropriate judgments/decisions in a timely manner during clinical practice.
2. Comprehend and apply basic mathematical skills, e.g. ratio and proportion concepts, use of conversion tables, calculation of drug dosages.
3. Demonstrate competence in concepts from biological, sociological and psychological sciences.
4. Communicate effectively (verbally and non-verbally) and prepare written documents that are correct in style, grammar and mechanics.
5. Read charts, records, scales, fine print, handwritten notations and distinguish colors.
6. Distinguish tonal differences and use phones.
7. Distinguish odors.
8. Differentiate changes in sensation, e.g. pulses, temperature, texture.
9. Manipulate equipment necessary for providing nursing care to clients, e.g. syringes, infusion pumps, life support devices.
10. Move from room to room and maneuver in small places.
11. Perform one-rescuer/two-rescuer cardiopulmonary resuscitation (CPR) on adults, children and infants without any limitation to space or environment.
12. Establish interpersonal rapport with individuals, families and community groups who have a wide range of social, emotional intellectual and cultural differences.

A student must have a criminal background and sex offender status verification completed prior to beginning the nursing major. Clinical agencies may request to review the results and, based upon the review, reserve the right to prohibit a student from attending clinical practice in that facility. Inability to attend clinical practice due to a clinical agency refusal will be cause for dismissal from the B.S.N. program.

A physician or nurse practitioner must attest that a student is in good physical and mental health. Documentation indicating immunity to measles, mumps, rubella, varicella, Hepatitis B, influenza or other clinical agency requirements must be provided to the School of Nursing for clinical placement. Students are required to maintain current Basic Life Support certification. The School of Nursing Physical Exam form inquires: Does this individual have any physical or mental conditions, disabilities or medical limitation that would prohibit the individual from functioning in the capacity of a Registered Nurse?

## Nursing Practice/Performance Expectations

The curriculum for the B.S.N. program includes 66 credits in the nursing major and provides classroom instruction, laboratory and clinical practice

experience for students. This comprehensive program includes experiences in a variety of nursing specialties (critical care, obstetrics, pediatrics, adult health, community, rehabilitation and psychiatric nursing) giving the graduate a broad-based foundation in nursing practice. Graduates are not specialists, but generalists prepared for entry-level practice in these areas of nursing practice. While in nursing learning labs, students will serve as models for the practice of nursing skills.

Students in the B.S.N. program are expected to provide total, intimate personal care to both male and female clients of all ages, ethnic and racial backgrounds. These activities may include, but are not limited to:

1. Complete baths
2. Urinary catheterizations
3. Colonic enemas
4. Vaginal douches
5. Perineal care
6. Breast exams
7. Testicular exams
8. Providing nutrition (feeding) with all types of diets

Students are expected to interact in a professional, non-judgmental manner with clients, classmates, faculty and other health team members of all ethnic, religious and national backgrounds. No exceptions for cultural differences will be made for any student.

# College of Sciences

Chris D. Platsoucas, Dean  
 Chris Osgood, Associate Dean  
 To be named, Associate Dean  
 Terri Mathews, Assistant Dean

The College of Sciences' degree programs are designed to prepare students for careers in the sciences or to lay broad foundations for specialized training in these fields of knowledge.

The college is comprised of the Departments of Biological Sciences, Chemistry and Biochemistry, Computer Science, Mathematics and Statistics, Ocean, Earth and Atmospheric Sciences, Physics, and Psychology. The Departments of Biological Sciences, Chemistry and Biochemistry, Mathematics and Statistics, Ocean, Earth and Atmospheric Sciences, and Physics cooperate with the Darden College of Education to provide the necessary courses for certification to teach in the Commonwealth.

## Undergraduate Degree Requirements for all Majors in the College of Sciences

### Core Requirements

Fulfilling the University General Education Requirements for a specific program satisfies the degree requirements for the College of Sciences. Refer to the University General Education section of this Catalog for details about which courses satisfy the skills, ways of knowing, and upper-division requirements of the General Education program.

Additional major requirements are listed under the various departmental programs.

### General Requirements

- A. Students wishing to take a major or a minor in the College of Sciences must declare with the appropriate department.
- B. The College of Sciences allows a maximum of four hours of activity credit to be applied toward any degree granted by the college. Activity credit beyond the four-hour maximum may be permitted in unusual circumstances with the written approval of the dean of the college. Activity credit required by a student's major department will not be counted toward the credit limitation. (See the Catalog section on Activity Credits for the definitions and other restrictions on activity course credits.)

## College of Sciences Degree Programs

Programs of Study	B.S.	M.S.	Ph.D.
<b>Health-Related Sciences</b>			
Biomedical Science			X <sup>1</sup>
Biological Chemistry Track			X <sup>1</sup>
Clinical Psychology			X <sup>3</sup>
<b>Life Sciences</b>			
Biology	X	X	X <sup>4</sup>
Biochemistry	X	X <sup>2</sup>	X <sup>10</sup>
Psychology	X	X	X <sup>5</sup>
<b>Physical Sciences</b>			
Chemistry	X	X	X
Computer Engineering		X <sup>8</sup>	X <sup>8</sup>
Computer Science	X	X	X <sup>8</sup>
Computer Science (Computer Information Sciences)		X <sup>9</sup>	
Mathematics	X	X <sup>7</sup>	X <sup>6</sup>
Ocean and Earth Science	X	X	
Oceanography			X
Physics	X	X	X

### Notes:

1. Ph.D. in biomedical sciences is an interdisciplinary degree program based in the College of Sciences. Tracks include general biomedical sciences and biochemistry. Students are also encouraged to explore interdisciplinary areas of research including bioinformatics and bioengineering.

2. Emphasis area within chemistry master's degree program.
3. Doctor of Psychology (Psy.D.) offered through the Virginia Consortium Program in Clinical Psychology, sponsored by Eastern Virginia Medical School, Norfolk State University, and Old Dominion University.
4. Ecological sciences. Optional dual degree program with master's degree in computational and applied mathematics with emphasis in statistics. Training opportunities are available with faculty in the Departments of Biological Sciences, Chemistry and Biochemistry, and Ocean, Earth and Atmospheric Sciences.
5. Applied experimental, human factors, or industrial/organizational psychology.
6. Computational and applied mathematics, with emphases in applied mathematics and statistics/biostatistics.
7. Computational and applied mathematics, with emphases in applied mathematics, statistics and biostatistics.
8. Offered jointly with the College of Engineering and Technology.
9. Offered jointly with the College of Business and Public Administration.
10. Emphasis area within chemistry Ph.D. program.

## Old Dominion University/Eastern Virginia Medical School Joint Program in Medicine

The joint program in medicine is designed to encourage highly qualified students to receive a B.S. from Old Dominion University and an M.D. from Eastern Virginia Medical School. Students apply after completion of their freshman year at Old Dominion University. Upon successful completion of requirements and graduation from Old Dominion University, a student accepted in the ODU/EVMS Joint Program in Medicine will be guaranteed admission to Eastern Virginia Medical School.

### Eligibility and Selection of Students for the Program

1. Applications will be accepted from students without regard to state of residency.
2. Students apply for the program at the beginning of their sophomore year at Old Dominion. A joint committee of ODU/EVMS faculty reviews and selects applicants for this program with approval by the Committee on Admissions at EVMS. EVMS accepts only U.S. citizens and Permanent Residents in their medical program.
3. Criteria for the program include a combined Math and Verbal Scholastic Aptitude Test minimum score of 1250 and an overall high school grade point average of at least 3.40. Students are expected to complete one year of general chemistry and the first semester of organic chemistry by the end of the first semester of their sophomore year. Students who do not meet these minimum requirements will not be considered for the program.
4. Sophomores at Old Dominion will apply through the Pre-Health Advisory Committee, room 236 in the Mills Godwin building. Applications will be received and reviewed by that committee. Based upon academic records, including high school performance and SAT scores, and non-academic factors such as volunteerism, leadership, and health care exposure, students will be nominated for the program.
5. Qualified applicants will be interviewed by members of a joint Old Dominion University/Eastern Virginia Medical School faculty committee.
6. To guarantee their positions at Eastern Virginia Medical School, students in this program should maintain an overall and science grade point average of 3.25. Also, a student in this program must receive satisfactory annual reviews from a faculty committee at Old Dominion University and participate in seminars, classes, and medical and/or research experiences associated with the program. A student will be dropped from the program if found guilty of violating the Honor Code, or if the recommendations of the major advisor and joint committee were not followed. A joint committee of faculty members from Old Dominion University and Eastern Virginia Medical School will annually review the continued eligibility of students in the program.
7. Students in this program must still take the courses required by Eastern Virginia Medical School, i.e. one year of biology, two years of chemistry (including organic chemistry), and one year of physics, and obtain grades of B or better. These courses must be completed at Old Dominion University; all requests to transfer the prerequisite courses from another institution must be approved by the Prehealth Advisory

Committee. The Old Dominion University faculty will determine which are the appropriate courses to meet these requirements.

8. Questions about the joint program in medicine should be directed to Terri Mathews, Assistant Dean, College of Sciences, (757) 683-5201.

## Other Advantages of the Program

Because students enrolled in this program will be assured of a position at Eastern Virginia Medical School, they will be encouraged to take courses that meet their interest and needs, rather than courses perceived as necessary to gain entrance into medical school.

Students in this program will be expected to complete the requirements for a baccalaureate degree before beginning medical school.

## Policy for the Awarding of Bachelor's Degrees To Students Attending Professional School in Medically Related Fields

Old Dominion University students attending an accredited medical, dental, pharmacy, or veterinary school without a bachelor's degree shall be given the opportunity of receiving the bachelor's degree in accordance with the prescribed criteria as follows.

1. The student applying for the degree must complete a minimum of 90 semester hours of undergraduate credit prior to attending professional school.
2. The student must fulfill the General Education requirements of the University and the College of Sciences.
3. Thirty of the last thirty-six hours prior to professional school must be taken at Old Dominion University.
4. This policy is applicable to any bachelor's degree offered by Old Dominion University. It must be kept in mind, however, that all departmental requirements must be met either prior to professional school or by using courses taken during the first year of professional school. This latter course of action requires written petition to and approval by the appropriate departmental chair. In either case the student must complete at least two-thirds of the major requirements for the degree prior to attending professional school.
5. The degree is to be awarded only after completion of one year of professional school with acceptable academic performance (to be determined by a letter from the professional school stating that the student is eligible to matriculate for the second year).
6. The student would apply for the bachelor's degree on completion of one year of professional school. Certification by the appropriate department chair is required as usual.

## Preparation for Pharmacy School

The following courses are recommended for students who wish to complete their pharmacy prerequisites in two years. These courses are particularly designed to meet requirements at the School of Pharmacy of Virginia Commonwealth University, which will accept only students who present at least 65 hours of credit. Students should consult schools of their interest regarding entrance requirements. Recommended courses are: CHEM 121N-122N-123N-124N, 211-213, 212-214; BIOL 115N-116N; ENGL 110C and three additional hours in English; MATH 162M, 163 and 211; PHYS 231N-232N; COMM 101R; PHIL 345E; electives (liberal arts and behavioral sciences), 18 hours. Contact the Advising Office, College of Sciences, 757-683-6790.

## Prehealth Advisement—Prehealth Advisory Committee

Students seeking careers in medicine, dentistry, osteopathy, optometry, podiatry or veterinary medicine should request advisement as early as possible from the College of Sciences prehealth advisory committee, as well as from their major or other academic advisor. This is to obtain general information of value in gaining acceptance to the professional school of choice, such as how and when to apply for admission, preparation for preprofessional tests and interviews, obtaining letters of evaluation and recommendation, and choosing among the many different schools and professions. Advice is also given on course selection, although only the academic advisor can formally approve these selections.

Students seeking admission to medical, dental and other medically related professional schools should confer with the Prehealth Advisory Committee in their junior year concerning the preparation of letters of evaluation by the Committee.

The chair of the Prehealth Advisory Committee is Terri Mathews, Assistant Dean, College of Sciences. To receive prehealth advisement, please contact the Prehealth Advisory Committee located in MGB 236, (757) 683-6790.

## B.S./M.B.A. Five-Year Program

This program allows students to complete a B.S. degree in biology, chemistry, computer science, mathematics, physics, or psychology and an M.B.A. degree in five years. Students interested in this program should contact the M.B.A. program manager as early as possible. The M.B.A. program manager will act as an advisor to the student in addition to the undergraduate advisor. The M.B.A. Program Office is located in Constant Hall room 1026 and can be contacted at 683-3585.

## Entrance Requirements

To be accepted into the program students should have:

- completed at least 24 credit hours at Old Dominion University with a GPA of at least 3.00;
- completed all lower-level general education requirements;
- achieved senior standing at Old Dominion University;
- completed a calculus course, equivalent to MATH 200;
- achieved a minimum Graduate Management Admissions Test (GMAT) score of 550; and
- achieved a minimum index of 1200. (The index is computed as 200 times the Old Dominion University GPA plus the GMAT score.)

## Admissions Procedure

Students should plan to take the GMAT at least two semesters prior to the semester in which they plan to enroll. Official applications and credentials should be submitted to the M.B.A. Program Office according to published deadlines.

Students accepted into the five-year B.S./M.B.A. program must complete the following courses from the M.B.A. core during their senior year. These credit hours will count toward the undergraduate degree and satisfy the upper-division general education requirement for graduation (or technical electives for students majoring in computer science). Students must maintain a 3.00 GPA in these courses.

Accounting for Managers	ACCT 601	3 hours
Statistics for Business and Economics	DSCI 600	3 hours
Managerial Economics and International Trade	ECON 604	3 hours
Financial Management	FIN 605	3 hours
Organizational Management	MGMT 602	3 hours
Marketing Management	MKTG 603	3 hours

After students have satisfactorily completed their undergraduate requirements, they must complete an additional 30 hours in the M.B.A. program. For detailed information on courses and concentrations, please refer to the M.B.A. information found in the Old Dominion University Graduate Catalog.

## Research and Service Centers

**Center for Computational Science.** The center provides a focus for the University's efforts to perform scientific investigation through large-scale computer models of natural phenomena. It complements the Virginia Modeling, Analysis and Simulation Center, which focuses primarily on the simulation of human-engineered systems, though some underlying methodologies overlap. With close ties to the Department of Energy and NASA laboratories and support from these agencies and NSF, center personnel perform computationally intensive research, develop algorithms and software for high-end parallel computers, train computationally oriented graduate students and post-docs, and disseminate the products of their research, directed scientific results and software libraries, within and beyond the University.

**Center for Molecular Medicine.** The Center for Molecular Medicine (CMM) provides a focal point for research in molecular biology, immunology and mammalian molecular genetics supported by peer-reviewed research grants primarily from the National Institutes of Health (NIH) and other sources. Additional areas of research include bioinformatics, systems biology and computational/mathematical biology.

**Commonwealth Center for Coastal Physical Oceanography.** The Commonwealth Center for Coastal Physical Oceanography focuses research efforts on major physical processes in the coastal ocean. These processes include continent scale currents, exchange with the open ocean, and effects of global change. Techniques focus on computer modeling and analysis of existing data bases. The center provides advanced computer resources, technical support, and funding for faculty, research associates, and students. Visitors are encouraged to use the facility during either short- or long-term stays.

## BIOLOGICAL SCIENCES

Wayne Hynes, Chair

The Department of Biological Sciences offers a broad selection of course offerings. The undergraduate curriculum is based on a two-semester foundations course and five core courses that provide a well-rounded introduction to the major subdisciplines of biology. The elective courses allow students to explore multiple facets of the biological sciences or to deepen their understanding of a single subdiscipline.

Many of our students tailor their undergraduate degrees for entry into professional and graduate schools. The department has an excellent program in secondary science education for those desiring to teach, an outstanding pre-health track for students interested in the medical professions, and the combination of academic and research opportunities necessary to best prepare students for research-based graduate studies.

### Bachelor of Science—Biology Major

#### LOWER DIVISION GENERAL EDUCATION

	Credits
Written Communication (ENGL 110C and 231C required)	6
Oral Communication (COMM 101R, 103R, or 112R)	3
Mathematics (MATH 162M required)	3
Language and Culture	0-6
Information Literacy & Research (CS 121G required)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (Satisfied by PHYS 111N-112N or OEAS 110N or 111N and 112N)	8
Impact of Technology (Satisfied by TLED 430 for teacher education)	0-3
Human Behavior	3

#### DEPARTMENTAL REQUIREMENTS

BIOL 115N-General Biology I  
 BIOL 116N-General Biology II  
 BIOL 115N-116N must be passed with a C (2.0) or better to continue in the program.

Upon completion of BIOL 115N/116N students must complete the following core of biology courses, some of which are prerequisites\* or corequisites\*\* for upper-level biology courses (see course descriptions for prerequisites to individual courses). BIOL 293 (Cell Biology) and 303 (Genetics) have MATH 162M (Precalculus) and CHEM 211 (Organic Chemistry) as pre- or corequisites. STAT 130M is a prerequisite for BIOL 303. BIOL 405W should be taken during the junior or senior year after completion of its prerequisites. Core courses must be passed with a C (2.0 or better).

\*Prerequisite – designated course must be completed before enrolling in the course requiring the prerequisite.

\*\*Corequisite – designated course may have been completed or taken during the same semester the student is enrolling in the course requiring the corequisite.

BIOL 291 Ecology  
 BIOL 292 Evolution  
 BIOL 293 Cell Biology  
 BIOL 303 Genetics  
 BIOL 405W Biology Seminar

**Biology Electives.** Students must choose 16 elective hours at the 300 level or above from the courses offered by the Department of Biological Sciences. Three of the courses must have a laboratory or field component (see individual course descriptions). Students may use four credits at the 200 level to satisfy the elective requirement and may use no more than six credits of unstructured courses to satisfy the requirement (see below). Elective courses must be passed with a grade of C (2.0) or better unless they are specified as Pass/Fail courses, in which case they must be passed (P).

**Unstructured Courses.** Students may take advantage of several non-classroom experiences (“Unstructured Courses”) offered by the Department of Biological Sciences and may receive elective credit for these experiences. These include BIOL 368 (Internship), BIOL 369 (Practicum), BIOL 497 (Undergraduate Research) and BIOL 498 (Independent Study). See individual course descriptions and the chief departmental advisor for more information about these opportunities.

#### Non-biology degree requirements:

CHEM 121N/122N	Foundations of Chemistry I	4
CHEM 123N/124N	Foundations of Chemistry II	4
CHEM 211	Organic Chemistry	3
CHEM elective	200-level or higher	5
OEAS 110N or 111N and 112N or PHYS 111N-112N		8
MATH 200 and STAT 130M		6
Information Literacy and Research Requirement (CS 121G)		3

#### UPPER DIVISION GENERAL EDUCATION

The Professional Education core satisfies this requirement.

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation (non-teacher education tracks) include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, completion of Senior Assessment, and completion of the Biology Department Senior Assessment when offered.

### Marine Biology Concentration

The marine biology concentration provides students with coursework, specialized advising, and practical experience in marine biology while ensuring a strong, balanced education in one of the traditional natural sciences in which students major. The concentration requires satisfactory completion of the general biology foundation courses (BIOL 115N and BIOL 116N) or equivalent and at least 15 semester credit hours in approved marine biology related courses at the advanced level (300 and 400 level, see marine biology concentration brochure), including two required courses: Marine Biology (BIOL 331) and Ocean, Earth and Atmospheric Sciences (OEAS 306). Students in the program are expected to participate in non-credit, monthly meetings of the ODU Marine Biology Association. One course completed at an off-campus marine biology laboratory or study abroad program is strongly recommended, as is a research, practicum, or internship experience in marine biology. Other requirements are listed under the Bachelor of Science—Biology Major. Marine biology students may also select a minor in ocean and earth science.

A variety of facilities are available to students interested in the marine biology concentration. On-campus facilities include a modern marine wet laboratory along with biology faculty research laboratories specializing in marine: benthic ecology, animal biomechanics and physiology, marine fish biology and systematics, conservation biology, phytoplankton biology, coastal wetland plants, disease ecology, microbiology, and tropical ecology. Field studies and course-related trips to nearby marine habitats in the Chesapeake Bay and Atlantic Ocean are supported by departmental field vehicles and small vessels, as well as by the Ocean, Earth and Atmospheric Sciences Department's 55-foot research vessel, the R/V Fay Slover. Research requiring SCUBA is supported by the ODU Academic Diving Program, a local chapter of the American Academy of Underwater Scientists. Off-campus access to marine laboratories on Virginia's Eastern Shore and the Florida Keys are available through collaborative agreements with other colleges and universities.

### Bachelor of Science—Biology Major Secondary Education Concentration

This program leads to eligibility for teacher licensure in Virginia and is available only to individuals holding a baccalaureate degree or completing requirements for a Bachelor of Science degree in biology.

## Biology Major with Teaching Licensure in Biology

Students pursuing a biology major with teaching licensure complete the biology core sequence (BIOL 115N/116N and BIOL 291, 292, 293, 303, 405W) and 16 credit hours of electives at the 300-level or above, to include three lab courses. Students may use four credits at the 200-level to meet their upper-division requirement. Electives must include one approved course each in botany, zoology, microbiology, and human anatomy and physiology (see chief departmental advisor for details). Non-biology requirements are CHEM 121N/122N, 123N/124N, 211, and 212; OEAS 110N or 111N and PHYS 111N; MATH 200; and STAT 130M. TLED 430 satisfies the impact of technology requirement.

**Admission.** Students must first declare the biology teacher preparation track as their major with the biology departmental advisor. All students must apply for and be admitted into the approved biology teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required - all biology courses must be passed with a grade of C (2.0) or above and all other science content courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher

Although students may enroll in a limited number of education courses, students must be admitted into the approved biology teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Biology courses must be passed with a grade of C (2.0) or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Biology Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

### Virginia Board of Education prescribed assessments:

Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment

PRAXIS II Biology: Content Knowledge (test code: 0235) – passing score of 155 is required

To review more information on the Virginia Board of Education prescribed assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Biology and Senior Assessments, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core, with no grade less than a C in the major and C- in the professional education core; successful completion of the Teacher Candidate Internship and a minimum of 128 credit hours, which must include both a minimum of 33 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University. Note that a C (2.0) must be earned in all biology courses used to satisfy departmental requirements.

**The Professional Education core courses and requirements are as follows:**

TLED 301 Foundations and Assessment of Education	3
TLED 360 Classroom Management and Discipline	2
TLED 408 Reading and Writing in Content Areas	3
TLED 430 PK-12 Instructional Technology (satisfies impact of technology requirement)	3
STEM 454 Developing Instructional Strategies for Teaching: Science	3
SPED 313 Fundamentals-Human Growth and Development	3
SPED 406 Students with Diverse Learning Needs-General Ed Class	3
Passing Praxis I Score	
TLED 483 Seminar in Teacher Education (corequisite with STEM 454)	1
TLED 485 Teacher Candidate Internship (student teaching)	12
Achieve overall 2.75 GPA	

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher preparation programs in the College of Sciences are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and from the Teacher Education Services website at: [www.odu.edu/tes](http://www.odu.edu/tes).

## Professional Concentration

Biology students seeking careers in medicine, dentistry, osteopathy, optometry or podiatry should request advisement from Dr. Ralph W. Stevens III, the departmental prehealth advisor, who is located in the Department of Biological Sciences.

Science courses required by all of the above professional programs are BIOL 115N-116N; CHEM 121N/122N, 123N/124N, 211-212-213; PHYS 111N-112N (or 231N-232N) and MATH 200. Students should confer with their advisors to select the most appropriate math courses and additional science courses. The most frequently recommended biology courses are in the areas of human or vertebrate anatomy and physiology and those stressing the molecular and cellular levels of organization. However, students also are encouraged to explore other disciplines while they have the opportunity to develop a broader view of life processes and the human condition.

## Minor in Biology

The minor in biology offers students additional support to their chosen majors, prepares students for post-baccalaureate professional or graduate programs, offers greater job opportunities to graduates, and/or provides recognition of study in this academic area. The minor requires the successful completion of a minimum of 12 credit hours of coursework (a maximum of three credits at the 200-level, selected from the Biology 200-level core courses, and a minimum of nine credits at the 300-400 level). For completion of the minor, a student must have a C (2.0) or better in BIOL 115N, 116N, and the 200-level course, if any, used to fulfill the requirements of the minor. The student must also have a minimum overall cumulative grade point average of 2.0 in all courses designated for the minor and taken by the student exclusive of 100-level and prerequisite courses and complete a minimum of six hours of upper-level work through courses offered at Old Dominion University.

## Honors Program in Biology

### A. Honors Research

Undergraduates with junior or senior standing and a GPA of 3.00 or better are eligible to participate in Honors Research. After consultation with the program director (Dr. Deborah A. Waller), students select a professor who agrees to oversee the research project. Students then enroll in two 4-credit courses, BIOL 487 and 488. The courses may be taken in any sequence: fall-spring, spring-summer, summer-summer, summer-fall. Normally both semesters are required but a student may receive credit for only one semester. The research project, time commitment by the student and the basis for the grade are mutually determined by the student and professor. Because first-semester research results are often preliminary, the grade for BIOL 487 is based on a review paper and/or research proposal, which provides the student with an overview of the field. The second semester is graded on the final research paper and a seminar presented to the honors committee and interested faculty. Professors should encourage students to publish results and present papers at scientific meetings when appropriate. Students should also be urged to apply for funds from agencies that provide seed money to undergraduates. The program director can provide information on scientific societies that sponsor meetings and/or offer small grants. Successful completion of both courses with a C (2.0) or better will allow the student to use BIOL 488 as a lab course in meeting his/her requirements.



## B. Bachelor's Degree with Honors in Biological Sciences and Honors Designation for Biology courses

Students maintaining an overall GPA of at least 3.25 and of 3.50 in biology can receive a "Bachelor's Degree with Honors in Biological Sciences" subject to satisfaction of the minimum University standards for the Honors degree and completion of one of the following two options:

**Option 1:** Successful completion of two semesters of biological research taken as BIOL 487/488 (Honors Research).

**Option 2:** Successful completion of three upper-division courses in Biological Sciences and achievement of the "Honors" designation in each.

Students petitioning for designation of an upper-division biology course as "Honors" must have a minimum overall GPA of 3.25 and a GPA of at least 3.50 in biology.

To receive the "Honors" designation for a course, students must achieve a final course score of at least 95% or the equivalent of an "A" on the University grade scale.

Faculty are encouraged to assign and work with students on other activities deemed appropriate for an "Honors" course designation and utilize the results of these activities in the assignment of a course grade.

## Advanced Placement

Students may receive advanced placement (AP) credit for BIOL 115N or 116N (4 credits) by a score of 3 on the advanced placement examination. Students receiving a score of 4 or 5 will receive credit for both BIOL 115N and 116N (8 credits). Official AP score reports should be sent to the Office of Admissions prior to registration for evaluation.

## CHEMISTRY AND BIOCHEMISTRY

Richard V. Gregory, Chair  
Pinky McCoy, Chief Departmental Advisor

The Department of Chemistry and Biochemistry offers a program in biochemistry and an American Chemical Society certified program in chemistry, with an optional secondary education emphasis. Chemistry has been called the "central science" because it makes major contributions to agriculture, biology, electronics, engineering, environmental science, medicine, mineralogy and pharmacology. Either undergraduate degree program gives the student the necessary background for continued academic study at the master's and Ph.D. levels, entry into medical, dental, and pharmacy schools, as well as a career in the chemical industry. Students not only gain an excellent education but also have many research opportunities available to enrich their understanding of real-world problems. Cooperative arrangements exist with the nearby Eastern Virginia Medical School, NASA Langley Research Center and the Thomas Jefferson National Accelerator Facility.

## Bachelor of Science–Chemistry Major

Lower Division General Education	Credits
Written Communication	6
Oral Communication (satisfied by COMM 101R)	3
Mathematics (MATH 162M required)	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Philosophy and Ethics	3
Literature	3
The Nature of Science (satisfied by PHYS 231N-232N)	8
Impact of Technology	3
Human Behavior	3

In addition to completing the University's lower-division general education requirements and upper-division general education requirements, a chemistry major must complete the following courses.

Required Chemistry Courses	
CHEM 121N, 122N, 123N, & 124N or CHEM 137N and 138N	Foundations of Chemistry
CHEM 211, 212, 213, and 214	Organic Chemistry
CHEM 321 and 322	Analytical Chemistry
CHEM 351	Inorganic Chemistry
CHEM 331, 332W, 333, and 334W	Physical Chemistry
CHEM 421 and 422	Instrumental Analysis
CHEM 441	Biochemistry
CHEM 485	Seminar
CHEM Elective selected from CHEM 415, 443, 449, 451, or 453	In-depth

CHEM Elective selected from CHEM 352, 442W, 452, 497, or 498  
lecture requirement  
Laboratory  
hour requirement

## Other Required Courses

COMM 101R Public Speaking  
MATH 162M, 163, 211, 212, 312 Pre-Calculus and Calculus  
PHYS 231N and 232N University Physics

Chemistry majors must have a C or better in all courses required for the major, including prerequisite courses, and must complete a minimum of 12 credits in upper-level (300/400) chemistry courses at Old Dominion University. Written permission by the chief departmental advisor or chair is required prior to taking upper-level chemistry courses at other institutions.

## Upper Division General Education

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a grade of C or better in all courses required for the major, including prerequisite courses, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Additional hours may be required to meet the foreign language requirement.

## Bachelor of Science–Biochemistry Major

Lower Division General Education	Credits
Written Communication	6
Oral Communication (satisfied by COMM 101R)	3
Mathematics (MATH 162M required)	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Philosophy and Ethics	3
Literature	3
The Nature of Science (satisfied by BIOL 115N-116N)	8
Impact of Technology	3
Human Behavior	3

In addition to completing the University's lower-division general education requirements and upper-division general education requirements, a biochemistry major must complete the following courses.

Required Chemistry Courses	
CHEM 121N, 122N, 123N, & 124N or CHEM 137N and 138N	Foundations of Chemistry
CHEM 211, 212, 213, and 214	Organic Chemistry
CHEM 321 and 322	Analytical Chemistry
CHEM 331 and 333	Physical Chemistry
CHEM 441, 442W, and 443	Biochemistry
CHEM 485	Seminar

## Other Required Courses

COMM 101R Public Speaking  
MATH 162M, 163, 211, 212, 312 Pre-Calculus and Calculus  
PHYS 231N and 232N University Physics  
BIOL 115N and 116N General Biology  
BIOL 293 Cell Biology  
BIOL 303 Genetics

Biochemistry majors must have a C or better in all courses required for the major, including prerequisite courses, and must complete a minimum of 12 credits in upper-level (300/400) chemistry courses at Old Dominion University. Written permission by the chief departmental advisor or chair is required prior to taking upper-level chemistry courses at other institutions.

## Upper Division General Education

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, a grade of C or better in all courses required for the major, including prerequisite courses, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Additional hours may be required to meet the foreign language requirement. Biochemistry majors may not use the chemistry minor to fulfill upper-division general education requirements.

## Bachelor of Science—Chemistry Major with Teaching Licensure

This program leads to eligibility for teacher licensure in Virginia and is available only to individuals holding a baccalaureate degree or completing requirements for a Bachelor of Science degree in chemistry. Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher preparation programs in the College of Sciences are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

**Admission.** Students must first declare the chemistry teacher preparation track as their major with the chemistry departmental advisor. All students must apply for and be admitted into the approved chemistry teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required - all chemistry courses must be passed with a grade of C (2.0) or above and all other science content courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved chemistry teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Chemistry courses must be passed with a grade of C (2.0) or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Chemistry Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

### Virginia Board of Education prescribed assessments:

Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment

PRAXIS II Chemistry: Content Knowledge (test code: 0245) – passing score of 153 is required

To review more information on the Virginia Board of Education prescribed assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Senior Assessment, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core, with no grade less than a C in the major and C- in the professional education core; successful completion of the Teacher Candidate Internship and a minimum of 140 credit hours, which must include both a minimum of 35 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University. Note that a C (2.0) must be earned in all chemistry courses used to satisfy departmental requirements.

Additional hours may be required to meet the foreign language requirement. The professional education core satisfies the Upper Division General Education requirement.

The curriculum is as follows:

Lower Division General Education	Credits
Written Communication	6
Oral Communication (satisfied by COMM 101R)	3
Mathematics (MATH 162M required)	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Philosophy and Ethics	3
Literature	3
The Nature of Science (satisfied by PHYS 231N-232N)	8
Impact of Technology (satisfied in the major by TLED 430)	
Human Behavior	3

In addition to completing the University's lower-division general education requirements and upper-division general education requirements, a chemistry major seeking teacher licensure must complete the following courses.

Required Chemistry courses	
CHEM 121N, 122N, 123N, & 124N or CHEM 137N and 138N	Foundations of Chemistry
CHEM 211, 212, 213, and 214	Organic Chemistry
CHEM 321 and 322	Analytical Chemistry
CHEM 351	Inorganic Chemistry
CHEM 331, 332W, 333, and 334W	Physical Chemistry
CHEM 421 and 422	Instrumental Analysis
CHEM 441	Biochemistry
CHEM 485	Seminar
CHEM Elective selected from CHEM 415, 443, 449, 451, or 453	In-depth lecture requirement
CHEM Elective selected from CHEM 352, 442W, 452, 497, or 498	Laboratory hour requirement

### Other Required Courses

COMM 101R	Public Speaking
MATH 162M, 163, 211, 212, 312	Pre-Calculus and Calculus
PHYS 231N and 232N	University Physics

Chemistry majors must have a C or better in all courses required for the major, including prerequisite courses, and must complete a minimum of 12 credits in upper level (300/400) chemistry courses at Old Dominion University. Written permission by the chief departmental advisor or chair is required prior to taking upper level chemistry courses at other institutions.

### The professional education core courses and requirements are as follows:

TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management and Discipline	2
SPED 406	Students with Diverse Learning Needs in the General Education Classroom	3
TLED 408	Reading & Writing in Content Areas	3
TLED 430	PK-12 Instructional Technology (meets impact of technology requirement)	3
SPED 313	Fundamentals of Human Growth & Development	3
STEM 454	Developing Instructional Strategies for Teaching: Science	3
TLED 483	Seminar in Teacher Education (corequisite with STEM 454)	1
TLED 485	Teacher Candidate Internship (student teaching)	12

### Preparation for Medically Related Fields

Students seeking careers in pharmacy, medicine, dentistry, or veterinary science are advised to complete a major in a specific discipline. Such students

electing either chemistry or biochemistry as their major must meet all of the requirements listed above for the degree of Bachelor of Science with a major in chemistry or biochemistry. In addition, students must complete all of the prerequisite coursework specified for admission into the professional program of their choice. Students should consult the Office of Admissions of such professional programs for specific prerequisite coursework and other entrance requirements. Students are also advised to register with the Prehealth Advisory Committee at Old Dominion University (683-5200).

### Pre-optometry Program

Old Dominion University has an affiliation agreement with the Pennsylvania College of Optometry whereby students may transfer to the latter institution at the end of their third year and/or receive reduced tuition if they are Virginia residents. Students should contact the Office of the Dean, College of Sciences, 757 683-5201 for more information.

### Minor in Chemistry

The chemistry minor consists of 13 credits of which nine credits must be selected from CHEM 213, 321, 331, 333, 351, 415, 441, 443, 449, 451, or 453; and four credits must be selected from the following laboratory courses: CHEM 214, 322, 332W, 334W, 352, 442W, or 452. The courses designated for the minor and taken by students must be completed with an overall cumulative grade point average of 2.00 or better. CHEM 121N/122N and 123N/124N must be completed as prerequisites for the minor in chemistry and are not included in the calculation of the grade point average for the minor. Additional prerequisite courses may also be required and are not included in the grade point average for the minor. Students electing the minor must complete a minimum of six credit hours in the minor requirement through courses offered by Old Dominion University. Any substitutions must be approved in writing by the chief departmental advisor.

### Honors in Chemistry

The honors program provides qualified students the opportunity for supervised individual study in their areas of interest. Admission to the program requires a cumulative GPA of 3.25 or higher and a GPA of 3.50 or higher in the major. Students must take two upper-division courses designated by the department to be honors courses. These are termed "Contract Honors Courses." A description of the procedures for these contract courses is found in the Honors College section of this Catalog.

### Advanced Placement

Students who receive a qualifying score on the Advanced Placement of the College Board exam in chemistry may receive credit for introductory chemistry courses. Students who score a 3 on the AP exam may receive 4 credits for either CHEM 105N/106N or CHEM 121N/122N. The appropriate credit will be determined after consultation with an advisor. Students who receive a score of 4 or 5 on the AP exam will receive 8 credits for CHEM 121N/122N-123N/124N. Credit for CHEM 107N/108N is not awarded by the AP exam. Students may also refer to the section of this Catalog on Experiential Learning Options at the Undergraduate Level.

## COMPUTER SCIENCE

Desh Ranjan, Chair  
Janet Brunelle, Chief Departmental Advisor

The Department of Computer Science (CS) offers programs leading to the Bachelor of Science in Computer Science, Master of Science with a major in computer science, and Doctor of Philosophy with a major in computer science. A five-year accelerated option is available that leads to a Bachelor of Science in Computer Science and a Master of Science with a major in computer science.

At the undergraduate level the Department of Computer Science jointly offers a program with the Department of Electrical and Computer Engineering in the College of Engineering and Technology leading to a Bachelor of Science in Computer Engineering. A five-year accelerated option is available that leads to Bachelor of Science in Computer Science and Master of Business Administration degrees. The CS department also supports the computer technology emphasis of the Engineering Technology bachelor's degree.

Computer science traces its foundation to mathematics, logic and engineering. Students in this program are exposed to the broad theoretical and practical basis of computer science in lectures and laboratory experiences.

Through laboratories, students are introduced to both the experimental and the design aspects of computer science.

The CS Department has a unique curricular model that applies computer science education to the real world. The Professional Workforce Development courses (CS 410 and CS 411W) expand upon the experimental and design approach of typical computer science curricula by addressing the creativity and productivity required for business and industrial applications today. Students in CS 410 and 411W engage in projects that investigate each stage of transforming a creative idea into an innovative product. In addition, the CS Department offers a set of professional development tracks: database administration and network design and administration. These tracks provide a basis for students to pursue career paths and the foundation for professional certification in these areas. Alternatively, students may choose their electives to obtain an emphasis in databases, networks, web programming, or systems programming.

## Bachelor of Science in Computer Science

### Curriculum Requirement

The Bachelor of Science in Computer Science requires the successful completion of a minimum of 120 semester credit hours of approved course work. At least 30 credit hours overall and 12 credit hours in upper-level courses in the major program must be completed at Old Dominion University. In order to gain appropriate exposure and competency in basic computer science theory and applications, students must satisfy the General Education requirements and the following departmental requirements.

#### Requirements

#### LOWER-DIVISION GENERAL EDUCATION

##### Skills

Written Communication (ENGL 110C and second level composition, ENGL 231C preferred)	6
Mathematical Skills (satisfied in the major)	
Oral Communication (COMM 101R preferred)	3
Information Literacy and Research (CS 121G preferred)	3
Language and Culture (competence must be at the 102 level)	0-6
<i>Ways of Knowing</i>	
Human Creativity	3
Literature	3
The Nature of Science*	8
Human Behavior	3
Interpreting the Past	3
Philosophy and Ethics	3
Impact of Technology (satisfied by CS 300T)	

\*Computer Science majors must complete two Nature of Science courses in sequence from the following:

- BIOL 115N-116N
- CHEM 105N/106N, 107N/108N
- CHEM 121N/122N, 123N/124N
- OEAS 106N-107N
- OEAS 110N or 111N, 112N
- PHYS 101N-102N
- PHYS 111N-112N
- PHYS 231N-232N

#### UPPER-DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

In addition to completing the University's lower-division general education requirements and upper-division general education requirements, a computer science major must complete the following courses.

#### Required Computer Science Courses

	Credits
CS 110 Introduction to Computer Science	1
CS 150 Problem Solving & Programming I	4
CS 170 Fundamentals of Computer Organization	3
CS 250 Problem Solving and Programming II	4
CS 252 Introduction to Unix for Programmers	1
CS 270 Introduction to Computer Architecture	3
CS 300T Computers in Society	3
CS 330 Object Oriented Programming Design	3
CS 350 Introduction to Software Engineering	3

CS 355	Principles of Programming Languages	3
CS 361	Advanced Data Structures and Algorithms	3
CS 381	Introduction to Discrete Structures	3
CS 390	Introduction to Theoretical Computer Science	3
CS 410	Professional Workforce Development I – Capstone course	3
CS 411W	Professional Workforce Development II – Capstone course	3
CS 417	Computational Methods and Software	3
CS 471	Operating Systems	3

### Elective Computer Science Courses

Three additional CS courses at the 300/400 level (excluding CS 333 and CS 334). 9

Computer science majors may select their own electives from the CS offerings or may be guided by the following emphasis areas. Up to six credits of work experience (CS 367 or 368) may be used.

#### Database

CS 450	Database Concepts
CS 456	Database Administration I
CS 457	Database Administration II

#### Networking

CS 454	Network Management
CS 455	Introduction to Networks and Communications
CS 458	Unix System Administration
CS 472	Network and Security
CS 486	Introduction to Parallel Computing
CS 487	Applied Parallel Computing

#### Systems Programming

CS 476	Systems Programming
CS 454	Network Management
CS 488	Principles of Compiler Construction

#### Web Programming

CS 312	Internet Concepts
CS 418	Web Programming

#### Game Programming

CS 480	Introduction to Artificial Intelligence
CS 460	Computer Graphics
CS 475	Introduction to Computer Simulation

#### Miscellaneous

CS 451	Software Engineering Survey
CS 488	Principles of Compiler Construction

### Other Required Courses

		Credits
MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 316	Introductory Linear Algebra	3
STAT 330	An Introduction to Probability and Statistics	3
Technical Electives*		6-8

\*Computer science majors must complete two courses not counted toward another degree requirement. These may be selected from biology, chemistry, ocean, earth and atmospheric sciences, and physics (excluding BIOL 105N-106N, BIOL 108N-109N, and PHYS 103N-104N). With the approval of a computer science advisor, other technically oriented courses may be used to meet this requirement.

Computer science majors must earn a grade of C or better in all (non-elective) computer science courses required for the major and in all computer science prerequisite courses. A minimum of 9 credits of upper-level (300/400) computer science elective courses must be completed in addition to the required courses.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Computer Science Exit Exam, passage of the Exit Examination of Writing Proficiency, and the completion of a Senior Assessment. Additional hours may be required to meet the foreign language requirement.

**Honors Program.** Students may obtain a Bachelor of Science in Computer Science with an honors designation through the completion of three junior/senior level computer science courses with honors designation and by achieving a 3.50 in-major GPA.

### Advanced Placement

The Department of Computer Science awards credit for CS 149 to students who achieve a score of 3, 4, or 5 on the AP Computer Science A or AB exams or a 5, 6, or 7 on the IB Computer Science exams. The department awards credit for CS 101 to students who achieve a score of 3, 4 or 5 on the CLEP Information Systems and Computer Applications Exam. A departmental exam

is available for students desiring to challenge CS 101. Students who wish to receive other credits for prior knowledge should refer to the Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog. They should contact the Office of Experiential Learning if further information is needed.

### Cooperative Education

Computer science majors interested in gaining practical experience and on-the-job training while completing undergraduate degree requirements may find opportunities through participation in the Cooperative Education Program.

Those students usually start in the junior year working with an employer in a field of computer science. Students must apply through the Career Management Center prior to registering for Cooperative Education credit. All work experiences must be approved by Career Management and the academic department concerned.

Undergraduates can earn a maximum of six semester credits through cooperative education that apply toward degree requirements. For further information, see the Career Management section of this Catalog.

### Professional Development Tracks

**Database Administration with Oracle Software.** This track was developed in cooperation with Oracle Corporation. It prepares students for roles in modern database environments. Students may achieve Oracle DBA certification upon completion of this track. Key concepts, techniques and skills required for administering a state-of-the-art database platform are developed. The courses in this track include CS 450, CS 456, and CS 457.

**Network Design and Administration.** This track is intended for students who wish to establish a career in network design and administration in networker computing environments. Students will get hands-on experience in designing networks by configuring routers and switches and work with LAN and WAN routing protocols. This track includes coverage of the information required to take the CISCO, CCNA and CCNP certification. Courses under this track include CS 454 and CS 455.

### Computer Science Add-on Endorsement for Professional Education Licensure

A person licensed by the Commonwealth of Virginia to teach in secondary schools may add an endorsement for computer science by completing this program. The required courses are CS 150, 170, 250, 252, 312, 330 or 355, 361, and 381 (24 credit hours). For more information, refer to the Darden College of Education section of this Catalog.

### Bachelor of Science in Computer Engineering

The computer engineering undergraduate degree program is designed to provide both a broad engineering background and comprehensive foundation in the technical principles underlying the computer area. Students develop a background through course work in mathematics, the basic sciences, and general engineering. The technical core consists of courses from electrical and computer engineering to address hardware aspects of computer engineering and course work from computer science to address software aspects. A grade of C or better must be earned in computer science required courses. In addition, course work in General Education perspectives and communication skills is required to assure a well rounded program of study. Specific degree requirements can be found listed under the Department of Electrical and Computer Engineering.

Due to limited laboratory facilities, admission to the computer engineering program is on a competitive basis. Students should apply to the Department of Electrical and Computer Engineering.

### Bachelor of Science in Engineering Technology with an Emphasis in Computer Engineering Technology

The goal of the computer engineering technology program is to prepare students for employment in areas defined by the rapidly expanding opportunities of computer applications. With new hardware and software products being introduced monthly, students who wish to succeed in this field should develop a background in both software and hardware. This program provides such a background by combining a grounding in basic theory with hands-on, application courses selected from the disciplines of Computer

Science and Electrical Engineering Technology. The curriculum emphasizes practical design and the utilization of systems and hardware. Areas of concentration include network design and management, modern communication systems, microcomputer systems and applications, and application program development. A grade of C or better must be earned in computer science required courses. Specific degree requirements can be found listed under the Department of Engineering Technology.

## Minor in Computer Science

Students may minor in computer science by taking CS 150, 250, 252, and 361 or 330, as well as two additional three-credit CS electives taken at the 400-level or from the following: CS 312, 330, 355, 361, 350, 381, and 390. A grade of C or better is required in each course. Students must also meet the University's requirements for a minor as described under Requirements for Undergraduate Degrees.

The curriculum for the Bachelor of Science in Engineering Technology with an emphasis in computer engineering technology and the Bachelor of Science in Computer Engineering contain a built-in minor in computer science.

## Minor in Web Programming

Students may minor in Web Programming by taking CS 312, 330, 418 and one three-credit upper-level CS elective. A grade of C or better is required in any of these courses if they are used as a prerequisite to any other CS course. Students must also meet the University's requirements for a minor as described under Requirements for Undergraduate Degrees.

## Five-year Bachelor of Science in Computer Science and Master of Business Administration

This program allows students to earn a Bachelor of Science in Computer Science and a Master of Business Administration. After students have satisfactorily completed their undergraduate requirements, they must complete 30 credit hours in the MBA program.

Additional information can be found in the section on B.S./M.B.A. Five-year Program listed at the beginning of the College of Sciences section of this Catalog. Students interested in this program should contact the MBA Program as early as possible. The MBA Program manager will act as an advisor to the student in addition to the Computer Science advisor.

## Accelerated Bachelor of Science in Computer Science and Master of Science in Computer Science

This program allows exceptionally successful students to earn both a bachelor's and master's degree in computer science within five years by allowing them to count up to 12 credits of graduate coursework toward both their undergraduate and master's degrees in computer science.

### Admission

To be admitted to the accelerated program, students must have completed at least 60 undergraduate credit hours with at least 24 credit hours from ODU. Students must have completed CS 361, CS 381, MATH 212 and all prerequisites for those courses. At the time of admission, they must have an overall GPA of 3.00 or better, and an overall GPA of 3.00 or better in CS and MATH courses.

Interested students who meet the admission requirements should apply to the graduate program director, after consulting with the undergraduate chief departmental advisor, as soon as possible upon completing the required courses and 60 credit hours. In consultation with the graduate program director, a student will:

1. Officially declare an undergraduate Computer Science major with the undergraduate chief departmental advisor.
2. Draft a schedule of graduate courses to be taken as an undergraduate to be presented to the undergraduate chief departmental advisor.
3. Apply, during their senior year, to the Office of Graduate Admissions for admission to the master's in computer science program.

Students who have completed at least six hours of graduate courses upon attaining senior standing (completion of 90 credit hours) and who have earned a GPA of 3.00 or better in those courses will not be required to take the Graduate Record Exam (GRE) for admission to the

master's program. Otherwise, in keeping with normal admission requirements for the M.S. in computer science, students will take the GRE as an undergraduate and will subsequently be reevaluated for continuation into the master's program.

Once students have been awarded their bachelor's degree and fulfilled all regular admission requirements for the M.S. in computer science, they will be officially admitted into the M.S. program.

## Program Requirements

Students in the program will fulfill all normal admission and curricular requirements for both a Bachelor of Science in Computer Science and an M.S. in computer science with the following exceptions:

1. Students in the program may count up to 12 hours of graduate courses, at the 500 or 600 level, excluding independent study, taken as an undergraduate toward both the bachelor's and master's degrees in computer science.
2. Students in the program may substitute computer science graduate courses for undergraduate courses according to the following schema. All students must complete an undergraduate writing intensive course in the major.
  - a. Students may substitute 500- and 600-level courses for the upper-level CS electives in the undergraduate program so long as they have the prerequisites for those courses. 700- or 800-level courses may not be used.
  - b. Students will not receive credit for both the 400 and 500 level version of the same course.
  - c. Students in the program may make a written petition for other substitutions to the graduate program director, who will consider them in consultation with the chief departmental advisor and the instructor(s) of the courses involved.

### NOTES:

1. In accordance with University policy, up to 21 hours of graduate courses taken as an undergraduate may be counted toward the bachelor's degree in computer science. However, only 12 hours of graduate courses taken as an undergraduate may also be counted toward the M.S. degree in computer science. This will limit students' scheduling flexibility subsequently.
2. Like students in the regular M.S. in computer science program, students in the accelerated B.S.C.S./M.S. computer science degree may count no more than 12 hours at the 500-level toward their M.S. degree. Students are advised against taking all 12 of those 500-level credits as an undergraduate, since doing so will limit their scheduling flexibility subsequently.

## Computing Facilities

The Department of Computer Science IT infrastructure consists of two data centers (one in Dragas Hall and another in the Engineering and Computational Sciences building), two general purpose open labs, two teaching labs, five research labs, and an access grid room. The backbone network of the department is using 10 Gigabit Ethernet connections between data centers and essential servers. The department houses over 750 workstations of various processor architectures - Sparc, Intel, and AMD. All workstations are connected to the department's servers via Gigabit Ethernet. The network infrastructure consists of mostly Layer 3 Gigabit, 10 Gigabit Ethernet switches, and checkpoint/Pix firewalls. In addition to workstations and servers, the Department of Computer Science has 3 High-Performance Computing Clusters; one Sun AMD Opteron cluster with a total of 32 nodes connected via InfiniBand and 1 GigE; 16 nodes of AMD with 2 GigE interconnect; and 32 Intel dual quad nodes connected with 40Gbps InfiniBand. Special teaching resources include four Beowulf Dell blade-clusters, a cloud computing infrastructure, network lab, and an SMP HPC Server with 256 virtual cores and 512GB of memory. The data centers house servers of various configurations and manufacturers. There are over 50 servers from Oracle/Sun, HP, and Dell. These servers provide applications and services for over 2000 faculty and student members. These services include, but are not limited to, NIS, DNS, DHCP, Web, Oracle, MsSQL, MySQL databases, Samba, CIFS, NFS shares, Microsoft Exchange and Sendmail. Utilizing two EMC NAS/SAN storage devices in a DR configuration, the department offers more than 50 Terabytes of data storage to various research projects and user needs.

Specific instructional resources include:

Problem Solving Lab	50 Workstations	Dragas
Instructional Lab	43 Workstations	Dragas
Intro Teaching Lab	50 Workstations	Dragas
Open Lab	32 Workstations	E&CS

Beowulf Cluster Lab	4 Clusters	Research Park
Virtual Computing Lab	3 servers clustered with High Availability	Data Center
Cluster (s)	80 Nodes	Data Center
Remote Shell Access	3 Sun Unix M4000 quad-quad servers	Data Center
Cloud Infrastructure Network Lab	Eucalyptus (4 Dell R710) Various routers, switches, and PIX firewalls	Data Center
CPI Projects Lab	Various Technologies	Dragas

<b>Applied Mathematics</b>		
MATH 401	Partial Differential Equations	3
MATH 408	Applied Numerical Methods I	3
MATH 422	Applied Complex Variables	3
MATH 400-level electives (at most three hours from MATH 400, 404, 406)		9
<b>Statistics/Biostatistics</b>		
STAT 310 or 431	Intro Data Analysis or Theory of Statistics	3
STAT 405	SAS: An Introduction to Data Handling	3
STAT 400-level electives		12

## MATHEMATICS AND STATISTICS

J. Mark Dorrepaal, Chair  
John E. Kroll, Chief Departmental Advisor

### Bachelor of Science—Mathematics Major

The Department of Mathematics and Statistics offers a program of study consisting of three optional tracks, each of which leads to the degree of Bachelor of Science with a major in mathematics. In order to graduate from the program all students must complete the requirements of at least one of these tracks. The optional tracks enable students to emphasize studies in Applied Mathematics, Statistics/Biostatistics, or Mathematics for Secondary School Teachers. The track for secondary school teachers is intended for those who wish to pursue a career in teaching mathematics at the high school level and leads to teaching licensure in the Commonwealth of Virginia. The applied mathematics and statistics/biostatistics tracks are intended for those who wish to pursue graduate work in the mathematical or statistical sciences, or otherwise obtain employment in a mathematics or statistics-related field. Students in these tracks may also obtain teacher licensure by fulfilling the requirements of the Darden College of Education outlined under the teaching track. The requirements of each basic area along with the professional education courses needed for teacher licensure in the Commonwealth of Virginia are listed below.

#### Requirements

##### LOWER DIVISION GENERAL EDUCATION

	Credits
Composition	6
Oral Communication	3
Mathematics (MATH 162M-163)	6
Language and Culture	0-6
Information Literacy and Research (CS 121G)	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Human Behavior	3
Philosophy and Ethics (recommend PHIL 120P)	3
The Nature of Science	8

The eight credit hours of Nature of Science with labs need not be in the same science. However, PHYS 231N-232N are recommended for the applied mathematics option; either BIOL 108N-109N or BIOL 115N-116N are recommended for the statistics/biostatistics option.

Impact of Technology (satisfied by TLED 430 for teacher education) 0-3

##### Other Required Courses

CS 150	Problem Solving & Programming I	4
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##### Mathematics Course Requirements

MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 307	Ordinary Differential Equations	3
MATH 311W	Modern Algebra I (writing intensive)	3
MATH 312	Calculus III	4
MATH 316	Introductory Linear Algebra	3
MATH 317	Calculus IV: Introductory Analysis	3
STAT 310 or 431	Intro Data Analysis or Theory of Statistics (statistics/biostatistics majors take both)	3
STAT 330 or 331	Intro Probability and Statistics or Theory of Probability (statistics/biostatistics majors take STAT 331)	3

A grade of C+ or higher is required in the courses listed above. In addition, a grade of C or higher is required in mathematics and statistics prerequisite courses to advance to the next course.

All students are required to choose one of the following options:

### Math Teaching Licensure

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher preparation programs in the College of Sciences are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

**Admission.** Students must first declare the mathematics teacher preparation track as their major with the mathematics departmental advisor. All students must apply for and be admitted into the approved mathematics teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

#### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

#### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required - all mathematics courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required - all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved mathematics teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Mathematics courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Math Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

#### Virginia Board of Education prescribed assessments:

Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment  
PRAXIS II Mathematics: Content Knowledge (test code: 0061) – passing score of 147 is required

To review more information on the Virginia Board of Education prescribed assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Senior Assessment, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core, with no grade less than a C- in the major and the professional

education core; successful completion of the Teacher Candidate Internship and a minimum of 134 credit hours to include a minimum of 34 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University.

MATH 400	History of Mathematics	3
MATH 404	Fundamental Concepts of Geometry	3
MATH 406	Number Theory	3
MATH 417 or 422	Inter Real Analysis or Applied Complex Variables	3
MATH 400-level electives		6

**The Professional Education core courses and requirements are as follows:**

TLED 301	Foundations and Assessment of Ed	3
TLED 360	Classroom Management and Discipline	2
TLED 408	Reading and Writing in Content Area	3
TLED 430	PK-12 Instructional Technology (satisfies impact of technology requirement)	3
STEM 453	Developing Instructional Strategies for Teaching: Math	3
TLED 483	Seminar in Teacher Education (corequisite with STEM 453)	1
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Human Growth and Development	3
SPED 406	Students w/ Diverse Learning Needs in Gen Ed Class	3

### UPPER DIVISION GENERAL EDUCATION

The professional education core satisfies this requirement.

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation for the applied mathematics and statistic tracks include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of the Senior Assessment.

### Practicum

Any student who wishes to receive a practicum or internship experience may do so as an integral part of the degree program. Students in the secondary school teacher track are required to complete both a practicum and a student teaching internship as part of the degree requirements. Otherwise, students may substitute the practicum experience for one of the optional courses listed in the other two tracks.

### Minor in Mathematics

Students may pursue a minor in mathematics with an emphasis in one of the three following areas: applied mathematics, statistics/biostatistics or actuarial mathematics.

The applied mathematics option consists of MATH 307, 312, 317 and two courses chosen from MATH 316, 401, 408, 409, 417, 420, 421, 422, 427, 428, 457, or approved topics courses.

The statistics/biostatistics option consists of 12 hours of statistics at the 300/400 level, of which at most six hours can be at the 300 level. STAT 306 cannot be applied to this option.

The actuarial mathematics option consists of MATH 312, 316, STAT 330 or 331 and either MATH 408 or STAT 431.

At least nine credit hours in the chosen option must be taken through courses offered by Old Dominion University. Students must have an overall grade point average of at least 2.00 in the courses required for the minor in their chosen option exclusive of 100/200-level courses and prerequisite courses.

### Advanced Placement

Students who have achieved a qualifying score on the Calculus AB or Calculus BC advanced placement examinations receive credit for MATH 211 (and MATH 162M and 163). Credit for MATH 162M and 163 is also given for qualifying scores on the placement tests administered by the University Testing Center. Refer to the Academic Testing and the Experiential Learning Credit

Options at the Undergraduate Level sections of this Catalog. Advanced placement credit is not available for MATH 102M.

## OCEAN, EARTH, AND ATMOSPHERIC SCIENCES

Rodger Harvey, Chair

John McConaugh, Chief Departmental Advisor

The Department of Ocean, Earth and Atmospheric Sciences offers an undergraduate major in Ocean and Earth science. Undergraduate majors select one of five emphases (biological oceanography, chemical oceanography, physical oceanography, geology, Earth science education) that lead to the Bachelor of Science in Ocean and Earth science. A minor in Ocean and Earth science is also offered. Two graduate programs are offered: the Master of Science in Ocean and Earth sciences and the Doctor of Philosophy in oceanography.

The Master of Science degree in Ocean and Earth sciences has both thesis and non-thesis options. Areas of emphasis in oceanography are biological oceanography, chemical oceanography, geological oceanography, and physical oceanography. Interdisciplinary studies are encouraged. The curriculum is designed to prepare graduates for professional practice in their area of interest.

The department receives considerable support from the Commonwealth and local philanthropic sources, as well as from private industry and area citizens. Establishment of the Virginia Graduate Marine Science consortium by the General Assembly in 1979 demonstrated the Commonwealth's determination to achieve excellence in marine science. The purpose of the consortium is to advance marine science instruction, research, training, and advisory services and to enhance Virginia's position in seeking funding to carry out these activities. Charter members of the consortium are Old Dominion University, the University of Virginia, Virginia Polytechnic Institute and State University, and the College of William and Mary. The Samuel L. and Fay M. Slover endowment to Old Dominion University in 1986 has significantly accelerated the program of marine studies. In 1991, a Center for Coastal Physical Oceanography (CCPO) was established at Old Dominion University by the Commonwealth of Virginia. The center is a Designated Center for Excellence.

The Department of Ocean, Earth, and Atmospheric Sciences is housed in two buildings. The Oceanography/Physical Sciences Building contains state-of-the-art teaching laboratories, computer facilities, and research laboratories for biological, chemical and geological oceanography. The Center for Coastal Physical Oceanography is located in the Research I building and houses all of the department's physical oceanography laboratories. The department maintains a 55-foot research vessel, the R/V Fay Slover, primarily for estuarine and coastal studies. In addition to the Slover, the department has a number of small boats, suitable for near shore investigations. The department also has a Coastal Bay & Barrier Island Program (CoBBI) located on Virginia's Eastern Shore at the Virginia National Wildlife Refuge. This Field Station is outfitted to accommodate 2-4 scientists for overnight stays.

### Bachelor of Science—Ocean and Earth Science Major

John McConaugh, Advisor

Students in the Ocean and Earth science program focus on global systems that control environmental conditions on the planet. They also learn to develop solutions to complex environmental problems by working in interdisciplinary teams. All majors in the department complete courses in the basic sciences and mathematics, core courses in Earth systems science, and a capstone field research experience. In addition, students complete a suite of specialty courses according to one of the following emphases. A minimum grade of C or higher in all major and prerequisite courses is required for graduation.

#### Oceanography Emphasis

The oceanography emphasis is designed for students considering graduate work or employment in the pure and applied fields of oceanography. Students select specialty courses in biological oceanography, chemical oceanography, or physical oceanography. If students select the biological subdiscipline, they are strongly encouraged to minor in biology and select 12 credits from 300/400 level biology courses. If students select the chemical subdiscipline, they are strongly encouraged to minor in chemistry and select CHEM 211-213, 212-214, 321, and 322. If students select the physical subdiscipline, they are strongly encouraged to minor in applied mathematics and select MATH 312, 316, 317, and 401.

## Geology Emphasis

The geology emphasis is designed for students with a wide range of professional goals in the sciences, engineering, business, and the arts. Students considering graduate work or employment in pure and applied fields of geology, including environmental geology, geological oceanography, hydrogeology, geophysics, and geochemistry, should build their backgrounds to support certification as a professional geologist (see later information). Students with a strong interest in geological applications of geographic information systems (GIS) and remote sensing tools should consider the geology emphasis with a minor in geography; the certificate program in spatial analysis of coastal environments (see later description) also emphasizes this area of study.

## Earth Science Education Emphasis

The Earth science education endorsement option is designed for students preparing to teach Earth science in secondary schools. This program meets the requirements for teacher licensure in Virginia as established by the Virginia Board of Education licensure regulations.

## Requirements for all Emphasis Areas

### LOWER DIVISION GENERAL EDUCATION

	Credits
Composition	6
Oral Communication (satisfied by OEAS 441-444)	
Mathematics (requires MATH 211)	4
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science (CHEM 121N/122N, 123N/124N required)	8
Impact of Technology (satisfied by TLED 430 for earth science education track)	0-3
Human Behavior	3

### Students must select one of the following options:

#### Course Requirements – Biological Oceanography Emphasis

BIOL 115N-116N	General Biology I-II	8
CHEM 121N/122N, 123N/124N	Foundations of Chemistry (satisfies nature of science way of knowing)	8
OEAS 111N	Physical Geology	4
MATH 211-212	Intro Calculus I, II	8
OEAS 306	Oceanography	3
PHYS 231N-232N	University Physics	8
STAT 310 or 330	Intro to Probability and Statistics or Intro to Data Analysis	3
OEAS 310	Global Earth Systems	3
OEAS 406	Matlab	1
OEAS 440	Biological Oceanography Lecture/Lab	4
BIOL 292	Evolution	3
BIOL 415	Marine Ecology	3
CHEM 211, 212, 213	Organic Chemistry Lecture and Lab	8
CHEM 445	Biochemistry	3
Electives (from OEAS 403W, 404, 410, 412, 414, 420)		6
OEAS 441-442W	Ocean and Earth Science Field Study I-II (satisfies oral and written communication requirement)	6

#### Course Requirements – Chemical Oceanography Emphasis

BIOL 115N-116N	General Biology I-II	8
CHEM 121N/122N, 123N/124N	Foundations of Chemistry (satisfies nature of science way of knowing)	8
OEAS 111N	Physical Geology	4
MATH 211-212	Intro Calculus I, II	8
OEAS 306	Oceanography	3
PHYS 231N-232N	University Physics	8
STAT 310 or 330	Intro to Probability and Statistics or Intro to Data Analysis	3
OEAS 310	Global Earth Systems	3
OEAS 406	Matlab	1
OEAS 410	Chemical Oceanography Lecture/Lab	4
CHEM 211/213	Organic Chemistry Lecture	6
CHEM 331/333	Physical Chemistry Lecture	6
CHEM 332W	Experimental Physical Chemistry or 452 Inorganic Chemistry Laboratory	2

CHEM 351	Inorganic Chemistry	3
Electives (from OEAS 403W, 412, 413, 418)		6
OEAS 441-442W	Ocean and Earth Science Field Study I-II (satisfies oral and written communication requirement)	6

#### Course Requirements – Physical Oceanography Emphasis

BIOL 115N-116N	General Biology I-II	8
CHEM 121N/122N, 123N/124N	Foundations of Chemistry (satisfies nature of science way of knowing)	8
OEAS 111N	Physical Geology	4
MATH 211-212	Calculus I, II	8
PHYS 231N-232N	University Physics	8
STAT 310 or STAT 330	Intro to Data Analysis or Intro to Probability and Statistics	3
OEAS 306	Oceanography	3
OEAS 310	Global Earth Systems	3
OEAS 405	Physical Oceanography	3
OEAS 406	Matlab	1
OEAS 415	Waves and Tides	3
OEAS 451	Data Collection and Analysis in Oceanography	3
GEOG 402 or 404	Geographic Info Systems or Digital Techniques for Remote Sensing	3
MATH 307 (280)	Ordinary Differential Equations	3
ME 303	Mechanics of Fluids	3
ME 311	Thermodynamics I	3
PHYS 319	Analytical Mechanics	3
STAT 437	Regression and Analysis of Variance	3
OEAS 441-442W	Ocean and Earth Science Field Study I-II (satisfies oral and written communication requirement)	6

#### Course Requirements – Geology Emphasis

BIOL 115N	General Biology I	4
BIOL 116N or OEAS 303	General Biology II or Paleontology	3-4
CHEM 121N/122N, 123N/124N	Foundations of Chemistry (satisfies nature of science way of knowing)	8
OEAS 111N-112N	Physical Geology-Historical Geology	8
MATH 211-212	Calculus I, II	8
PHYS 231N-232N	University Physics	8
STAT 310 or STAT 330	Intro to Data Analysis or Intro to Probability and Statistics	3
OEAS 306	Oceanography	3
OEAS 310	Global Earth Systems	3
OEAS 313	Mineralogy	3
OEAS 314	Petrology	4
OEAS 344W	Geomorphology	3
OEAS 320	Sedimentology/Stratigraphy	4
OEAS 406	Matlab	1
OEAS 411	Structural Geology	4
OEAS 420	Hydrogeology OR OEAS 434 Introduction to Geophysical Methods	3
OEAS elective (from 303, 368, 403W, 408, 412, 413, 414, 415, 419, 420, 431, 434, 436, 446)		3
OEAS 441-442W	Ocean and Earth Science Field Study I-II (satisfies oral and written communication requirement)	6

## Earth Science Education Emphasis

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher preparation programs in the College of Sciences are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

**Admission.** Students must first declare the Ocean and Earth science major, Earth science education track with the chief departmental advisor. All students must apply for and be admitted into the approved earth science teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

#### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or



- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Required grade point averages (GPA):**

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required - all Ocean, Earth and Atmospheric Sciences courses and all other science and mathematics content courses must be passed with a grade of C (2.0) or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved earth science teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Ocean, Earth and Atmospheric Sciences content courses must be passed with a grade of C (2.0) or higher. Courses in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Earth Science Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

**Virginia Board of Education prescribed assessments:**

Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment

PRAXIS II Earth Science: Content Knowledge (test code: 0571) – passing score of 156 is required

To review more information on the Virginia Board of Education prescribed assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Senior Assessment, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core, with no grade less than a C in the major and C- in the professional education core; successful completion of the Teacher Candidate Internship and a minimum of 126 credit hours, which must include both a minimum of 32 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University. Note that a C (2.0) must be earned in all Ocean, Earth and Atmospheric Sciences courses used to satisfy departmental requirements.

**Course Requirements – Earth Science Education Emphasis**

BIOL 115N	General Biology I	4
CHEM 121N/122N, 123N/124N	Foundations of Chemistry (satisfies nature of science way of knowing)	8
MATH 211	Calculus	4
STAT 310 or STAT 330	Intro to Data Analysis or Intro to Probability and Statistics	3
PHYS 111N-112N	Intro General Physics	8
OEAS 111N	Physical Geology	4
OEAS 112N	Historical Geology	4
OEAS 306	Oceanography	3
OEAS 310	Global Earth Systems	3
OEAS 303	Paleontology	3
OEAS 313	Mineralogy	3
OEAS 314	Petrology	4
OEAS 344W	Geomorphology	3
OEAS 443	General Meteorology	3
PHYS 408	Astronomy for Teachers	3
OEAS 441-442W	Ocean and Earth Science Field Study I-II (satisfies oral and written communication requirement)	6
OEAS 444-445 COSIA	is an alternative to OEAS 441-442W for the Earth science education emphasis.	

**The Professional Education core courses and requirements are as follows:**

TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management and Discipline	2
TLED 408	Reading and Writing in Content Areas	3
TLED 430	PK-12 Instructional Technology (satisfies impact of technology requirement)	3
STEM 454	Developing Instructional Strategies for Teaching: Science	3
TLED 483	Seminar in Teacher Education (corequisite with STEM 454)	1
TLED 485	Teacher Candidate Internship (student teaching)	12
SPED 313	Fundamentals-Human Growth and Development	3
SPED 406	Students w/ Diverse Learning Needs– General Ed Class	3

**UPPER DIVISION GENERAL EDUCATION**

Completion of the professional education courses for Earth science majors satisfies this requirement.

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation in all options listed above except Earth science education include a minimum cumulative grade point average of 2.00 overall and in the major with a grade of C or better in all major and prerequisite courses, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Requirements for Earth science are noted under course requirements for Earth science education earlier in this section.

**Practicum Experiences**

Students majoring in Ocean and Earth science have the chance to participate in a practicum—a hands-on course-length experience that closely ties their classroom learning with “real life.” All students must complete OEAS 441/442W, Field Study (or OEAS 444-445 for earth science education track students). In addition, Earth science education track students must complete TLED 485 which places them in science classrooms in secondary schools. All students may complete an internship (OEAS 368) with a municipal, state, or federal government agency, a non-governmental organization, or a business. In addition, Honors students may develop a senior research project in OEAS 487.

**Honors Program in Ocean and Earth Science**

Students admitted by the faculty to the Ocean and Earth science honors program engage in supervised individual study in areas of their interest. Honors students must complete all courses required by the department with a minimum grade point average of 3.50 and a total of at least three credits in OEAS 487, 488 or 497.

**Professional Geologist Certification**

Ocean and Earth science graduates who work for several years as geologists and then pass a national standardized test can be certified as a Professional Geologist by the Commonwealth of Virginia or other states. The standardized tests commonly cover the following topics (listed in order of emphasis on the test): Research, Field Methods, and Communications; Structural Geology; Hydrogeology; Sedimentology/Stratigraphy; Petrology; Geomorphology; Engineering Geology; Mineralogy; Geophysics; Paleontology; Geochemistry; Mining Geology; and Petroleum Geology.

**Credit by Examination**

Students with prior training or experience may receive credit for three hours of OEAS 111N by passing the DANTES Physical Geology exam. Both tests are administered by the Testing Center. Because OEAS 111N is a four credit course students must also complete a physical geology laboratory course (one credit) in order to use this advanced placement credit. Interested students should contact the chief departmental advisor about this course. Students may

also refer to the Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog.

## Ocean and Earth Science Minor

Junior and seniors with declared majors in biology, biochemistry, chemistry, computer science, engineering, mathematics or physics are eligible to enter the minor program in ocean and Earth science. Specific course prerequisites will be strictly enforced and students with majors in other disciplines should consult with the OEAS chief departmental advisor before applying to the program. Applicants must have already declared a major and have a minimum GPA of 2.00. Students wishing to pursue a minor in Ocean and Earth science may elect to emphasize any aspect of biological, chemical, physical or geological science from course offerings available to OEAS majors, and must complete 12 credit hours of OEAS coursework at the 300 and/or 400 level. OEAS 302, 402, 426 and 443 do not satisfy the minor requirements. Students must receive a C or better in each course taken for the minor including prerequisites, and a minimum of six credit hours must be completed at Old Dominion University.

## Certificate in Spatial Analysis of Coastal Environments (Undergraduate and Graduate)

The certificate in spatial analysis of coastal environments provides an interdisciplinary program for students wishing to pursue careers in coastal management or research, remote sensing, or geographic information systems (GIS) applications. Rendered upon completion of the requirements, the certificate is an academic affidavit comprised of courses in geography and ocean and earth science and is administered by the two departments. Students must take courses in the areas listed below and complete them with a cumulative GPA of 3.00 or higher and no grade below a C (2.00). The certificate is available to postgraduate professionals who meet the requirements. Students with comparable professional experience may be able to show competence in selected courses through examination.

Students seeking undergraduate certification complete the 400-level courses, and those seeking graduate certification complete the 500-level courses.

- I. Core Courses: GEOG 404/504 and one of the following: BIOL 419/519, BIOL 450/550, BIOL 455/555, OEAS 411/511, and OEAS 426/526 (six credits)
- II. Interpretive Analysis Courses: Select two three-credit courses from the following: GEOG 402/502, GEOG 422/522, GEOG 490/590, OEAS 495/595, or GEOG 495/595 (six credits)
- III. Capstone Seminar: GEOG/OEAS 419/519 (three credits)

## PHYSICS

Charles I. Sukenik, Chair  
Charles E. Hyde, Chief Departmental Advisor

## Bachelor of Science—Physics Major

The Department of Physics offers a major in physics with five program tracks leading to the B. S. degree and the B. S. degree with honors.

1. **Track A** (Research) is designed primarily for students preparing to do graduate study in physics and related fields or for students preparing to work professionally upon completion of the B. S. degree in various technical fields requiring the strongest preparation in physics.
2. **Track B** (Professional) is designed for students who wish to create a specialized program of study which combines a strong foundation in physics with strong preparation in another field. Such other fields include engineering, medicine, computer science, business, and communications, to name a few.
3. **Track C** (Education) is designed for students who are preparing to be high school physics teachers. This curriculum provides a solid foundation in both contemporary physics and in education pedagogy.
4. **Track D** is a five-year, dual degree program in physics and electrical engineering. Students will receive a B.S. and B.S.E.E. upon graduation. Track D provides the highest level of preparation for both graduate school and positions in industry.
5. **Track E** is a five-year Bachelor of Science in physics and Master of Business Administration dual degree program. After students have satisfactorily completed their undergraduate requirements, they complete 30 credit hours in the M.B.A. program.

**Degree requirements** are comprised of three components: 1) lower-level general education requirements, 2) departmental requirements, and 3) upper-level general education requirements. Some departmental requirements also

satisfy upper- or lower-level general education requirements. Students earning the A.S., A.A., or A.A.&S. (university parallel) degree from a Virginia Community College or Richard Bland College automatically satisfy the lower-level general education requirements. For Tracks A and B, the upper-level general education requirement can be satisfied by any University-approved second major, minor, or two upper-division courses (6 credits) from outside the College of Sciences and not required by the major. For Track C, the upper-level general education requirement is satisfied by the Secondary Education Endorsement. For Track D, the second degree in electrical engineering satisfies the upper-level general education requirement, while for Track E, the M.B.A. core curriculum satisfies the upper-level general education requirement.

**Graduation requirements** for all tracks include completion of a minimum of 120 credit hours (150 credit hours for Track D), which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, completion of the Physics Exit Exam with a minimum score of 20<sup>th</sup> percentile, and Senior Assessment. Additional hours may be required to meet the foreign language requirement. All tracks require a minimum grade of C in PHYS 231N-232N. Tracks A, B, D and E require a minimum cumulative grade point average of 2.00 overall and in the major. Track C requires a minimum 2.75 grade point average overall, in the major, and in the professional education core, with no grade less than a C- in the major and professional education core. The professional education core satisfies the upper-level general education requirement.

**Math Minor:** Physics majors in Tracks A or B wishing to complete a minor in applied mathematics can do so with just two additional math courses. The applied mathematics minor consists of MATH 307, 312, 317, and two courses chosen from MATH 316, 401, 408, 417, 420, 421, 422, 424, 427, 428, 457, or approved topics courses. MATH 280 and 285 cannot be substituted for courses required in the minor. At least nine credit hours must be taken through courses offered by Old Dominion University.

## Lower Level General Education Requirements (Tracks A, B, C, E; for track D refer to the electrical and computer engineering section in the College of Engineering and Technology)

### A. Skills

*Composition—6 credits*

ENGL 110C

ENGL 211C or ENGL 231C

*Oral Communication—3 credits*

Satisfied by Major

*Mathematics—3 credits*

Satisfied by Major

*Language and Culture—0-6 credits*

B.S. students' competence must be at the 102 level.

High School credit may satisfy requirement.

*Information Literacy and Research—3 credits*

CS 120G or CS 121G

### B. Ways of Knowing

*Human Creativity—3 credits*

One of ARTH 121A, ARTS 122A, COMM/THEA 270A, DANC 185A, MUSC 264A, THEA 241A

*Interpreting the Past—3 credits*

One of HIST 100H, 101H, 102H, 103H, 104H, 105H

*Literature—3 credits*

One of ENGL 112L, 114L, FLET 100L

*Philosophy and Ethics—3 credits*

One of PHIL 110P, 120P, 140P, 230E, 250E, 303E, 344E, 345E, 441E, 442E

*Nature of Science—8 credits*

Satisfied by Major

*Impact of Technology—3 credits*

--Choose one from COMM 372T, CS 300T, DNTH 440T, EET 370T, ENGL 307T, GEOG 306T, HIST 300T, 304T, 389T, HIST 386T/SCI 302T, IT 360T, MUSC 335T, PHIL 383T, POLS 350T, STEM 110T, 370T, WMST 390T (satisfied by TLED 430 for teacher education)

*Human Behavior—3 credits*

--Choose one from: AAST 100S, ANTR 110S, COMM 200S, CRJS 215S, ECON 200S, ECON 201S, ECON 202S, FIN 210S, GEOG 100S, GEOG 101S, POLS 100S, POLS 101S, POLS 102S, PSYC 201S, PSYC 203S, SOC 201S, WMST 201S

### Departmental Requirements for Research Track (A)

Course		Credits
MATH 211	Calculus I	4
MATH 212	Calculus II	4

MATH 312 (285)	Calculus III	4
MATH 307 (280)	Differential Equations	3
MATH 316 or 401 or 421 or 422		3
CHEM 121N/122N*	Foundations of Chemistry I	4
CHEM 123N/124N*	Foundations of Chemistry II	4
CS 150	Problem Solving and Programming I	4
PHYS 231N	University Physics I	4
PHYS 232N	University Physics II	4
PHYS 323	Modern Physics	3
PHYS 319	Analytical Mechanics	3
PHYS 320	Electricity & Magnetism	3
PHYS 352	Intro to Quantum Mechanics	3
PHYS 303	Laboratory	3
PHYS 355	Mathematical Meth of Physics	3
PHYS 413	Methods of Exp Physics	3
PHYS 420	Intro Computational Physics	3
PHYS 453	Radiation & Optics	3
PHYS 454	Thermal Physics	3
PHYS 456	Interm Quantum Mechanics	3
PHYS 499W	Senior Thesis	3
PHYS 120 or 309	Seminar	1
Two of: PHYS 313, 350, 411, 415, 416, 417 with at least three credits at the 400-level		6
*CHEM 137N/138N may be taken instead of CHEM 121N/122N and 123N/124N		

### Departmental Requirements for Professional Track (B)

Course		Credits
MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 312 (285)	Calculus III	4
MATH 307 (280)	Differential Equations	3
MATH 316 or 401 or 421 or 422		3
CHEM 121N/122N*	Foundations of Chemistry I	4
CHEM 123N/124N*	Foundations of Chemistry II	4
CS 150	Intro to Programming	4
PHYS 231N	University Physics I	4
PHYS 232N	University Physics II	4
PHYS 323	Modern Physics	3
PHYS 319	Analytical Mechanics	3
PHYS 320	Electricity & Magnetism	3
PHYS 352	Intro to Quantum Mechanics	3
PHYS 303	Laboratory	3
PHYS 355	Mathematical Meth of Physics	3
PHYS 413	Methods of Exp Physics	3
PHYS 454	Thermal Physics	3
PHYS 420 or 453 or 456		3
PHYS 499W	Senior Thesis	3
PHYS 120 or 309	Seminar	1
Two of: PHYS 311, 313, 332, 350, 411, 415, 416, 417 with at least three credits at the 400-level		6
*CHEM 137N/138N may be taken instead of CHEM 121N/122N and 123N/124N		

## Bachelor of Science—Physics Major with Teacher Education Licensure

Due to changing University requirements, national accreditation standards, and the Virginia Board of Education licensure regulations, the teacher preparation programs in the College of Sciences are under constant revision. Any changes resulting from these factors supersede the program requirements described in this Catalog. Students are encouraged to obtain current program information from their advisors and the Teacher Education Services website at [www.odu.edu/tes](http://www.odu.edu/tes).

**Admission.** Students must first declare the physics (Track C) teacher preparation track as their major with the physics departmental advisor. All students must apply for and be admitted into the approved physics teacher preparation program. Students must meet the required criteria for admission by passing the Virginia Board of Education prescribed assessments and earn the minimum required grade point averages (GPA).

#### Virginia Board of Education prescribed assessments:

- A passing PRAXIS I composite score of 532 or
- Qualifying SAT or ACT test scores or
- PRAXIS I Math test score of 178 and a composite Virginia Communication and Literacy (VCLA) score of 470 or

- SAT Mathematics test score of 530 and a composite Virginia Communication and Literacy (VCLA) score of 470 or
- ACT Mathematics test score of 22 and a composite Virginia Communication and Literacy (VCLA) score of 470

To review more information on the Virginia Board of Education prescribed assessments, visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

#### Required grade point averages (GPA):

- A cumulative GPA of 2.75 is required.
- A major/content GPA of 2.75 is required - all physics courses and all other science content courses must be passed with a grade of C- or higher.
- A professional education GPA of 2.75 is required – all professional education courses must be passed with a grade of C- or higher.

Although students may enroll in a limited number of education courses, students must be admitted into the approved physics teacher preparation program prior to enrolling in any instructional strategies practicum education course. Students must also meet with an education advisor in the Office of Teacher Education Services.

**Continuance:** Students must maintain a cumulative GPA of 2.75, a major/content GPA of 2.75 and a professional education GPA of 2.75. Physics courses must be passed with a grade of C- or higher. The remaining courses required for the major and in the professional education core must be completed with a grade of C- or higher for continuance. A professional education GPA of 2.75 is required for continuance. Students must take and pass the Virginia Communication and Literacy Assessment (VCLA) and the PRAXIS II Physics Content examination prior to or while enrolled in the instructional strategies course. All assessments must be passed prior to the start of the Teacher Candidate Internship Orientation session.

#### Virginia Board of Education prescribed assessments:

Virginia Communication and Literacy Assessment (VCLA) – a passing composite score of 470 is required on this reading and writing assessment

PRAXIS II Physics: Content Knowledge (test code: 0265) – passing score of 147 is required

To review more information on the Virginia Board of Education prescribed assessments visit the Teacher Education Services website, [www.odu.edu/tes](http://www.odu.edu/tes).

**Graduation:** Requirements for graduation include passage of the Exit Examination of Writing Proficiency, completion of the Senior Assessment, completion of the Physics Exit Exam with a minimum score of 20<sup>th</sup> percentile, a minimum cumulative 2.75 GPA, in the major area, and in the professional education core, with no grade less than a C- in the major and the professional education core; successful completion of the Teacher Candidate Internship and a minimum of 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours in upper-level courses in the major program from Old Dominion University.

The curriculum is as follows:

### Departmental Requirements for Education Track (C)

Course		Credits
MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 307 (280)	Differential Equations	3
CHEM 121N/122N*	Foundations of Chemistry I	4
CHEM 123N/124N*	Foundations of Chemistry II	4
CS 150	Intro to Programming	4
PHYS 103N	Introductory Astronomy	4
PHYS 231N	University Physics I	4
PHYS 232N	University Physics II	4
PHYS 323	Modern Physics	3
PHYS 319	Analytical Mechanics	3
PHYS 320	Electricity & Magnetism	3
Approved Physics Elective, 300 and above		3
PHYS 303	Laboratory	3
PHYS 120 or 309	Seminar	1
PHYS 355	Mathematical Meth of Physics	3
PHYS 413	Methods of Exp Physics	3
PHYS 499W	Senior Thesis	3
*CHEM 137N/138N may be taken instead of CHEM 121N/122N and 123N/124N		

**The Professional Education core courses and requirements are as follows:**

Course	Credits
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TLED 301	Foundations and Assessment of Education	3
TLED 360	Classroom Management & Discipline	2
SPED 406	Students with Diverse Learning Needs- Gen Ed Class	3
TLED 408	Reading & Writing in Content Areas	3
TLED 430	PK-12 Instructional Technology (satisfies impact of technology requirement)	3
SPED 313	Fundamentals-Human Growth & Development	3
STEM 454	Developing Instructional Strategies for Teaching: Science	3
TLED 483	Seminar in Teacher Education (corequisite with STEM 454)	1
TLED 485	Teacher Candidate Internship (student teaching)	12

### Departmental Requirements for Track D (Dual Degree in Physics and Electrical Engineering)

#### Common Course Requirements

Approved Physics Seminar		1
CHEM 121N/122N	Foundations of Chemistry I	4
MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 312	Calculus III	4
MATH 307	Differential Equations	3
CS 150	Intro to Programming	4
PHYS 231N	University Physics I	4
PHYS 232N	University Physics II	4

#### Physics Course Requirements

CHEM 123N/124N	Foundations of Chemistry II	4
MATH 316 or 401 or 421 or 422		3
PHYS 323	Modern Physics	3
PHYS 319	Analytical Mechanics	3
PHYS 320	Electricity & Magnetism	3
PHYS 352	Intro Quantum Mechanics	3
PHYS 303 or ECE 287	Laboratory	3
PHYS 350 or ECE 478	Light and Lasers	3
PHYS 413	Methods of Exp Physics	3
PHYS 454	Thermal Physics	3
PHYS 420	Computational Physics	3
PHYS 453	EM Radiation & Optics	3
PHYS 456	Intern Quantum Mech	3
PHYS 499W	Senior Thesis	3
One from: PHYS 411, 415, 416, 417		3

#### Engineering Course Requirements

ENGN 110	Engin & Tech I	2
ECE 111	Information Literacy for ECE	2
ECE 200	Engn Analysis Tools	3
ECE 201	Circuit Analysis	3
ECE 202	Circuits, Sig & Lin Sys	3
ECE 241	Fund Comp Engn	4
ECE 287	Fund Circuits Lab	2
ECE 303	Intro To Electrical Power	3
ECE 304	Prob Stat & Reliab	3
ECE 313	Electronic Circuits	4
ECE 332	Microelectr Mat & Proc	3
ECE 381	Intro to Discrete-time Signal Proc	3
ECE 387	Microelectronics Fabric Lab	3
ECE 485W	EE Design I	3
ECE 486	ECE Design II Prep	1
ECE 487	ECE Design II	2
ENGN 401	FE Exam Review	1
ECE Tech Elective I, II, III		9
Approved Elective		1-3

### Departmental Requirements for Track E (B.S. Physics and M.B.A.)

#### Physics course Requirements

MATH 211	Calculus I	4
MATH 212	Calculus II	4
MATH 312	Calculus III	4
MATH 307	Differential Equations	3
MATH 316 or 401 or 421 or 422		3
CHEM 121N/122N	Foundations of Chemistry I*	4
CHEM 123N/124N	Foundations of Chemistry II*	4
CS 150	Intro to Programming	4
PHYS 231N	University Physics I	4
PHYS 232N	University Physics II	4
PHYS 323	Modern Physics	3

PHYS 319	Analytical Mechanics	3
PHYS 320	Electricity & Magnetism	3
PHYS 352	Intro Quantum Mechanics	3
PHYS 303	Laboratory	3
PHYS 355	Mathematical Meth of Physics	3
PHYS 413	Methods of Exp Physics	3
PHYS 454	Thermal Physics	3
One of PHYS 420, 453, or 456		3
PHYS 499W	Senior Thesis	3
Approved Physics Seminar		1
Two courses from: PHYS 311, 313, 332, 350, 411, 415, 416, 417 with at least three credits at the 400 level		6
*Or CHEM 137N-138N		

### UPPER DIVISION GENERAL EDUCATION

Satisfied by M.B.A. Core Curriculum: MBA Core course taken senior year – all must be B or better for continuance in the M.B.A. program

ACCT 601	Accounting for Managers	3
DSCI 600	Foundations of Statistics	3
ECON 604	Mgmt Econ & Trade	3
FIN 605	Financial Management	3
MGMT 602	Organizational Mgmt	3
MKTG 603	Market Management	3

**Senior Thesis.** An important feature of all tracks is the Senior Thesis, which is based on individual research done under the supervision of a faculty advisor. The Senior Thesis is a capstone experience which gives a student the opportunity to apply knowledge and skills acquired in the classroom to real-life research problems in physics. This research can be done either in on-campus laboratories and facilities or at other scientific institutions in the region where departmental faculty members perform research, such as the Thomas Jefferson National Accelerator Facility (including the Applied Research Center) or the Langley Research Center of NASA. On completion of the project, the student must prepare a written final report and make an oral presentation of the results to the department.

### Minor in Physics

PHYS 231N-232N must be completed as prerequisites for the minor in physics and are not included in the calculation of the grade point average for the minor. The minor in physics requires completion of PHYS 319, 320, and six additional credits of 300-level or 400-level physics (PHYS) courses, with an overall cumulative grade point average of 2.00 or better in these courses exclusive of 100/200 level courses and prerequisite courses. Students must complete a minimum of six credit hours of 300-level or 400-level PHYS courses in the minor requirement through courses offered by Old Dominion University. Up to three credits can be in Independent Study courses, with approval of the chief departmental advisor. Any substitutions must be approved in writing by the chief departmental advisor.

### B. S. Degree with Honors

Qualified students may receive the B.S. degree with honors (to be noted on their diplomas) by completing specified additional requirements. At the time of application for this designation, a student must have a GPA of 3.50 or higher in physics, a GPA of 3.25 or higher overall, must have completed two contract honors courses, and must have completed 60 credit hours (of which at least 54 must be in grade-point graded courses) at Old Dominion University. (Contract honors courses are specialized courses of individual study under the direct supervision of a professor. Permission to take these courses is granted jointly by the Department of Physics and the Honors College.)

### Advanced Placement

Advanced placement credit for PHYS 111N-112N (four credits each, for a total of eight credits) will be awarded for a score of 4 or 5 on the Physics B examination, advanced placement credit for PHYS 231N (four credits) will be awarded for a score of 4 or 5 on the Physics C (Mechanics) examination, and advanced placement credit for PHYS 232N (four credits) will be awarded for a score of 4 or 5 on the Physics C (Electricity and Magnetism) examination, each administered by the Advanced Placement Program of the College Board.

Advanced placement credit for courses other than PHYS 111N-112N and PHYS 231N-232N may be received on the basis of examinations administered by the Department of Physics. Permission to take such an examination must be obtained from the chief departmental advisor. Students may also refer to the

Policy on Experiential Learning Credit Options at the Undergraduate Level found in this Catalog.

### Clifford L. and Lillian R. Adams Scholarship

The Department of Physics selects one or more students each year to receive the Clifford L. and Lillian R. Adams Scholarship. The recipient must be a declared physics major and may be an entering freshman, a transfer student, or a continuing student. Selection is based on a student's academic record, relevant test scores, and recommendations. The award is renewable.

## PSYCHOLOGY

Barbara A. Winstead, Chair  
Jennifer Younkin, Chief Departmental Advisor

### Bachelor of Science—Psychology Major

A student who intends to major in psychology must attend a Major Declaration Session in the Department of Psychology. Students are advised by the chief departmental advisor until they have accumulated 60 credit hours. Once students accumulate 60 credit hours, they select an individual faculty advisor within their interest area of psychology. Students should visit the Undergraduate Program Office (MGB 246) for information about the major and advising schedules. If the office is closed students may refer to the bulletin board across from MGB 246 or visit the Psychology Department web page at <http://sci.odu.edu/psychology/>.

LOWER DIVISION GENERAL EDUCATION	Credits
Written Communication	6
Oral Communication	3
Mathematics (STAT 130M or higher; MATH 162M or higher may be substituted. A grade of C (2.0) or better is required.)	3
Language and Culture	0-6
Information Literacy and Research	3
Human Creativity	3
Interpreting the Past	3
Literature	3
Philosophy and Ethics	3
The Nature of Science	8
Impact of Technology	3
Human Behavior (PSYC 201S and 203S may not be used to satisfy this requirement)	3

#### Departmental Requirements for the Major in Psychology (38 hours)

A grade of C (2.0) or better is required in all psychology courses. Students must achieve an overall grade point average of 2.0, including all psychology courses.

PSYC 201S	Intro to Psychology	3
PSYC 317	Quantitative Methods	4
PSYC 318W	Experimental Methods	4

#### Students must take at least one course from Area I:

Area I (Foundation Courses) PSYC 410, 413, 414, 424, or 430 3

#### Students must also select at least one course from three different areas of the other five areas (Areas II, III, IV, V, VI): 9

Area II (Developmental) PSYC 321, 322, 334, 351, 352, or 353	
Area III (Social/Personality) PSYC 304, 308, 311, 363, or 408	
Area IV (Clinical) PSYC 306, 325, 405, 412, or 461	
Area V (Cultural Context) PSYC 323, 403, 420, 431, or 460	
Area VI (Industrial/Organizational) PSYC 303, 343, 344, or 345	
PSYC electives ( may include area courses)	15
<b>Total (minimum)</b>	<b>38</b>

**Sample Schedules:** These schedules are meant as a guide to completing requirements for General Education and the Psychology major in four years or, following completion of an approved associate degree, two years. Students are not required to take courses in these semesters or in this sequence.

Psychology major requirements include PSYC 201S, 317, 318W, one course from Area 1, three courses from three different areas among Areas 2-6, and five additional psychology courses.

**Four-year program:** This sample schedule assumes that the Language and Culture requirements have been met by high school language courses (see Lower-Division General Education Requirements – Language and Culture section of this Catalog). If not, then language credits must be taken as electives.

#### FRESHMAN YEAR

Semester 1 – Fall	Credits
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PSYC 201S	3
STAT 130M	3
ENGL 110C	3
Info Lit and Research	3
Ways of Knowing*	3
Total = 15	
Semester 2 – Spring	
PSYC course (not 317)	3
COMM 101R or 112R	3
Written Comm – 200 level	3
Ways of Knowing*	3
Ways of Knowing*	3
Total = 15	
Academic Year (AY) TOTAL = 30	

#### SOPHOMORE YEAR

Semester 3 – Fall	
PSYC 317	4
PSYC (area 2-6)	3
Nat Science Way of Knowing	4
Ways of Knowing*	3
Total = 14	
Semester 4 – Spring	
PSYC 318W	4
PSYC (Area 2-6) or Minor**	3
Nat Science Way of Knowing	4
Ways of Knowing*	3
Ways of Knowing*	3
Total = 17	
AY TOTAL = 31	

#### JUNIOR YEAR

Semester 5 – Fall	
PSYC Area 1	3
PSYC (Area 2-6)	3
PSYC (Area 2-6)	3
Minor**	3
Elective	3
Total = 15	
Semester 6 – Spring	
PSYC (Area 2-6)	3
PSYC course	3
PSYC course	3
Minor**	3
Minor**	3
Total = 15	
AY TOTAL = 30	

#### SENIOR YEAR

Semester 7 – Fall	
PSYC course	3
Minor**	3
Elective	3
Elective	3
Elective	3
Total = 15	
Semester 8 – Spring	
Minor**or Elective	3
Elective	3
Elective	3
Elective	3
Elective	2
Total = 14	
AY TOTAL = 29	
Grand Total = 120	

**\*Ways of Knowing Areas** = Human Creativity, Literature, Human Behavior, Interpreting the Past, Philosophy & Ethics, Nature of Science, Impact of Technology are required for Lower-Division General Education

\*\*A minor is recommended but not required

**Two-year Program:** Students arrive with at least 60 credits and a university-approved associate degree indicating all lower-division General Education requirements have been met. Students must also have transfer credit for PSYC 201S and STAT 130M or higher or complete them at ODU.

#### JUNIOR YEAR

Semester 1 – Fall	Credits
PSYC 317	4
PSYC (Area 2-6)	3
PSYC (Area 2-6)	3
Minor*	3

Elective	2
Total = 15	
Semester 2 – Spring	
PSYC 318W	4
PSYC Area 1	3
PSYC course	3
Minor*	3
Minor*	3
Total = 16	
AY TOTAL = 31	
<b>SENIOR YEAR</b>	
Semester 3 – Fall	
PSYC (Area 2-6)	3
PSYC course	3
PSYC course	3
Elective	2
Minor*	3
Total = 14	
Semester 4 – Spring	
PSYC course	3
PSYC course	3
Minor* or elective	3
Elective	3
Elective	3
Total = 15	
AY TOTAL =29	
Grand Total = 120 (including transfer credits)	

\* A minor is recommended but not required

#### Additional Information for Students with Interest in Clinical, Industrial/Organizational, or Applied Experimental Psychology

**Clinical Psychology.** The undergraduate interest area in clinical psychology is designed for students who wish to develop cognitive and behavioral competencies at the bachelor's level of mental health specialization. In addition to the required courses for the psychology major (PSYC 201S, 317, 318W, one Area I course, and one course from three other areas), students are encouraged to include the following in the 38 hours required for a psychology major.

PSYC 203S, 304, 321, or 322	3
PSYC 369 Practicum in Clinical Psychology	3
PSYC 371 Clinical Supervision in Psychology	1
PSYC 405 Abnormal Psychology	3
PSYC 408 Theories of Personality	3
PSYC 412 Psychological Tests	3

**Industrial/Organizational Psychology.** The undergraduate interest area in industrial/organizational psychology is designed for psychology majors who have a special interest in industrial, engineering, and organizational psychology. In addition to the required courses for the psychology major (PSYC 201S, 317, 318W, one Area I course, and one course from three other areas), students are encouraged to include the following in the 38 hours required for a psychology major.

PSYC 303 Industrial/Organizational Psychology	3
PSYC 343 Personnel Psychology	3
PSYC 344 Human Factors	3
PSYC 345 Organizational Psychology	3

**Applied Experimental Psychology.** The undergraduate interest area in applied experimental psychology is designed for psychology majors who want to apply for graduate school in one of the following applied research fields: health, community, developmental, social, cognitive or quantitative. In addition to the required courses for the psychology major (PSYC 201S, 317, 318W, one Area I course, and one course from three other areas), students are encouraged to include the following in the 38 hours required for a psychology major.

PSYC 495 Topics in Psychology	3*
One additional Area I course (PSYC 410, 413, 414, or 424)	3
PSYC 497 or 498 Undergraduate Supervised Research	3
PSYC 412 or 417 Psychological Tests or Advanced Statistics	3

\* The material covered in the topics course should reflect the student's interest in one of the applied fields listed above.

#### UPPER DIVISION GENERAL EDUCATION

Option A. Approved Disciplinary Minor (a minimum of 12 hours determined by the department), or second degree or second major.

Option B: Interdisciplinary Minor (specifically 12 hours, 3 of which may be in the major)

Option C. International Business and Regional Courses or an approved Certification Program such as teaching licensure

Option D. Two Upper-Division Courses from outside the College of Sciences and not required by the major (6 hours)

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, which must include both a minimum of 30 credit hours overall and 12 credit hours of upper-level courses in the major program from Old Dominion University, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment.

#### B.S./M.B.A. Program

Students interested in pursuing a Master of Business Administration (M.B.A.) advanced degree can earn such a degree in conjunction with a B.S. in psychology. The combined program requires five years. Students should contact the department's Undergraduate Program Office (MGB 246) for more details about this program and entrance requirements.

#### Minor in Psychology

PSYC 201S must be completed as a prerequisite for the minor in psychology and is not included in the calculation of the grade point average for the minor. The minor in psychology requires at least one course from Area I and at least one course from three different areas of the other five areas (Areas II, III, IV, V, VI). Refer to the previous section on required psychology courses for a listing of the courses in each area. PSYC 201S is a prerequisite for most 300- and 400-level psychology courses. Additional prerequisite courses may also be required. A student must earn a minimum overall cumulative grade point average of 2.00 in all psychology courses taken exclusive of 200-level courses and prerequisite courses. A minimum of six hours in the minor must be taken through courses offered by Old Dominion University. Courses in the minor may not be taken on a Pass/Fail basis.

#### Honors Program in Psychology

Qualified undergraduate psychology majors have the opportunity to participate in the Honors Program in Psychology (program chair: Dr. Valerian Derlaga). Students who complete the program and also meet the University's standards for graduation with honors (see description in this Catalog) may earn the designation of departmental honors on their diplomas. This program is a three-course sequence that involves working on a research project under the supervision of a psychology faculty member.

In the junior year, interested students should discuss their interests with a psychology faculty member who agrees to serve as the research supervisor for PSYC 497 (Supervised Research). In PSYC 497 (see prerequisites under course listing), the student gains research experience and develops a research proposal.

The following semester, the student applies for admission to the Honors Program in Psychology and, if requirements are met (see below), enrolls in PSYC 487 (Honors I). In this course, the student finalizes the proposal, presents it to the Psychology Honors Program committee, secures research ethics approval, and begins the thesis research. The student continues to work with the faculty supervisor.

In the third semester, the student enrolls in PSYC 488 (Honors II), completes the research and thesis, and presents it to the Psychology Honors Program committee for approval.

Eligibility for the Honors Program in Psychology includes:

- Completion of PSYC 317, 318W, and 497
- At least 23 hours earned in psychology
- A 3.50 GPA in the psychology major (with no grades of "Incomplete")
- A 3.25 cumulative GPA

#### Psychology Awards

The Alan L. Chaikin Psychology Honors Thesis Award is given each year to a student in the Department of Psychology for the outstanding honors thesis.

The Elizabeth C. Guy Outstanding Psychology Service Award is given each year to the student selected by the faculty who has contributed significant service to the department or field of psychology. Service is primarily defined as participation in departmental, University, community, or professional organizations. However, other qualifications, such as research activity, may be considered. Eligible students must have a minimum overall grade point average of 3.0 and 18 credits in psychology at Old Dominion University.

The Elizabeth C. Guy Outstanding Psychology Academic Award is given each year to the graduating senior with the highest overall grade point average. To be eligible, a student will have completed a minimum of 60 hours at Old

Dominion University by graduation. Further, the student will have completed a minimum of 18 psychology credits at Old Dominion University. In the case where two or more students meet the criteria and have identical GPAs, the student with the highest number of credit hours earned at Old Dominion University will receive the award.

### **Advanced Placement**

The Department of Psychology offers course credit for PSYC 201S and PSYC 203S through testing procedures or Advanced Placement credit from the College Board exam. Students may also earn credit for some courses via experiential learning options. Interested students should visit the Undergraduate Program office (MGB 246) for more information or refer to the section on Experiential Learning in this Catalog.

# Courses of Instruction

Courses in which the leading number is zero, e.g. 050, are nondegree noncredit courses primarily in developmental studies.

Courses numbered 100 are primarily for freshmen, 200 for sophomores, 300 for juniors, 400 for seniors. 500-, 600-, 700-, and 800-level courses are exclusively for graduate credit. Courses at the 500 level are available for graduate credit only and correspond to undergraduate 400-level courses. However, a different grading scale is used for 500-level registrants and additional and higher quality work is required.

General education courses are designated by the fourth digit in the course number. At the lower division, the following designations are used: for Skills courses, C=Composition, F=Language and Culture, G=Information Literacy and Research, M=Mathematics, and R=Oral Communication; for Ways of Knowing courses, A=Human Creativity, H=Interpreting the Past, L=Literature, N=The Nature of Science, P and E=Philosophy and Ethics, S=Human Behavior, and T=Impact of Technology. Writing intensive courses are designated by a W in the fourth digit.

Many of the courses listed indicate the semester the course will be offered. Every attempt will be made to offer the courses in the semester(s) indicated. However, this may not always be possible.

The University reserves the right to withdraw any course for which there is insufficient registration.

## Course Prefixes

Academic Enhancement-UNIV  
Accounting-ACCT  
African-American Studies-AAST  
American Studies-AMST  
Anthropology-ANTR  
Arabic-ARAB  
Art History-ARTH  
    Studio Art-ARTS  
Arts & Letters-AL  
Asian Studies-ASIA  
Biological Sciences-BIOL  
Biomedical Engineering-BME  
Biomedical Sciences-BIMD  
Business Administration-BUSN  
Chemistry and Biochemistry-CHEM  
Chinese-CHIN  
Civil and Environmental Engineering-CEE  
Civil Engineering Technology-CET  
Communication-COMM  
Communication Sciences and Disorders-CSD  
Communication Sciences Special Education-CDSE  
Community College Leadership-CCL  
Community Health Professions-CHP  
Computer Science-CS  
Counseling-COUN  
Criminology-CRIM  
Criminal Justice-CRJS  
Cytotechnology-CYTO  
Dance-DANC  
Decision Sciences-DSCI  
Dental Hygiene-DNTH  
Economics-ECON  
Educational Leadership & Services-ELS  
Electrical and Computer Engineering-ECE  
Electrical Engineering Technology-EET  
Engineering-ENGN  
Engineering Management-ENMA  
Engineering Technology-ENGT  
English-ENGL  
Environmental Health-ENVH  
Exercise Science-EXSC  
Exercise Science, Sport, Physical Education and Recreation-ESPR  
Farsi-FARS  
Filipino-American Studies-FAST  
Finance-FIN  
Foreign Languages-FL  
Foreign Literature in English Translation-FLET  
Foundations-FOUN  
French-FR  
Geography-GEOG  
German-GER  
Graduate-GRAD  
Health-HLTH  
Health Education-HE  
Health & Physical Education-HPE  
Health Sciences-HLSC  
Hebrew-HEBR  
Higher Education-HIED  
History-HIST  
Histotechnology-HTEC  
Honors-HNRS  
Human Movement Sciences-HMS  
Human Services-HMSV  
Humanities-HUM  
Information Technology-IT  
Instructional Design and Technology-IDT  
Interdisciplinary Studies-IDS  
International Business-INBU  
International Studies-IS  
Italian-ITAL  
Japanese-JAPN  
Jewish Studies-JST  
Latin-LATN  
Library Science-LIBS  
Management-MGMT  
Maritime, Ports and Logistics Management-PORT  
Maritime and Supply Chain Management-MSCM  
Marketing-MKTG  
Master of Business Administration-MBA  
Master of Public Health-MPHO  
Math Pedagogy-MAPD  
Mathematics-MATH  
Mechanical and Aerospace Engineering-MAE  
Mechanical Engineering Technology-MET  
Medical Laboratory and Radiation Sciences-MLRS  
Medical Technology-MEDT  
Middle Eastern Studies-MIDE  
Military Science and Leadership-MSL  
Modeling and Simulation-MSIM  
Movement Disorders-MDS  
Music-MUSC  
    Applied Music-MUSA  
Naval Science-NAVS  
Nuclear Medicine Technology-NMED  
Nurse Anesthesia-NURA  
Nursing-NURS  
Ocean, Earth and Atmospheric Sciences-OEAS  
Operations Management-OPMT  
Ophthalmic Science-OPHS  
Philosophy-PHIL  
Physical Education-PE  
Physical Therapy-PT  
Physics-PHYS  
Political Science-POLS  
Portuguese-PRTG  
Psychology-PSYC  
Psychology Doctorate-PSYD  
Public Administration-PADM  
Public Administration and Urban Policy-PAUP  
Public Affairs and Service-PAS  
Reading-READ  
Recreation and Tourism Studies-RTS  
Religious Studies-REL  
Russian-RUS  
Science, Technology, Engineering and Mathematics-STEM  
Sciences-SCI  
Sociology-SOC  
Spanish-SPAN  
Special Education-SPED  
Sport Management-SMGT  
Statistics-STAT  
STEM Education and Professional Studies-SEPS  
Taxation-TAX  
Teaching and Learning Curriculum and Instruction-TLCI  
Teaching and Learning Education-TLED  
Theatre-THEA  
Urban Studies-URBN  
Women's Studies-WMST



## Academic Enhancement — UNIV

**UNIV 100. University Orientation.** Lecture 1 hour; 1 credit. Explores relationship between student's personal development goals, university life and academic programs. Provides orientation to learning skills necessary to succeed in college. Presents benefits of using various university services.

**UNIV 120. Career Exploration.** Lecture 1 hour; 1 credit. A systematic exploration of individual interests and skills and career resources. Emphasis is placed on defining goals and developing strategies to achieve goals. Career testing and individual conferences are included.

**UNIV 200. Career Implementation.** Lecture 1 hour; 1 credit. A practical examination and application of resume and cover letter writing, job search strategies, including electronic job search and networking, interview skills, and evaluating employment offers. Designed to prepare students for internships or cooperative education experiences and/or for post graduation employment.

**UNIV 195, 295, 395, 495. Topics in Career Management.** 0-3 credits. A study of selected career-related topics. Titles for specific course offerings will appear in the course schedule.

**UNIV 400. Career Engagement.** Lecture 1 hour; 1 credit. A practical examination and application of resume and cover letter writing, job search strategies including the electronic job search, networking, interview skills, and negotiating a job offer. Topics will also include the transition to the world of work and professional development. Designed for students seeking post-graduation employment.

## Accounting-ACCT

**ACCT 201-202. Principles of Accounting.** Lecture 3 hours; 3 credits each semester. Prerequisite: completion of MATH 102M, STAT 130M, or qualified to enroll in MATH 162M. ACCT 201 or 226 is prerequisite to 202. Elementary accounting concepts and procedures used in the preparation of financial statements for sole proprietorships, partnerships, and corporations; statement analysis; operational accounting; and use of accounting data for special-purpose decision making.

**ACCT 226-227. Honors: Principles of Accounting.** Open only to students in the Honors College. Prerequisite: ACCT 226 is prerequisite to 227. Special honors sections of ACCT 201-202. Elementary accounting concepts and procedures used in the preparation of financial statements for sole proprietorships, partnerships, and corporations: financial statement analysis; operational accounting; and use of accounting data for special-purpose decision making.

**ACCT 301-302. Intermediate Accounting.** Lecture 3 hours; 3 credits each semester. Prerequisites: ACCT 201-202 or 226-227; ACCT 301 with a C or better is prerequisite to 302; and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C or better in ACCT 301 to proceed to other upper level accounting courses requiring 301. At the beginning of the semester, students enrolled in ACCT 301 will complete the Principles of Accountancy Competency Test on material covered in ACCT 201-202. Students must have a C- or better in ACCT 302 to graduate with a concentration in accounting. Preparation of financial statements and other reports in

accordance with prevailing accounting standards established by the accounting profession. Students who have not had ACCT 201 and 202 within two years of planning to enroll in ACCT 301 are strongly encouraged to retake these courses in preparation for ACCT 301.

**ACCT 311. Managerial Accounting.** Lecture 3 hours; 3 credits. Prerequisites: ACCT 201-202 or 226-227, DSCI 206, junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 311 to graduate with a concentration in accounting. This course focuses on recording and allocating costs within traditional managerial accounting systems. Common and joint cost allocations are performed under job order, process and standard costing systems. Income models are developed for exploring cost-volume-profit relationships.

**ACCT 367. Cooperative Education.** 1-3 credits. May be repeated for credit. Prerequisites: ACCT 301 with a C or better, and a declared major in the university or permission of the Dean's Office of the CBPA; transfer students must have completed one semester at Old Dominion University; approval of Career Management Center. Available for pass/fail grading only. (qualifies as a CAP experience)

**ACCT 368. Student Internship.** 1-3 credits. Prerequisites: ACCT 301 with a C or better, and a declared major in the university or permission of the Dean's Office of the CBPA; transfer students must have completed one semester at Old Dominion University. Approval for enrollment and allowable credits is determined by the department and Career Management in the semester prior to enrollment. Student participation in a professional work experience. (qualifies as a CAP experience)

**ACCT 369. Practicum.** 1-3 credits. Prerequisites: ACCT 301 with a C or better, junior standing and a declared major in the university or permission of the Dean's Office of the CBPA; transfer students must have completed one semester at Old Dominion University. Approval for enrollment and allowable credits are determined by the department CAP adviser and the Career Management Center in the semester prior to enrollment. Student participation in a professional work experience. (qualifies as a CAP experience)

**ACCT 405/505. Accounting and Auditing in the Public/Nonprofit Sector.** Lecture 3 hours; 3 credits. Prerequisites: ACCT 301 with a C or better, senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 405 to graduate with a concentration in accounting. The application of accounting principles to governmental funds and not-for-profit organizations. Emphasis is placed on budgeting and control as well as auditing concerns for such entities.

**ACCT 411/511. Financial Auditing.** Lecture, case study, and discussion 3 hours; 3 credits. Prerequisites: ACCT 301 with a C or better, senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 411 to graduate with a concentration in accounting. Standards and ethics of the public accounting profession, generally accepted auditing standards, and public reporting are covered, as well as exposure to other types of auditing such as operational and compliance auditing.

**ACCT 421/521. Taxation.** Lecture 3 hours; 3 credits. Prerequisites: ACCT 301 with a C or

better, and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 421 to graduate with a concentration in accounting. An analysis of federal income tax law and its application to personal and business tax situations. Reconciliation of tax and accounting concepts.

**ACCT 422/522. Federal Income Taxation of Individuals and Business Entities.** Lecture 3 hours; 3 credits. Prerequisite: ACCT 421/521, and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 422 to graduate with a concentration in accounting. An analysis of federal income tax laws and its application to individuals and business entities.

**ACCT 450/550. International and Advanced Accounting.** Lecture 3 hours; 3 credits. Prerequisites: ACCT 301 with a C or better, ACCT 302, senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 450 to graduate with a concentration in accounting. The study of accounting for international operations and business combinations.

**ACCT 460. Accounting Information Systems.** Lecture 3 hours; 3 credits. Corequisite: ACCT 421. Prerequisites: ACCT 301 with a C or better, 302, 311, 421 and IT 360T, or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 460 to graduate with a concentration in accounting. The theoretical and practical approaches to the analysis, design, and implementation of manual and/or computerized accounting systems. Emphasis is placed on the investigation and documentation of internal controls, accounting cycle attributes, and auditing techniques for computer-based systems. Individual projects include comprehensive documentation of an accounting application and two case studies using a current financial accounting software package. The group project involves development of an accounting system for a specific application and its presentation to the class. This class qualifies as a CAP experience. Students will complete a comprehensive final examination on materials covered in ACCT 301, 302, 311, 421, and 460.

**ACCT 495. Selected Topics in Accounting.** 1-3 credits. Prerequisites: ACCT 301 with a C or better, senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Students must have a C- or better in ACCT 495 to graduate. Study designed for students desiring additional work in an area of particular interest in accounting. This course may not be substituted for any required accounting course.

## African-American Studies—AAST

**AAST 100S. Introduction to African American Studies.** Lecture 3 hours; 3 credits. An interdisciplinary examination of the African American experience in America. The course examines the historical and contemporary conditions of African American people. It also explores the various modes of artistic expression, values and philosophical underpinnings of African American culture.

**AAST 305. Africa in Transition.** Lecture 3 hours; 3 credits. Prerequisite: general education

human behavior course. This course is designed to examine various contemporary social movements in Africa, beginning in the 1960's to the present day. In addition, this course will examine how these social movements have impacted various groups' human, cultural, economic, political, and social capital.

**AAST 368. Internship.** 3 credits. Prerequisite: permission of program director. Individual practical experience in community-based organizations, public bureaucracies, administrative agencies and other organizations and firms. Student can gain exposure in the not-for-profit and profit sectors. (qualifies as a CAP experience)

**AAST 395, 396. Topics in African American Studies.** Lecture 3 hours; 3 credits. Prerequisite: AAST 100S or permission of the instructor. These courses are open to majors and non-majors. Ethnic studies majors may take these courses to satisfy requirements for the concentration. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**AAST 410. Africana Intellectual Thought and Economic Development.** Lecture 3 hours; 3 credits. Prerequisite: general education human behavior course. This course examines Africana philosophical and theoretical thought as it pertains to issues of race, labor and production. Through an examination of the social and economic legacy of slavery and colonialism, this course investigates how systems of exploitation have influenced the underdevelopment of Africa, the Caribbean and North America in its contribution to Western Capitalism.

**AAST 420W. African American Political and Social Thought.** Lecture 3 hours; 3 credits. Prerequisite: general education human behavior course. This course is designed to introduce students to the historical and contemporary experiences of "Blackness" as it has been constructed, contested and affirmed in various historical, political and narrative contexts. Embracing the theme of duality, the course examines what it means for a culture and people to be both integral to and excluded from the American political and social community.

**AAST 495. Topics in African American Studies.** Lecture 3 hours; 3 credits. Prerequisite: senior standing. This course focuses on a variety of selected topics in African American Studies. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**AAST 497/597. Independent Study.** 1-3 credits. Prerequisite: junior standing or permission of instructor. Students are exposed to opportunities to conduct independent research and/or study in areas focused on the political, social and cultural experiences of people of African descent in the U.S. and the African Diaspora.

## American Studies—AMST

**AMST 300. Perspectives in American Studies.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C, HIST 104H or permission of instructor. An exploration of current methodological approaches utilized in the interdisciplinary field of American Studies. Through integrative themes that cut across time, place and cultural identity, this course will allow students to build a working definition of civilization in the United States.

**AMST 495. Topics.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 211C or 231C. Rotating course content in American Studies, with interdisciplinary focus. Course can be used to fulfill a requirement in the American Studies minor.

## Anthropology—ANTR

Anthropology courses are taught by members of the Department of Sociology and Criminal Justice.

**ANTR 110S. Introduction to Anthropology.** Lecture 3 hours; 3 credits. A survey of what we know about the emergence of humans: where we came from; how we developed physically and why; how human cultures became more complex through time; and the variety of human ways of life today.

**ANTR 226S. Honors: Human Origins and Ways of Life—An Introduction to Anthropology.** Lecture 3 hours; 3 credits. A special Honors section of ANTR 110S. Open only to students in the Honors College.

**ANTR 300. Human Cultures Around the World.** Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S. A cross-cultural examination of human economic, social and ideological behavior, with the aim of showing both human cultural diversity and the ways in which the various parts of culture (e.g., trade, marriage practices, witchcraft, etc.) go together to make coherent wholes.

**ANTR 303. Biological Anthropology.** Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S. Human physical and cultural evolution from our earliest primate beginnings through the appearance of anatomically modern humans.

**ANTR 304. Digging Up the Past.** Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S, completion of the social science requirement or permission of the instructor. A comprehensive study of the philosophical and scientific foundations of archaeology and of a general prehistory to which they are applied. The course includes discussions of methods and theories used to reconstruct ancient Egypt and Mexico and other early cultures.

**ANTR 305. North American Archaeology.** Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S, completion of the social science requirement or permission of the instructor. The study of the prehistory of native cultures north of Mexico from the peopling of the New World to contact with Europeans.

**ANTR 320. The Sexes in Cross-Cultural Perspective.** Lecture 3 hours; 3 credits. Prerequisite: ANTR 110S, completion of the social science perspective or permission of the instructor. An examination of the socialization and perpetuation of sex roles in different societies around the world. The course investigates issues of gender and sexuality throughout an individual's life.

**ANTR 369. Practicum.** 1-3 credits. Prerequisite: permission of the department. (qualifies as a CAP experience)

**ANTR 395, 396. Topics in Anthropology.** 1-3 credits each semester. Prerequisite: ANTR 110S or permission of instructor. A study of selected topics, designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**ANTR 495/595, 496/596. Topics in Anthropology.** 1-3 credits each semester. Prerequisite: senior standing or approval of the

department chair. A study of selected topics designed for either majors or nonmajors. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**ANTR 497/597, 498/598. Tutorial Work in Special Topics in Anthropology.** 3 credits each semester. Prerequisites: senior standing and approval of department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Art

### I. Studio Art Courses—ARTS

**ARTS 122A. Visual Communication.** Lecture 1 hour; studio 5 hours; 3 credits. An introduction to essential themes and means of visual communication in the fine arts with an emphasis on studio experience in techniques from the different disciplines in studio art.

**ARTS 126A. Honors: Art as Experience.** Lecture 1 hour; studio 5 hours; 3 credits. Open only to students in the Honors College. A special honors section of ARTS 122A.

**ARTS 202. Two-Dimensional Design.** Lecture 1 hour; studio 5 hours; 3 credits. A basic course examining the relation of shape and value in a two-dimensional environment.

**ARTS 203. Three-Dimensional Design.** Lecture 1 hour; studio 5 hours; 3 credits. A basic course examining the relation of form and structure in a three-dimensional environment.

**ARTS 211. Introduction to Digital Photography.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 279 or permission of the instructor. Introduction to conceptual, technical and historical aspects of photography as a creative medium using digital technology. Technical areas covered include camera use, digital image processing, and digital printing. Class time is divided between demonstrations of applicable skills, in class work time, lectures and critiques.

**ARTS 231. Fundamentals of Drawing.** Lecture 1 hour; studio 5 hours; 3 credits. A study of basic principles, materials and techniques for drawing with an emphasis on line, value studies, volumetric analysis and perspective. Students will learn to draw proportionally and descriptively with increased knowledge of the relationship between object and image.

**ARTS 241. Fundamentals of Painting.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites or corequisites: ARTS 202 or 231 and ARTS 304. An introduction to image making through the application of painting media, techniques and styles.

**ARTS 251. Printmaking: Introduction to Screenprint.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites or corequisites: ARTS 202 and 304. An introduction to screenprinting techniques and stencil systems using water-based inks.

**ARTS 252. Printmaking: Introduction to Lithography.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites or corequisites: ARTS 202 and 231. An introduction to stone and metal plate lithographic techniques.

**ARTS 253. Alternative Print Techniques.** Studio 6 hours; 3 credits. Prerequisites or corequisites: ARTS 202 and 231. An introduction to non-traditional printmaking processes, both historical and contemporary. Processes may include solar plate lithography, stencil printing, pochoir, paper pulp printing, chine colle,

monotype, monoprint, collography, cyanotype, and varieties of transfer printing such as digital and gum techniques.

**ARTS 254. Printmaking: The Relief Print.** Lecture 1 hour; studio 5 hours; 3 credits. Pre- or corequisites: ARTS 202 and 231; one or both may be taken before; one may be taken as a corequisite. An introduction to basic relief printing techniques including woodcut, linocut, letterpress, and collograph.

**ARTS 261. Introduction to Sculpture.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites or corequisites: ARTS 202 and 203. Conceptual thinking in three dimensions; the development of visual capacity and spatial sense through direct experience in materials.

**ARTS 263. Introduction to Ceramics.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 202. A foundation course designed as an introduction to ceramics. Students will explore functional and sculptural techniques through handbuilding and wheel-throwing, as well as basic claybody, glaze and firing theory. Students will also develop a basic understanding of the historical and cultural aspects of ceramics.

**ARTS 271. Graphic Design 1.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202, 231, 279, and 304. This course is intended for art majors and art minors only. Exceptions must be approved by the instructor or the chief departmental advisor. An introduction to graphic theory, principles, and methods. This includes a study of the basic characteristics of letter forms, compositional principles, and visual communication with sign, symbol, and image.

**ARTS 279. Fundamentals of Digital Art.** Lecture 1 hour; laboratory 5 hours; 3 credits. An introduction to the Macintosh computer and operating system and its applications to visual arts project production. Includes an overview of computer hardware and software used in print multimedia and imaging for visual communications.

**ARTS 281. Crafts 1: Fibers.** Lecture 1 hour; studio 5 hours; 3 credits. An introduction to various looms, tools, materials and techniques used in weaving and fabric dyeing; individual design projects.

**ARTS 291. Crafts 1: Metalsmithing and Jewelry.** Lecture 1 hour; studio 5 hours; 3 credits. An introduction to the basic tools, materials and techniques used in centrifugal casting, soldering and piercing. Individual projects in silver, brass and copper.

**ARTS 302. Design Application.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202 and 203; Pre- or corequisite: ARTS 304. The application of basic design concepts to the solution of functional and environmental problems. (Offered once per year.)

**ARTS 304. Color.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the underlying principles of color interaction, color selection, contrast and harmonies, relationships between light, color and vision, as well as the basics of pigments, mixing, and color terminology. An option for the cluster, Aesthetics in Art and Science.

**ARTS 305. Elementary Art Education Methods and Classroom Management.** Studio 6 hours; 3 credits. Prerequisite: junior standing. Designed for students majoring in art education and early childhood education, this course covers the conceptual foundations of art education in the early years and an exploration of art materials and

procedures for kindergarten and elementary school teaching. Demonstrations, workshops, and discussions place special emphasis on the scope, sequence, and philosophy of art in the elementary curriculum.

**ARTS 311. Photography 2.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 211 or permission of the instructor. This course encourages the refinement of technical skills as well as emphasizing the critical framework in which to place photographic imagery. Assignments will challenge students to think creatively and develop their unique perspective. Reading, research, and discussion introduce students to the major photographic movements that have shaped current theory.

**ARTS 331. Drawing: Composition.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 231. Continuation of ARTS 231 with emphasis on composition.

**ARTS 341. Painting: Composition.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 241. Introduction to various compositional approaches as specifically applied to painting.

**ARTS 350. Advanced Printmaking.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 279 and any introductory printmaking course (ARTS 251, 252, 253, or 254). May be taken for repeat credit. Further investigation of chosen print technique (screenprint, lithography, relief, or intaglio) with special attention to the implementation of color.

**ARTS 361. Advanced Sculpture.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 261 or permission of the instructor. Investigation involves the combination of various materials and construction techniques.

**ARTS 363. Intermediate Ceramics.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 263. An intermediate course in ceramics with an emphasis on more sophisticated throwing and hand-building techniques toward the development of a personal image. The class includes glaze chemistry, firing procedures, ceramic history and contemporary ceramics.

**ARTS 367. Cooperative Education.** 1-3 credits. May be repeated for credit. Prerequisite: approval of the department chair and Career Management. Available for pass/fail grading only. Student participation for credit will be based on the creative relevance of the planned work experience as evaluated and determined by the chair and approved by Career Management. Evaluation and approval must occur prior to the semester in which the work experience will take place. (qualifies as a CAP experience)

**ARTS 368. Internship.** 1-3 credits. May be repeated for credit. Prerequisite: approval by the department chair and Career Management is necessary prior to registration. Available for pass/fail grading only. A structured work experience involving aspects of design or craft, filmmaking, video, museum or gallery work, either with or without remuneration. Criteria for evaluation will be determined by work supervisor and cooperating faculty advisor. (qualifies as a CAP experience)

**ARTS 369. Practicum.** 1-3 credits. Prerequisite: approval by the department chair. (qualifies as a CAP experience)

**ARTS 370. Graphic Design II.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 271. Graphic design and the printed page. This course examines the interaction of text, headlines, and visual images. Introduction to

editorial, layout, and the production methods used in publishing.

**ARTS 371. Graphic Design III.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 370 and approval for continuance in the graphic design concentration through portfolio review. This advanced course is devoted to the study of printed communication from a formal and visual perspective. Assignments require the use of typography and images in both single and multiple page formats. Solutions to problems will be developed that accurately represent the actual printed product. Open only to students admitted to the graphic design emphasis.

**ARTS 372. Graphic Design IV.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 371. Graphic design in corporate and project-oriented communications. Examines the role of the designer in defining and reinforcing solutions to complex communications problems. Also covers the professional responsibilities of the designer such as planning, scheduling, estimation, and the legal and ethical aspects of the field. Open only to students admitted to the graphic design emphasis.

**ARTS 374. Web Design.** Lecture 1 hour; studio 5 hours; 3 credits. To understand basic Web programming and apply it as design inspiration. Students are to simultaneously focus on both mark up skill and design creativity.

**ARTS 376. Typographic Design.** Lecture 1 hour; studio 5 hours; 3 credits. Co- or prerequisite: ARTS 370 or permission of the instructor. A complete examination of the design and arrangement of letter forms. The history of letter forms and typographic methods from ancient Sumer and Assyria to the present. Current topics in typographic design such as legibility, composing methods, and image setting will also be covered.

**ARTS 377/378. Extracurricular Studies.** 1-6 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

**ARTS 381. Crafts II: Fibers.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 281. An introduction to pattern drafting, advanced loom technique, off-loom weaving, and fabric painting.

**ARTS 391. Crafts II. Metalsmithing and Jewelry.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 291. Additional techniques in casting and soldering with an introduction to basic metal-forming techniques of raising and forging.

**ARTS 392. Crafts: Blacksmithing.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An introduction to the basic tools, materials and techniques used in forging, forming, hardening and tempering steel. Exploration of form and process in working metal.

**ARTS 395. Topics in Art Education.** 1-3 credits (depending on content). Prerequisite: permission of the instructor. Studies of selected topics designed for Art Education or elective credit. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**ARTS 396. Topics in Studio Art.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: appropriate survey or introductory course or permission of the instructor. A study of selected

topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**ARTS 400. Senior Show.** Lecture 1 hour; studio 5 hours; 3 credits. Senior requirement for all B.F.A. majors. A study of gallery practices, involving the student with the practical concerns of preparation and presentation: lighting, sequencing, mounting, hanging, and all other necessary activities prior to professional exhibition. The semester culminates with group exhibitions of work by the members of the senior class. Seniors with a graphic design emphasis take ARTS 401. (qualifies as a CAP experience)

**ARTS 401. Design Portfolio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 471 and a pre- or corequisite of 6 hours from ARTS 373, 374, 475 or 477. The preparation and presentation of portfolio and related materials necessary for professional work in the fields of graphic design, advertising, editorial design and corporate communications. Students will prepare a portfolio of their work for presentation to a professional who is currently working in the field. The course will also cover career strategies, resume preparation and interviewing skills. (Offered spring) (qualifies as a CAP experience)

**ARTS 406. Secondary Art Education Methods and Classroom Management.** Studio 6 hours; 3 credits. Prerequisites: ARTS 305, TLED 301 or 290 and passing score on PRAXIS I or appropriate SAT score. Corequisites: ARTS 407 and 408. This course is designed to prepare preservice art educators for student teaching by addressing theoretical and practical aspects of lesson and unit planning, curriculum content and design, and various innovative instructional approaches to secondary visual arts education.

**ARTS 407. Art Education Practicum.** 2 credits. Prerequisites: ARTS 305, TLED 301 or 290, and passing score on PRAXIS I or appropriate SAT score. Corequisites: ARTS 406 and 408. Enables students to interact with a master teacher in the classroom and practice a variety of teaching methods under supervision. Weekly seminars provide opportunities to engage in discourse related to pedagogical issues, theory, practice, and curriculum design found in current literature in art education. (qualifies as a CAP experience)

**ARTS 408. Student Teaching Seminar.** 1 credit. Prerequisites: ARTS 305, TLED 301 or 290, and passing score on PRAXIS I or appropriate SAT score. Corequisites: ARTS 406 and 407. Student teaching seminar is a compliment course to ARTS 407 and must be taken at the same time. Students will create and compile required documents to develop pre-service teacher e-portfolios. Students are required to take and pass Praxis II Art Content to complete this course.

**ARTS 411. Photography 3.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 211 and 311. The course focuses on the photographic series examining reportage and contemporary narrative. Students will work on developing a fully conceived photographic series on a theme developed through guided individual research. Reading and discussion will provide students a critical framework in which to place their photographic imagery.

**ARTS 412/512. Photo Seminar 1.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 211, 311 and 411 or permission of the instructor. The first of a two-semester sequence of concentrated individual work. Students will

identify a topic and create a complete body of work culminating in the senior show, ARTS 400. Lectures, readings, discussion, critique, and field trips to develop the articulation of ideas and the clarification of purpose.

**ARTS 413/513. Photo Seminar 2.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 211, 311, 411 and 412 or permission of the instructor. This is the second in a two-semester sequence of concentrated individual work culminating in the senior show. Through readings, discussion, critiques, field trips, and intense individual work, students will compile a body of work realizing their personal vision and articulate their ideas through the crafting of an artist statement.

**ARTS 431/531. Drawing Studio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 331. Further concentration on conceptual content and drawing skills, development of individual body of work exploring preferred concepts, subject matter, techniques, and media. May be repeated for credit.

**ARTS 432/532. Figure Drawing Anatomy.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 331 or permission of the instructor. A study of visually important aspects of the structural, skeletal and muscular systems of the body. Anatomical study will be related to drawing from the live model.

**ARTS 433/533. Figure Drawing/Composition.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 432/532. This course places the emphasis on advanced composition using the figure as the central theme. The figure's expressive potential, along with a study of historical responses to figure drawing, will be examined in depth.

**ARTS 441. Advanced Painting: Special Problems.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 341. Experimental use of media combined with an exploration of content through creative manipulation of popular themes.

**ARTS 442/542. Painting Studio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 441. Independent work in painting with focus on developing content. Frequent critiques. May be taken for repeat credit.

**ARTS 450/550. Printmaking Studio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 350 or permission of the instructor. Experimental work in selected print media. May be taken for repeat credit.

**ARTS 455. Letterpress Printmaking.** Studio 6 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A visual and literary investigation of language and wordplay using foundry and wood type and a Vandercook SP-20 proofing press. Projects include expressive printed impressions of personal poetry and song lyrics, political rants, and broadsides for entertainment or proselytizing. A theme group project, such as a folio or a bound book, is usually assigned.

**ARTS 461/561. Sculpture Studio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 361 or 363, and permission of the instructor. Experimental work reflecting individual initiative and attitude.

**ARTS 463/563. Advanced Ceramics.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 263 and 363. An advanced course in the science and art of ceramics. Students will engage in guided independent research, developing their own direction by investigating clay bodies, glazes, firing methods and contemporary ceramic art.

**ARTS 464/564. Figurative Sculpture.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 263. Three-dimensional studies of the human figure working from the live model. Sketches will be used as the basis for sculptural forms in clay or other media.

**ARTS 469/569. Assemblage.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Assemblage combines elements of various art and non-art media and materials. Lectures will be comprised of presentations about relevant artists, gallery and studio visits, and critiques. Studio time allows students to explore personal directions in the medium.

**ARTS 471/571. Graphic Design Studio.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 372. Intended to provide the student with advanced experience in graphic design topics. Students will solve complex design problems using multiple pieces coordinated to meet an overall communications objective. This course may be repeated for credit.

**ARTS 473/573. The Book.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisites: ARTS 202, 279, 304, and junior standing or permission of the instructor. The book as a work of art. Lecture will explore historical and technical aspects of book design and production. Studio work will be devoted to the production of a series of books involving page design, paper selection, printing and binding.

**ARTS 485/575. Editorial Design.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 370 or permission of the instructor. An examination of the problems associated with the conception, design, and layout of newspapers, newsletters, and magazines. Emphasis is placed on editorial position, content, audience, frequency, budget, and production methods.

**ARTS 481/581. Crafts III: Fibers.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 381. Advanced work in pattern drafting, loom techniques, off-loom weaving and fabric painting.

**ARTS 491/591. Crafts III: Metalsmithing and Jewelry.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 391. Further exploration in casting and soldering with concentration in the metal-forming techniques of raising and forging. Additional introduction to the techniques of working in steel.

**ARTS 492. Wood Studio/Furniture Design.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: ARTS 203. Exploration of concepts and techniques in wood sculpture and furniture design and fabrication.

**ARTS 495/595. Topics in Art Education.** 1-3 credits (depending on content). Prerequisite: permission of the instructor. Studies of selected topics designed for Art Education or elective credit. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**ARTS 496/596. Topics in Studio Art.** Lecture 1 hour; studio 5 hours; 3 credits. Prerequisite: permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on studio projects of mutual interest.

**ARTS 497/597. Tutorial Work in Special Studio Topics.** 3 credits. Prerequisite: senior standing and permission of the chief departmental advisor. Independent investigation of a subject to be selected under the advisement of the instructor.

Conferences, papers, field trips, portfolios, or exhibitions as appropriate.

**ARTS 498. Tutorial Work in Special Studio Topics.** 3 credits. Prerequisite: senior standing and permission of the chief departmental advisor. Independent investigation of a subject to be selected under the advisement of the instructor. Conferences, papers, field trips, portfolios, or exhibitions as appropriate.

## II. Art History Courses—ARTH

**ARTH 121A. Introduction to the Visual Arts.** Lecture 3 hours; 3 credits. An introduction to the various media, techniques, styles, content, and contexts in the visual arts as they are manifested in the world's cultures.

**ARTH 127A. Honors: Introduction to the Visual Arts.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ARTH 121A.

**ARTH 211. Ancient and Medieval Art.** Lecture 3 hours; 3 credits. Co- or prerequisite: ENGL 211C. A survey of the history of art from the ancient cultures of the Mediterranean world to the Gothic period of the Middle Ages. Museum visits and writing assignments will help to develop students' analytical, critical and writing skills.

**ARTH 212. Renaissance and Modern Art.** Lecture 3 hours; 3 credits. Co- or prerequisite: ENGL 211C. A survey of the art of the Renaissance and Baroque to the Modern World culminating in a look at art from our own era. Relevant assignments and museum visits will develop students' analytical, critical and writing skills.

**ARTH 309. Architecture of the Middle Ages.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. This course traces the history and construction techniques of medieval buildings from 300-1500 A.D. It examines the wood-roofed building, centrally planned domed structures, innovations in plan, the rediscovery of stone vaulting techniques and culminates in a study of the pointed ribbon groin vaults and stone skeletal systems of the Gothic cathedrals.

**ARTH 310. Women in the Visual Arts.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A, 211 or 212 and junior standing or permission of the instructor. The contributions of women in the various fields in the visual arts—painting, graphics, sculpture, architecture, and the crafts—from pre-history to the present.

**ARTH 314. Northern Renaissance Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. The painting, sculpture, and graphics of the Netherlands, France and Germany from the late fourteenth to the mid-sixteenth century with discussion of artists such as Jan van Eyck, Hieronymus Bosch, Pieter Bruegel, and Albrecht Durer.

**ARTH 315. Early Italian Renaissance Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. Painting, sculpture, and architecture in 14th and 15th century Italy, chiefly Florence and Siena, from Giotto to Botticelli.

**ARTH 316. Later Italian Renaissance Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. Painting, sculpture, and architecture in 16th century Italy, with emphasis on painting in Rome, Florence, and Venice.

**ARTH 319. Baroque Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of

the instructor. The painting, sculpture and architecture of the seventeenth and eighteenth centuries in Italy, Flanders, Holland, France, Germany with discussion of artists such as Caravaggio, Bernini, Rubens, Rembrandt, Vermeer, Poussin, and Watteau.

**ARTH 320W. History of Design.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A, ARTH 212, or permission of the instructor. A study of the historical development of the design arts in both utilitarian and communicative areas including graphic design and advertising, crafts, film and video, the decorative arts, fashion, furniture, and the built environment. (This is a writing intensive course.)

**ARTH 323. Nineteenth-Century European Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. Survey of the mainstreams of European art during the first century of the Modern era. Includes discussion of architecture, sculpture, painting, and the graphic arts.

**ARTH 324. Twentieth-Century Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. Beginning in the 1880's and continuing through the present, a survey of modern art and architecture, which stresses the growing interpenetration of the arts.

**ARTH 325. American Art Before 1865.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. A survey of American art in the decades before 1865, focusing on the development of a native style in painting, sculpture, the decorative arts, and architecture.

**ARTH 326. American Art Since 1865.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212 or permission of the instructor. A survey of American art in the decades since 1865, with attention to the development of internationally influenced styles in painting, sculpture, photography, printmaking, architecture, and the decorative arts.

**ARTH 327. History of Photography.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A or 212 and junior standing or permission of the instructor. An examination of the development of photography as a scientific curiosity, a tool for artists, and as a fine art in itself, from its invention to the present day.

**ARTH 350W. Art Criticism.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212 or permission of the instructor. A study of the models of analysis, theoretical approaches, methodologies, and the effects of the practice of art criticism, with practical experience in each model. (This is a writing intensive course.)

**ARTH 351W. Research Methods in Art History.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or 212. An investigation of past and present approaches to scholarship in art history. Students participate in a series of writing assignments designed to strengthen their research and writing skills, culminating with the presentation of original research in oral and written form. (This is a writing intensive course.)

**ARTH 360. Asian Art.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 121A, 211 or 212 or permission of instructor. An introduction to the architecture, sculpture, calligraphy, pottery, ink painting, miniature painting, and gardens of India, China, and Japan. Emphasis will be placed on the connections among the cultures: Buddhism and pilgrimage, the importance of the scholar painters, the role of trade routes and the emergence of native writing. (cross-listed with ASIA 360)

**ARTH 368. Internship.** 1-3 credits. May be repeated for credit. Prerequisite: approval by the department chair and Career Management is necessary prior to registration. Available for pass/fail grading only. A structured work experience involving aspects of design or craft, filmmaking, video, museum or gallery work, either with or without remuneration. Criteria for evaluation will be determined by work supervisor and cooperating faculty advisor. (qualifies as a CAP experience)

**ARTH 369. Practicum.** 1-3 credits. Prerequisite: approval by the department chair. (qualifies as a CAP experience)

**ARTH 377, 378. Extracurricular Studies.** 1-6 credits each semester. Prerequisite: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost. (qualifies as a guaranteed practicum experience)

**ARTH 395, 396. Topics in Art.** 3 credits each semester. Prerequisite: appropriate survey or introductory course or permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**ARTH 421/521. Early Medieval Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. The art and architecture of the Latin West and Byzantium from the early Christian centuries and the fall of Rome to the Carolingian and Ottoman empire and the fully developed Romanesque of the twelfth century, including manuscripts, metalwork, ivories and enamels.

**ARTH 422/522. Gothic Art and Architecture.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of the instructor. The painting, sculpture, and architecture of the Gothic period from the mid-twelfth century to the refined and courtly art of the later International Style in France, England, Germany, and Italy as seen in both the monumental and the decorative arts.

**ARTH 423/523. Romanesque Art and Architecture.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211. This course will cover art of the period from about 1000 to 1150 in western Europe. The period witnessed the first "international style" of the Western Middle Ages from the first millennium up to the Gothic era. The style manifests in monumental architectural forms, monumental painting and increased book production.

**ARTH 425/525. The Illuminated Manuscript.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 211 or permission of instructor. A study of the development of the illuminated manuscript from the form of the scroll in the ancient world to the fully illustrated and decorated codices (books) produced in the Middle Ages. A history of painting within the miniatures of the book from the early Christian era to the late Gothic period.

**ARTH 434/534. Romantic Architecture.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. A survey of the aesthetic, technological and social forces that transformed international architecture in the 18<sup>th</sup> and 19<sup>th</sup> centuries.

**ARTH 435W/535. Modern Architecture.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 121A or 212. An examination of the architecture, planning, and related design of the twentieth and twenty-first centuries around the globe. Special emphasis is placed on the formation of the international style between the world wars and its disintegration in the recent past. (This is a writing intensive course; the course also satisfies the general education impact of technology requirement.)

**ARTH 438/538. Fin de Siecle European Art.** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. An intensive examination of the major styles, movements, and individuals working in Europe's avant-garde at the end of the 19<sup>th</sup> century to the beginning of the first world war.

**ARTH 439/539. Art Between the Wars: 1919-1939.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 212, 324 or permission of instructor. A study of the international movements in visual arts and design in the interwar years from Dada to the New York World's Fair.

**ARTH 440/540. Mid-Century Modern Art (1940-1960).** Lecture 3 hours; 3 credits. Prerequisite: ARTH 212. An intensive study of the two decades when modernist styles and theories in art, design, and architecture were codified and challenged internationally.

**ARTH 460/560. Art Since 1960.** Lecture 3 hours; 3 credits. Prerequisites: ARTH 212, 324 or permission of the instructor. Lectures and critical discussion of the development and configurations of the various styles emergent since 1960, both in America and Europe.

**ARTH 480. Senior Thesis.** 3 credits. Prerequisites: 12 hours of art history electives at the 300 and 400 levels and senior standing. The research and writing of a thesis on an advanced topic in art history to be determined by the student in concert with a faculty advisor. The thesis option is intended for students preparing for graduate study in the field, and it may be taken in place of another upper-level art history elective within the major.

**ARTH 495/595, 496/596. Topics in Art.** 3 credits each semester. Prerequisite: appropriate survey or introductory courses or permission of the instructor. The advanced study of selected topics in art, designed to permit qualified students to investigate subjects, which due to their specialized nature, may not be offered regularly. The courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**ARTH 497/597, 498/598. Tutorial Work in Special Art Topics.** 3 credits each semester. Prerequisites: senior standing and permission of the department chair. Independent research on a topic to be selected under the advisement of the instructor. Conferences, papers, and portfolios as appropriate.

## Arts and Letters—AL

The Arts and Letters designation has been established to facilitate the offering of interdisciplinary courses in the College of Arts and Letters. These courses are coordinated through the Office of the Dean of the College of Arts and Letters.

**AL 100. Introduction to Arts and Letters: Scholarship in the Disciplines.** Lecture 1 hour; 1 credit. Through guest presentations from each major department in the college, the Career Management Center and other University

resources, students will learn about majors, minors, career options, effective goal-setting, study skills, and time management strategies. Coursework includes weekly reading and journal assignments, attendance at campus events, and visits to campus resources.

**AL 367. Internship in Peer Advising.** 1-3 credits. Prerequisite: Approval of the College Director of Academic Advising. Students receive training in communications, counseling practices and College and University resources and services, and then serve as Peer Advisors to Arts & Letters freshmen and sophomores. Up to 150 hours required. Weekly staff meetings, readings, and a peer advising journal are also required. (qualifies as a CAP experience)

**AL 395. Topics in Humanities.** 3 credits. Prerequisite: junior standing or permission of the instructor. An interdisciplinary study of selected topics in the humanities.

**AL 396. Topics in Social Studies.** 3 credits. Prerequisite: junior standing or permission of the instructor. An interdisciplinary study of selected topics in social studies.

**AL 495/595. Topics in Humanities.** 1-3 credits. Prerequisite: junior standing or permission of the instructor. An advanced study of selected topics in humanities.

**AL 496/596. Topics in Social Studies.** 3 credits. Prerequisite: junior standing or permission of the instructor. An advanced study of selected topics in social studies.

**AL 497/597. Tutorial Work in Arts and Letters Topics.** 1-3 credits. Prerequisite: junior standing or permission of the instructor.

## Asian Studies—ASIA

**ASIA 332. South Asia Since Independence.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This is a comparative study of the main political, economic and social developments in the major countries of South Asia. Themes will include democratization, problems of economic development, the role of caste and religion, the causes of intrastate conflict and interstate conflict and the influence of global forces on the region. (cross listed with POLS 336 and HIST 332)

**ASIA 336. The Emergence of New China.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of China covering late Imperial China, the impact of Western imperialism, the Republican Period, and the establishment of the People's Republic. (Cross listed with HIST 336)

**ASIA 337. Japan's Era of Transformation.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of Japan since 1800. The decline of the Tokugawa Shogunate, modern national building in the Meiji period, domestic conflicts and war in the twentieth century, and the roots of Japan's economic prominence today. (cross-listed with HIST 338)

**ASIA 338W. Politics of East Asia.** Lecture 3 hours; 3 credits. Prerequisite: six hours of social science and junior standing or permission of the instructor. This course is designed for intermediate students who are interested in the theoretical and systematic study of world politics. The course first introduces students to several major theoretical approaches to the study of world politics, and then applies these approaches to a number of major, contemporary issues – ranging from war and peace, conflict and cooperation, development and

underdevelopment to global and national interests. (This is a writing intensive course.) (cross listed with POLS 338W)

**ASIA 353. Asian Religions.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of religious and philosophical traditions of India, China and Japan. Primary emphasis will be given to Hinduism, Buddhism, Confucianism and Taoism. (cross listed with PHIL 353)

**ASIA 360. Asian Art.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and ENGL 211C, 221C or 231C and ARTH 121A, ARTH 211 or ARTH 212 or permission of instructor. An introduction to the architecture, sculpture, calligraphy, pottery, ink, painting, miniature painting, and gardens of India, China, and Japan. Emphasis will be placed on the connections among the cultures: Buddhism and pilgrimage, the importance of the scholar painters, the role of trade routes and the emergence of native writing. (cross-listed with ARTH 360)

**ASIA 395. Topics in Asian Studies.** Lecture 3 hours; 3 credits. Prerequisite: HIST 101H or permission of the instructor. A study of selected topics designed for nonmajors or for elective credit within a major. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**ASIA 435. Chinese Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S, 102S or permission of the instructor. A study of origins of the Chinese revolution; development and functions of the Chinese Communist Party; government institutions; the defense establishment; evolution of foreign policy; and post-Mao political and economic reforms. (cross listed with POLS 435)

**ASIA 460. Major Issues in Asia.** Lecture 3 hours; 3 credits. Prerequisites: three hours of social science and junior standing, or permission of the instructor. The course examines the most salient social, economic, environmental, and political issues in Asia from multidisciplinary and interdisciplinary perspectives. The course focuses on three major geographic areas of Asia—East Asia, South Asia, and Southeast Asia.

**ASIA 461W. Asian Studies Capstone Seminar.** 3 credits. Prerequisite: HIST 101H and junior standing. As a required course for the Asian Studies major, the course helps students synthesize the knowledge they have learned from the undergraduate courses, write a capstone research paper and present the paper in class. (This is a writing intensive course.)

**ASIA 495/595. Topics in Asian Studies.** 1-3 credits. Prerequisites: appropriate survey course or permission of the instructor. This course is designed for small groups of qualified students to conduct advanced study of selected topics on Asian Studies, topics which may not be taught in regularly scheduled classes. The description of the course for each offering will appear in the course schedule that is distributed to each advisor.

## Biological Sciences—BIOL

**BIOL 103. Basic Bacteriology.** Lecture 3 hours; laboratory 2 hours; 4 credits. A course designed to acquaint the student with the elementary principles of bacteriology and other disease causing microorganisms. Emphasis is placed on microorganisms as etiological agents in disease, on practical methods of disinfection, and on the factors of infection and immunity.

**BIOL 105N, 106N. Biology for Nonscience Majors I, II.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. An introductory biology course for nonbiology majors. 105N concentrates on major biological concepts concerning molecular biology, cellular biology, cellular reproduction, classical and molecular genetics, energetics, and ecology. 106N concentrates on plants and animals at the organismal level examining major biological concepts involving diversity, ecology, behavior, and evolution. These courses would be beneficial to those students who are pursuing elementary education degrees because they teach biological topics included in the Virginia Standards of Learning. Cannot be substituted for BIOL 115N or 116N.

**BIOL 108N. Environmental Sciences.** Lecture 3 hours; laboratory 3 hours; 4 credits. An introductory course for non-majors focusing on scientific inquiry and the fundamental biological underpinnings of environmental science, including ecology, evolution, the nature of and threats to biodiversity, and conservation solutions. Cannot be substituted for BIOL 115N or 116N.

**BIOL 109N. Introduction to Human Biology.** Lecture 3 hours; laboratory 3 hours; 4 credits. An introductory course for non-majors focusing on scientific inquiry and the structure and function of the human body, with units on diet, nutrition, exercise, infectious disease, and cancer. Cannot be substituted for BIOL 115N or 116N.

**BIOL 115N, 116N. General Biology I, II.** Lecture 3 hours; laboratory 3 hours; 4 credits each semester. Prerequisite: placement into ENGL 110C and qualifying Math SAT/ACT score, qualifying score on the Math placement test, or completion of MATH 102M or higher; BIOL 115N is prerequisite for 116N. 115N is an introduction to biological molecules, cell biology, metabolism, molecular biology, and Mendelian genetics. 116N is an introduction to evolutionary biology, ecology, and the biology of prokaryotes and eukaryotes. A student receiving credit for 115N or 116N cannot receive credit for BIOL 105N, 106N, 108N, or 109N.

**BIOL 126N/127N. Honors: General Biology.** Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of BIOL 115N/116N.

**BIOL 190. Introduction to Human Anatomy and Physiology.** Lecture 3 hours; 3 credits. A course in human anatomy and physiology emphasizing all body systems and their processes.

**BIOL 195. Biology Lab Topics.** 1-3 credits. Laboratory topics.

**BIOL 221. Field Botany.** Lecture 2 hours; laboratory 5 hours; 4 credits. Prerequisites: BIOL 115N-116N. Identification, ecology, and uses of native plants and mushrooms. Most classes are field trips.

**BIOL 246. Plant Geography.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N. The distribution and characteristics of major plant community types in North America are discussed. Abundant pictures are used to illustrate the flora and plant communities.

**BIOL 250-251. Human Anatomy and Physiology I and II.** Lecture 3 hours; laboratory 3 hours; 4 credits each. 250 is prerequisite to 251. BIOL 250 emphasizes the gross anatomical relationships and the molecular, cellular, physiological, and metabolic process of the integument, musculoskeletal, neural, and immune systems. BIOL 251 emphasizes the physiology and pathophysiology of the cardiac, pulmonary, renal, endocrine, and reproductive systems. Only

one semester (4 credits) may count toward upper-division elective requirements.

**BIOL 291. Ecology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N or permission of the instructor. An introduction to the basic concepts of ecology for both biology majors and nonmajors. The concepts are introduced with respect to terrestrial, aquatic, and marine environments.

**BIOL 292. Evolution.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N or permission of the instructor. A study of the concepts and mechanisms of evolution in both animals (including humans) and plants. Molecular evolution, disease, and the maintenance of genetic variation in natural populations are addressed. Recommended for its cultural value to all students.

**BIOL 293. Cell Biology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N and 116N. Corequisites: MATH 162M and CHEM 211. A comprehensive course in the structural and functional features of cells, including prokaryotic and eukaryotic cells. The course will also examine biomacromolecules, techniques in cell and molecular biology, and current frontiers in cell biology research.

**BIOL 303. Genetics.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N and STAT 130M. Corequisites: MATH 162M and CHEM 211. An introduction to the principles of biological inheritance and variation and the molecular bases of gene structure and function.

**BIOL 307. Invertebrate Zoology.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: BIOL 292. An examination of the invertebrate phyla with emphasis on classification, morphology, phylogeny, and general biology.

**BIOL 308. Botany.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: BIOL 291, 292. A general introduction to the structure, function, ecology, and diversity of plants.

**BIOL 314. Developmental Biology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 250-251. Corequisite: CHEM 211. A semester of organic chemistry is recommended. An analysis of development in animals. Lectures will explore experimental approaches to the study of gametogenesis, fertilization, cleavage and morphogenesis. Laboratory emphasizes the morphological features of the developing vertebrate embryo.

**BIOL 315. General Microbiology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 293 and 303. Designed to be a general survey of the nature and diversity of microorganisms (especially the bacteria but also including viruses and fungi), the roles and functions of the microorganisms, and basic microbiological research. Laboratories emphasize fundamental techniques in culturing, studying and identifying microorganisms.

**BIOL 322. Ethnobotany.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 292. A survey of plants used by people for food, fiber, medicine, dyes, perfumes, and building. A survey of local edible, toxic and useful native plants and mushrooms is included. Two Saturday field trips are required.

**BIOL 330. Vertebrate Zoology.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: BIOL 115N/116N, 291, 292. An introduction to the vertebrate animals, including overviews of their evolution, systematics, morphology, physiology, ecology, and behavior. Lab will include a variety of hands-on activities and may require a multi-day field trip.

**BIOL 331. Marine Biology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N-116N or 105N-106N or 108N-109N. A survey of the variety, ecology and adaptations of marine organisms. The course is designed to broadly introduce students to life in the oceans and the many special features of marine species that have evolved in the earth's oldest and most extensive ecosystem.

**BIOL 335. Ecology Laboratory.** 2 credits. Prerequisite: BIOL 291. A field and laboratory course that emphasizes techniques employed in ecological investigations.

**BIOL 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: BIOL 115N/116N, junior standing, and permission of the CDA. Available for pass/fail grading only. Student participation for credit in a paid work environment based on the academic relevance of the work experience as determined by the department and the Career Management Center prior to the semester in which the work experience is to take place. Unstructured course. (qualifies as a CAP experience)

**BIOL 368. Internship.** 1-3 credits. Prerequisites: BIOL 115N/116N, junior standing, permission of CDA. Supervised participation in a non-research professional setting. Requires a minimum of 3 hours per week or equivalent for 1 credit, completion of work report and other documents relevant to the work experience, and supervisor evaluation. Unstructured course. (qualifies as a CAP experience)

**BIOL 369. Practicum.** 1-3 credits. Prerequisites: BIOL 115N-116N, acceptance as a declared major, junior class status, and approval by the CDA. A supervised experience in a research, teaching, or work/field setting, and culminating in the preparation of a written document relevant to the practicum experience. Unstructured course. (qualifies as a CAP experience)

**BIOL 400/500. Flowering Plant Families.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 292 (BIOL 303 and 308 recommended). An evolutionary survey of flowering plant families; emphasis on recognition and identification of plant families and the principles and methodologies that define them; and evolution of biodiversity. Focus on local representatives and large families in the field and laboratory. An activity oriented, hands-on course.

**BIOL 401/501. Entomology.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: BIOL 291 and 292. A comprehensive survey of the insects, including taxonomy, morphology, physiology, reproductive and developmental biology, and ecology. Research techniques in entomology will be learned through both field and laboratory work.

**BIOL 404/504. Conservation Biology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 291, junior standing or permission of instructor. The application of fundamental biological principles to the preservation of biodiversity, including the role of ecological and evolutionary theory to the preservation of biotas on a regional and global basis. Lectures will cover modern approaches to conservation biology, including conservation ethics and management issues. Laboratories will include discussion of case studies, introduction to software applicable to conservation biology, presentations by regional conservation practitioners, and visits to relevant field sites.

**BIOL 405W. Biology Seminar.** 3 credits. Prerequisites: BIOL 291, 292, 293, 303, and at

least two upper-division elective courses. This course offers a capstone experience in scientific writing, faculty-mentored library research, the review and synthesis of material from the primary technical literature, and oral presentation. Students will develop a deeper understanding of the purposes and types of scientific writing, the structure and interpretation of technical papers, and the oral and written communication skills appropriate to the discipline. (This is a writing intensive course.)

**BIOL 407/507. Molecular and Immunological Techniques.** Lecture 1 hour; laboratory 6 hours; 4 credits. Prerequisites: BIOL 293 and 303. A laboratory intensive, hands on course covering many current methods in molecular biology.

**BIOL 408/508. Introduction to Pharmacology.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: BIOL 250 or permission of the instructor. This is a general introductory course in pharmacology dealing with chemistry, general properties and pharmacological effects on various physiological systems, therapeutic usefulness and toxicities of drugs. The course is designed to prepare upper-level undergraduate and graduate students for more advanced courses in pharmacology.

**BIOL 409/509. Immunology.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 315 or permission of the instructor. A comprehensive study of the phenomena of immune resistance, the cells and tissues involved in immune responses, and the consequences of immunization.

**BIOL 410/510. Immunology Laboratory.** Laboratory 4 hours; 2 credits. Prerequisite: junior standing. Serologic and cellular immune reactions and other immunologic methodologies.

**BIOL 412/512. Plant Physiology.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: BIOL 292. Corequisites: BIOL 293 and CHEM 211. A study of the physiological processes which occur in plants. A laboratory and greenhouse oriented course stressing plant nutrients, cell metabolism-respiration, photosynthesis, nitrogen metabolism, and plant hormones.

**BIOL 414/514. Plants of the Bible and The Koran.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 308, junior standing or permission of instructor. A survey of plants occurring in the sacred texts, their uses, history and lore.

**BIOL 415/515. Marine Ecology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 331 and previous course in ecology. When offered during the fall semester, Marine Ecology Laboratory (BIOL 442/542) is a corequisite. An introduction to ecological processes in the marine environment, with an emphasis on coastal ecosystems. The course covers synthetic topics as well as the ecology of specific marine habitats.

**BIOL 416/516. Clinical Immunology.** Lecture 2 hours; 2 credits. Prerequisite: BIOL 409/509. A description of common immunological problems seen in the clinic.

**BIOL 419/519. Wetland Plants.** Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisites: BIOL 291 and 308. A field-oriented course on the identification of plants used to delineate wetlands including ecology, variability, and distribution.

**BIOL 420/520. Ichthyology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 292 and junior standing. The biology of marine and freshwater fishes including morphology, physiology, evolution, distribution, ecology, and reproduction.

**BIOL 421/521. Ornithology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 291, 292 or permission of the instructor. The basic biology of birds, their evolution, behavior, classification, and ecological relationships. Biology majors must take BIOL 422 to receive concentration credit for this course.

**BIOL 422/522. Field Studies in Ornithology.** Lecture 2 hours; laboratory 4 hours; 3 credits. Prerequisites: BIOL 291, 292 or permission of the instructor. A combined lecture and field study of birds with emphasis on identification, behavior, and structure. Extensive field trips, including at least one weekend, are taken.

**BIOL 423/523. Cellular and Molecular Biology.** Lecture 3 hours; 3 credits. Prerequisites for 423: BIOL 293 and 303. Prerequisite for 523: course background in cell biology and genetics or permission of instructor. The molecular organization of eucaryotic cells is presented along with cell evolution, molecular genetics, the internal organization of the cell and the behavior of cells in multicellular organisms.

**BIOL 424/524. Comparative Animal Physiology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisite: BIOL 291. An introduction to the basic mechanisms by which different animals function. How organisms acquire and use energy, regulate their internal environment, circulate and exchange gases and wastes, receive and conduct information about their environment, and move and use muscles will be some of the topics covered. Emphasis will be on how organisms make changes in these basic mechanisms to deal with differing environmental conditions.

**BIOL 426/526. Histology.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 250, 293. The structure and function of cells, tissues and organs at both the light microscopic and ultrastructural levels.

**BIOL 427/527. Neurobiology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250/251 or 458/558. Survey of current areas of neurobiology including evolution of the nervous system from invertebrates through primates and mechanisms of nervous system function such as sensation and biological clocks.

**BIOL 428/528. Physiological Ecology of Animals.** Lecture 3 hours; 3 credits. Corequisite: BIOL 292. Prerequisite: BIOL 291. An integrative approach to understanding how animals function in and respond to their natural environment. Adaptations by a variety of invertebrate and vertebrates to marine, coastal/estuarine, freshwater, terrestrial, and parasitic environments will be covered. Responses of intertidal organisms to periodic aerial and aquatic exposure, osmotic stress on crustaceans in brackish waters, sensory adaptations in freshwater fish, thermal regulation by reptiles in desert climates, and respiratory adaptation by parasites are among the topics that will be discussed.

**BIOL 430/530. Microbial Pathogenesis.** Lecture 3 hours; 3 credits. Prerequisite for 430: BIOL 315. Prerequisite for 530: microbiology course. Examination of bacterium-host interactions with an emphasis on how bacteria cause disease, particularly the means by which the bacterium is able to circumvent host defense mechanisms.

**BIOL 431/531. Mammalogy.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites for 431: BIOL 291, 292, junior standing or permission of the instructor. Prerequisite for 531: undergraduate ecology and evolution courses. The

ecology, behavior, distribution, physiology, diversity, and evolution of mammals.

**BIOL 438/538. Dendrology.** Lecture 2 hours; laboratory 5 hours; 4 credits. Prerequisite: BIOL 308 or equivalent. The study of trees and shrubs, their identification, ecology, structure and anatomy, lore and uses. A field-oriented course.

**BIOL 441/541. Animal Behavior.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 291, 292 or permission of the instructor. Animal behavior with special attention to its evolution and ecological significance. Field and laboratory activities will emphasize observational and experimental techniques used to study behavior.

**BIOL 442/542. Marine Ecology Laboratory.** 4 hours; 2 credits. When offered during the fall semester, Marine Ecology (BIOL 415/515) is a corequisite. A laboratory/field course in which students gain practical experience with research techniques common to coastal marine ecology, and become familiar with the organisms and ecological conditions present in the various marine habitats visited by the class. A field trip of several days is required.

**BIOL 443/543. Environmental Impact Assessment.** Lecture 3 hours; 3 credits. Prerequisite: biology major or permission of the instructor. Topics will include the history and legislation pertaining to environmental impact assessment. Emphasis will be placed on ecological concerns and management of tidal and nontidal wetlands plus shore line and estuarine habitats. Assignments will include evaluation of environmental impact conditions within this region.

**BIOL 444/544. Experimental Marine Ecology.** Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisite: BIOL 331. A lecture/field course in experimental design and the use of quantitative ecological techniques in addressing scientific questions in marine ecology. The course includes lectures on techniques, field exercises where techniques are employed, computer-based data analysis, and written reports of research project results. A week-long research trip to a marine laboratory is required.

**BIOL 445/545. Community Ecology.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 291 or equivalent. The goal of this course is to introduce and evaluate both classical and emerging paradigms in community ecology. This will be achieved by examining those processes (biotic and abiotic) that structure ecological communities, and by developing skills in statistical analyses and modeling to objectively weigh the evidence presented in support of these paradigms.

**BIOL 446/546. Comparative Biomechanics.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 291; recommended courses: PHYS 111N, 112N. The principles of fluid and solid mechanics will be applied to a variety of plant and animal systems to understand how organisms deal with the immediate physical world and its accompanying constraints. A diverse range of topics will be covered, including aerial flight in insects, wind resistance in trees, jet propulsion in squid, flow within blood vessels, forces on intertidal organisms, viscoelasticity in biological materials, and energy storage during terrestrial movement.

**BIOL 450/550. Principles of Plant Ecology.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: BIOL 291 and senior standing. Course covers the general theoretical concepts in plant ecology with statistical methods. The structure, development, processes, and history of



plant communities are studied. Laboratories involve extensive fieldwork. A weekend field trip is required.

**BIOL 454/554. Parasitology.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: BIOL 293 and 303. A basic course which treats parasitism as one of several biological interactions. The principles discussed are structural and physiological adaptations to parasitism, host specificity, immunity, parasitic life cycles, and evolution of parasitism. Representative species are examined in the laboratory.

**BIOL 455/555. Molecular Systematics.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 292 and 303. An introduction to the processes and procedures used to reconstruct the evolutionary history of living organisms using chromosomes, proteins, and nucleic acids. Topics include project planning and sampling, molecular techniques, and analytical and tree-building programs used to infer phylogeny. Assignments include readings followed by participation in group discussions and an oral presentation followed by a written paper on the analyses of a molecular data set.

**BIOL 456/556. Population Genetics.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 303. An introduction to the principles of population genetics and addresses topics such as inheritance, genetic variation, fitness, natural selection, mutation, genetic drift, gene expression, and single- and multi-locus models of different types of selection. Human disease is addressed. Students will write a mock-grant proposal.

**BIOL 457/557. General Virology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 293 and 303 for BIOL 457 only. For 557, students are expected to have had courses in cell biology and genetics prior to enrollment in the course. A basic course covering the history of virology, viral taxonomy, genetics, and the molecular biology and host responses to the major mammalian virus groups. Examples or recent impacts of viruses on human health such as influenza pandemics will also be covered.

**BIOL 458/558. Comparative Anatomy of the Chordates.** Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisites: BIOL 115N, 116N, and 292. The evolution of form in chordates, with an emphasis on the vertebrates. Changes in the function and adaptive significance of structures through time are considered. The detailed anatomy of representative species is introduced and compared in the laboratory.

**BIOL 459/559. Genomics.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N, 293 and 303. This course will introduce genomics as a scientific approach that combines molecular biology, high-throughput methodologies, bioinformatics and computing to reveal the secrets hidden within a genome. Topics will include how whole genomes are studied, including large scale sequencing, RNA expression profiling, proteomics and bioinformatics.

**BIOL 460/560. Frontiers in Nanoscience and Nanotechnology.** Lecture 1 hour; 1 credit. Prerequisites: BIOL 293, junior, senior or graduate standing for 560. Review of the structure, synthesis and properties of key nano-materials and their impact on living systems.

**BIOL 461/561. Human Cadaver Dissection.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: BIOL 250-251 or equivalent. Students will dissect a human cadaver and learn all major structures. All exams will be practical tag-tests using human tissue. The major emphasis will

be on head, neck, trunk, and joints with some clinical application to injuries and surgery.

**BIOL 473/573. Herpetology: The Biology of Amphibians and Reptiles.** Lecture 3 hours; laboratory 4 hours; 5 credits. Prerequisites: BIOL 292 and junior standing or permission of the instructor. The biology of amphibians and reptiles, emphasizing their evolution, classification, and morphological and ecological adaptations. Field trips and laboratory exercises introduce techniques for observation, collection, preservation, and study.

**BIOL 474/574. Mushrooms.** Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: BIOL 308. The identification, classification ecology, culture, and uses of mushrooms and other fleshy fungi. A field oriented course.

**BIOL 477/577. Origins of Biological Principles.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N and 116N or BIOL 105N and 106N or BIOL 108N and 109N plus a minimum of 6 credits of biology courses at the 200 level or above, all taken before enrollment. Covers the historical origins of major concept areas in the biological sciences including evolution, cell biology, ecology, systematics, botany, biomedical sciences, and molecular biology. Includes discussions of the philosophers and scientists behind the discovery of these principles. Includes a significant writing component.

**BIOL 478/578. Microbial Ecology.** Lecture 3 hours; 3 credits. Prerequisite for 478: BIOL 315 or equivalent or permission of instructor. Prerequisite for 578: a general microbiology course. Study of the interactions between microorganisms, particularly bacteria, and their environment. Emphasis is placed on nutrient cycling and the influence of microbes on global mineral dynamics. The effects of physical and chemical factors on distribution and activity of microbes in their environments and applications of these interactions are studied (biotechnology).

**BIOL 479/579. Microbial Ecology Laboratory.** Laboratory 3 hours; 1 credit. Corequisite or prerequisite: BIOL 478/578. A laboratory for measurement of microbial numbers and activity in natural environments.

**BIOL 480/580. Advanced Human Physiology Laboratory.** Laboratory 4 hours; 2 credits. Corequisite or prerequisite: BIOL 250/251. A study of the cardiovascular, respiratory, nervous and digestive systems using mammals.

**BIOL 481/581. Forensic and Medical Entomology.** Lecture 3 hours; laboratory 5 hours; 5 credits. Prerequisites: BIOL 115N/116N, 291, 292. A comprehensive survey of insects important to legal and medical fields, including their biology, use in criminal investigations and roles as disease vectors. Laboratories will include exercises in both field and bench laboratory activities.

**BIOL 483. Bio-micro/Nanofluidics.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: junior standing. This course is intended for biology and engineering students interested in learning the basics of micro/nanofluidics technology and its application to problems in biology research. Students will learn fundamentals of DNA manipulation, including polymerase chain reaction, and will then learn how to fabricate "lab-on-a-chip" devices to perform these techniques. (cross-listed with MAE 483)

**BIOL 487/488W. Honors Research in Biology.** 487 is prerequisite to 488. 4 credits each semester. Prerequisites: admission to the Honors Program and senior standing. Independent study and scheduled meetings with faculty advisor. The

work in this course results in the production of a thesis. (qualifies as a CAP experience) (488W is a writing intensive course.)

**BIOL 490/590. Advanced Human Physiology.** Lecture 4 hours; 4 credits. Prerequisite: BIOL 250 or equivalent. All major physiological systems with emphasis on normal physiology. Some clinical applications made but not stressed.

**BIOL 496/596. Topics.** 1-3 credits. Prerequisites: BIOL 115N/116N, junior standing, permission of instructor. A specially designed, structured course concerning specific topics in the biological, environmental, or allied health fields.

**BIOL 497. Undergraduate Research.** 1-3 credits. Prerequisites: BIOL 115N/116N, junior standing, permission of instructor, permission of CDA. Student performs lab and/or field research under supervision of ODU faculty or other approved professional. Requires a minimum of 3 hours per week or equivalent for 1 credit, completion of lab/field notes and written report and evaluation by supervisor. May qualify as lab experience (see CDA). (qualifies as a CAP experience)

**BIOL 498/598. Independent Study.** 1-3 credits. Prerequisites: BIOL 115N/116N, junior standing, permission of the CDA, permission of instructor. Supervised (non-lab/field) project selected to suit the needs of the individual student. Requires completion of formal scientific paper documented with appropriate primary technical literature (see CDA for details). Unstructured course.

## Biomedical Engineering – BME

**BME 401/501. Biomedical Engineering Design and Innovation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed for students taking the biomedical engineering interdisciplinary minor. The course will expose students to the design strategies, techniques, tools, and protocols commonly encountered in medical technology innovation. Needs identification, concept generation, technology development, market analysis, regulation and integration will be discussed.

**BME 402/502. Biomedical Engineering Principles.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is for students taking the biomedical engineering interdisciplinary minor. The course exposes students to principles used in biomedical engineering. Areas discussed include modeling of physiological processes, biomedical signal acquisition and processing, biomaterials, rehabilitation engineering and ethical principles in biomedical engineering.

## Business Administration - BUSN

**BUSN 110. Introduction to Contemporary Business.** Lecture 1 hour; 1 credit. Provides students with a preliminary understanding of business and gives them an opportunity to use office productivity software to enhance communications and presentations. Students should be able to identify career prospects for each of the primary business areas (such as Accounting, Finance, Management, etc.) and basic business terminology. Office productivity software (word processing, spreadsheets, and presentation) will be heavily used by the faculty and students for

communication in the form of presentations and essays.

**BUSN 135. Introduction to Office Productivity Software.** Lecture 1 hour; 1 credit. Introduces and provides hands-on experience in office productivity software used for word processing, spreadsheet, and presentation.

## Chemistry and Biochemistry — CHEM

(Note: + = A lecture course having an associated laboratory)

**CHEM 103. Introductory Chemistry.** Lecture 3 hours; 3 credits. Prerequisite: knowledge of basic algebra. An introductory course designed to acquaint the student with the basic principles of chemistry.

**CHEM 105N. Introductory Chemistry.** Lecture 3 hours; 3 credits. Prerequisite: knowledge of basic algebra. Corequisite: CHEM 106N. This course is the first part of a two-semester sequence of chemistry covering topics in general, organic, and biological chemistry. In this part, an introduction to the principles of inorganic (general) chemistry is provided. The topics to be covered include measurements, atoms and elements, compounds and their bonds, energy and matter, gases, solutions, acids and bases, chemical reactions and quantities, chemical equilibrium, and nuclear chemistry. This course does not meet the prerequisite for CHEM 123N, and cannot be used toward the CHEM major or minor. Students wishing to pursue advanced study in chemistry should take CHEM 121N, 122N, 123N, and 124N. Credit for CHEM 105N is not allowed if a student has prior credit for CHEM 121N. CHEM 105N + CHEM 106N satisfy four credits of the University's Nature of Science general education requirement.

**CHEM 106N. Introductory Chemistry Laboratory.** Laboratory 2 hours; 1 credit. Corequisite or prerequisite: CHEM 105N. An introduction to common laboratory techniques and the process of science is provided. CHEM 105N + CHEM 106N satisfy four credits of the University's Nature of Science general education requirement.

**CHEM 107N. Introductory Organic and Biochemistry.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 105N with a grade of C or better. Corequisite: CHEM 108N. This course is the second part of a two-semester sequence of chemistry covering topics in general, organic, and biological chemistry. In this part, an introduction to organic compounds and their role in biological systems is provided. The topics to be covered include the structure, nomenclature, and reactivity of organic compounds, the structure and function of important biomolecules, and the chemistry of metabolic pathways. This course does not meet the prerequisite for CHEM 211, and cannot be used toward the CHEM major or minor. Students wishing to pursue advanced study in chemistry should take CHEM 121N, 122N, 123N, and 124N. CHEM 107N + CHEM 108N satisfy four credits of the University's Nature of Science general education requirement.

**CHEM 108N. Introductory Organic and Biochemistry Laboratory.** Laboratory 2 hours; 1 credit. Prerequisite: CHEM 106N with a grade of C or better. Corequisite or prerequisite: CHEM 107N. Laboratory experiments involving organic compounds and biomolecules are performed. CHEM 107N + CHEM 108N satisfy four credits of

the University's Nature of Science general education requirement.

**CHEM 117. Principles of Chemistry.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: CHEM 121N, 122N or 126N with a grade of C or better. Content identical to CHEM 116N but includes no laboratory. Normally taken only by engineering majors. Does not satisfy General Education Natural Science perspective requirement.

**CHEM 121N. Foundations of Chemistry I Lecture.** Lecture 3 hours; recitation 1 hour; 3 credits. Corequisite or prerequisite: CHEM 122N. Prerequisite: MATH 102M or higher with a grade of C or better. High school chemistry or CHEM 103 is strongly recommended. This is the first of a two-course series, designed for science and engineering majors, that prepares the student for subsequent studies in molecular science and constitutes the foundation for all upper-level chemistry courses. Topics include the descriptive chemistry of selected elements, modern atomic and molecular structure, stoichiometry, thermochemistry, and gas laws. A student receiving credit for CHEM 121N cannot receive additional credit for CHEM 103 or CHEM 105N or CHEM 137N. CHEM 121N + CHEM 122N satisfy 4 credits of the University's Nature of Science general education requirement.

**CHEM 122N. Foundations of Chemistry I Laboratory.** Laboratory 2 hours; 1 credit. Corequisite or prerequisite: CHEM 121N. Laboratory experiments are designed to complement the topics presented in the companion lecture course, CHEM 121N. A student receiving credit for CHEM 122N cannot receive additional credit for CHEM 106N or 138N. CHEM 121N + CHEM 122N satisfy 4 credits of the University's Nature of Science general education requirement.

**CHEM 123N. Foundations of Chemistry II Lecture.** Lecture 3 hours; recitation 1 hour; 3 credits. Corequisite or prerequisite: CHEM 124N. Prerequisite: CHEM 121N with a grade of C or better. This is the second of a two-course series, designed for science majors, that prepares the student for subsequent studies in molecular science and constitutes the foundation for all upper-level chemistry courses. Topics include states of matter, solutions, electrochemistry, thermodynamics, equilibria, and kinetics. CHEM 123N + CHEM 124N satisfy four credits of the University's Nature of Science general education requirement.

**CHEM 124N. Foundations of Chemistry II Laboratory.** Laboratory 2 hours; 1 credit. Corequisite or prerequisite: CHEM 123N. Prerequisites: CHEM 121N with a grade of C or better, and CHEM 122N with a grade of C or better. Laboratory experiments are designed to complement the topics in the companion lecture course, CHEM 123N. CHEM 123N + CHEM 124N satisfy four credits of the University's Nature of Science general education requirement.

**CHEM 137N. Accelerated General Chemistry I and II Lecture.** Lecture 3 hours; recitation 1 hour; 4 credits. Pre- or corequisite: MATH 162M. This lecture course, along with CHEM 138N, will fulfill all requirements for a complete year of general chemistry. This combination will satisfy all general chemistry prerequisites for upper level chemistry courses.

**CHEM 138N. Accelerated General Chemistry I and II Lab.** Laboratory 4 hours; 2 credits. Prerequisite: CHEM 137N. This laboratory course is intended for students who have completed CHEM 137N. Experiments cover

foundational topics and skills in chemistry and introduce students to chemical research.

**CHEM 195. Selected Topics.** 1-3 credits. Prerequisite: permission of the chief departmental advisor or chair of the department. Selected laboratory or lecture topics designed for students who need to supplement a transfer course to fulfill a course requirement.

**CHEM +211-213. Organic Chemistry Lecture.** Lecture 3 hours; 3 credits each semester. Prerequisite: CHEM 123N or CHEM 137N with a grade of C or better for CHEM 211; CHEM 211 with a grade of C or better for CHEM 213. Chemistry of carbon compounds with in-depth treatments of reaction mechanisms, modern spectral techniques, and new synthetic methods to meet the needs of chemistry and biochemistry majors.

**CHEM 212-214. Organic Chemistry Laboratory.** Laboratory 4 hours; 2 credits each semester. Pre- or corequisites: CHEM 211 with a grade of C or better for CHEM 212; CHEM 213 with a grade of C or better for CHEM 214. Prerequisites: CHEM 124N or CHEM 138N with a grade of C or better for CHEM 212; CHEM 212 with a grade of C or better for CHEM 214. Experience is offered in synthetic, separation, and analytical methods of organic chemistry. Modern synthetic and spectroscopic techniques are introduced.

**CHEM +321. Analytical Chemistry Lecture.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 123N or CHEM 137N/138N and MATH 162M or 163 or 166 with a grade of C or better. A study of the fundamental principles of quantitative chemical analysis including the application of principles of equilibria to analytical processes. Emphasis is given to gravimetric and titrimetric methods as well as consideration of electrical, optical, and other methods of chemical analysis.

**CHEM 322. Analytical Chemistry Laboratory.** Laboratory 4 hours; 2 credits each semester. Prerequisite: CHEM 124N or CHEM 138N with a grade of C or better. Pre- or corequisite: CHEM 321 or permission of the instructor. Statistical principles or measurements and error analysis are integrated with experiments designed to evaluate and refine techniques of fundamental measurements to a level of analytical competency. These techniques are applied to the analysis of samples using gravimetric, titrimetric, electrical and optical methods.

**CHEM +331-333. Physical Chemistry Lecture.** Lecture 3 hours; 3 credits each semester. Pre- or corequisite: MATH 312 with a grade of C or better for CHEM 331. Prerequisites: CHEM 321 and PHYS 231N-232N with a grade of C or better for CHEM 331. CHEM 331 and MATH 312 with a grade of C or better for CHEM 333. Chemical thermodynamics of pure substances and solutions, chemical equilibrium, electrochemistry, chemical kinetics, quantum chemistry, molecular structure, and statistical thermodynamics.

**CHEM 332W-334W. Experimental Physical Chemistry I and II.** Laboratory 4 hours; 2 credits each semester. Pre- or corequisite: CHEM 331 with a grade of C or better for CHEM 332W; CHEM 332W and 333 with a grade of C or better for CHEM 334W. Physical chemical techniques are applied to studies on thermodynamics, solution phenomena, gases, electrochemistry, chemical kinetics, and spectroscopy. Statistical analysis of data. (Each is a writing intensive course.) (This is a writing intensive course.)

**CHEM 351. Inorganic Chemistry.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 117 or

CHEM 123N or CHEM 137N with a grade of C or better. This foundational course provides an introduction to inorganic chemistry. Topics include periodic law, bonding theory, oxidation/reduction, acid/base theory, descriptive chemistry of the main group, and an introduction to transition metal coordination chemistry.

**CHEM 352. Inorganic Chemistry Laboratory.** Laboratory 4 hours; 2 credits. Co- or prerequisite: CHEM 351 with a grade of C or better. Synthesis of metal and nonmetal inorganic compounds and organometallic compounds, their characterization by physical methods, and a study of their properties.

**CHEM 365. Undergraduate Teaching Experience.** 1-3 credits. Prerequisites: junior standing and/or the approval of the appropriate departmental coordinator. Teaching experience in a chemistry classroom or laboratory setting under the direct supervision of the course instructor. Available for pass/fail grading only.

**CHEM 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Cooperative Education/Career Management in accordance with the policy for granting credit for Cooperative Education programs. Student participation for credit is based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience is to take place. This experience is meant to include work outside of the campus environment in a business, government, or industry setting. Available for pass/fail grading only. (qualifies as a CAP experience)

**CHEM 369. Chemistry Practicum.** 1-3 credits. Prerequisites: CHEM 213/214, a chemistry or biochemistry major with junior standing, and/or the approval of the appropriate departmental coordinator. A student may choose an internship, research, or teaching experience to gain out-of-class experience related to the major. The department will accept ECI 487 in lieu of CHEM 369. (qualifies as a CAP experience)

**CHEM 415/515. Intermediate Organic Chemistry.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 211-213 with a grade of C or better. An in-depth treatment of the chemistry of carbon compounds, including reaction mechanisms, spectral techniques, polymerization, pericyclic reactions, and biomolecules.

**CHEM +421/521. Instrumental Analysis Lecture.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 331 with a grade of C or better. Designed to be taken concurrently with CHEM 422/522. A study of the basic principles of spectroscopic, chromatographic, and electrochemical methods of quantitative chemical analysis. Methods of chemical instrumentation are also included.

**CHEM 422/522. Instrumental Analysis Laboratory.** Laboratory 6 hours; 3 credits. Prerequisite: CHEM 332W with a grade of C or better. Pre- or co-requisite: CHEM 421/521 with a grade of C or better. An intensive laboratory study of the principles of analytical chemistry. Experiments in spectroscopic, chromatographic, and electrochemical methods are conducted to illustrate fundamental principles and to provide the opportunity to develop skills in the use of instrumentation for chemical measurement.

**CHEM +441/541. Biochemistry Lecture.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 213 with a grade of C or better. This course is a one-semester survey of the major molecular

constituents, bioenergetics, enzymes, nucleic acid structure, and genetic information transfer pathways fundamental to biochemistry.

**CHEM 442W/542. Biochemistry Laboratory.** Lecture 1 hour; laboratory 6 hours; 4 credits. Prerequisite or corequisite: CHEM 441/541 with a grade of C or better. Prerequisite: CHEM 214 with a grade of C or better. Principles and techniques of biochemical and immunological procedures involving protein characterization and isolation, enzymology, bioinformatics, and common molecular biology techniques for nucleic acids will be presented. (This is a writing intensive course.)

**CHEM +443/543. Intermediate Biochemistry.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 441/541 with a grade of C or better or equivalent. This course presents an in-depth study of protein structure, folding, and synthesis. The major metabolic pathways will be studied in detail regarding thermodynamics and mechanism of regulation or control of individual enzymes and entire metabolic pathways. Concepts of metabolic disease will be introduced and effects on integrated metabolism will be presented.

**CHEM 449. Environmental Chemistry.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 123N or 137N, CHEM 213 and CHEM 321 with a grade of C or higher or permission of the instructor. An overview of the natural chemical systems operating in Earth's atmosphere, hydrosphere (natural waters), and terrestrial environment, and the effects that human activities may have on them. Specific topics to be discussed include: origin and evolution of Earth and life, chemistry of the atmosphere (including the ozone layer and greenhouse effect), organic and inorganic components of soil and water, the hydrologic cycle, chemical weathering, chemical speciation and complexation, and microbial processes in soil and water.

**CHEM +451/551. Advanced Inorganic Chemistry.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 333 and 351 with a grade of C or better. Theoretical aspects of modern inorganic chemistry: bonding theories, stereochemistry, acid-base theories, coordination compounds, organometallic and bioinorganic compounds.

**CHEM 452/552. Advanced Inorganic Chemistry Laboratory.** Laboratory 4 hours; 2 credits. Prerequisites: CHEM 351 and 352. Co- or prerequisite: CHEM 451/551 with a grade of C or better. Advanced topics in inorganic synthesis.

**CHEM 453/553. Essentials of Toxicology.** Lecture 3 hours; 3 credits. Prerequisite: CHEM 213 with a grade of C or higher. Fundamental principles of toxicology: dose-response relationship, toxicologic testing, chemical and biological factors influencing toxicity, organ toxicology, carcinogenesis, mutagenesis, teratogenesis.

**CHEM 460/560. Frontiers in Nanoscience and Nanotechnology.** Lecture 1 hour; 1 credit. Nanotechnology presents unparalleled opportunities for advances in technology and medicine. Simultaneously, nanotechnology presents new challenges to organisms and to our environment. These undefined risk factors threaten to slow the development of new technologies and novel medical therapies. This course will review: structure, synthesis and properties of key nanomaterials; key applications of nanomaterials in technology and medicine; and impacts of nanomaterials on plant and animal physiology and the environment more generally. This course will be team-taught by faculty members in Biological

Sciences, Chemistry and Biochemistry, and Engineering.

**CHEM 485. Chemistry and Biochemistry Seminar.** 1 credit. Prerequisites: CHEM 331 and senior standing. The formal presentation of a chemical or biochemical topic before students and faculty. Students will also take Major Field Test during this course.

**CHEM 495. Selected Topics.** 1-3 credits. Prerequisite: permission of the instructor.

**CHEM 497, 498. Independent Study.** Consultation and individual work, 497: 2 hours; 1 credit. 498: 4 hours; 2 credits. Prerequisites: course background appropriate to the proposed study project and approval of the department chair and the faculty/research advisor. An opportunity is afforded students to undertake independent study or an original investigation under the direction of a faculty member.

## Civil and Environmental Engineering — CEE

**CEE 111. Information Literacy and Research.** Lecture 2 hours; 2 credits. Corequisite: MATH 163. Prerequisite: ENGN 110. This course will introduce students to the needs, access, evaluation, use, impact and ethical/legal aspects of information as well as to the application of information literacy and research in the fields of civil and environmental engineering.

**CEE 195. Topics in Civil and Environmental Engineering.** Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Special topics in civil and/or environmental engineering at the introductory level.

**CEE 204. Statics.** Lecture 3 hours; 3 credits. Prerequisite: MATH 211. Pre- or Corequisite: PHYS 231N. Introduction to engineering problems and their solutions through a study of the statics of particles and rigid bodies.

**CEE 240. Geographic Information Systems in Civil and Environmental Engineering.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: MATH 212, sophomore standing or higher. Geographic Information Systems as they apply to civil and environmental engineering. Spatial data acquisition, generation and analysis methods from terrestrial, aerial and satellite sources. Modeling of terrain, land, and hydrographic information using CADD. Use of GIS software in the creation and application of GIS spatial data bases to engineering problems.

**CEE 250. Principles of Environmental Engineering.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 117, PHYS 231N. Fundamentals of environmental engineering. Introduction to contaminant generation, release, and transport in the environment. Engineering analysis of natural systems and introduction to engineered systems control of contaminants.

**CEE 295. Topics in Civil and Environmental Engineering.** Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Topics in civil and/or environmental engineering at the basic engineering level.

**CEE 304. Probability, Statistics, and Risk in Civil and Environmental Engineering.** Lecture 3 hours; 3 credits. Prerequisite: junior standing in CEE. CEE infrastructure systems definitions and methodology. CEE economics basics and use. Probability theory and applications. Statistics parameters, functions, variance, regression, and correlation analysis. Professional practice issues of ethics, licensure, procurement of work, and professional interaction.

**CEE 305. Civil and Environmental Computations.** Lecture 3 hours; 3 credits. Prerequisites: junior standing, MATH 307, CS 150. Introduction to selected numerical methods and their specific application to solving problems in many of the areas of civil and environmental engineering. Further development of computer programming proficiency.

**CEE 310. Structures I.** Lecture 3 hours; 3 credits. Prerequisites: MAE 220 and a grade of C or better in CEE 204. Analysis of statically determinate structures. Influence lines and structural design. Displacement calculations. Introduction to analysis of indeterminate structures.

**CEE 320. Civil Engineering Materials.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: MAE 220. Properties of steel, portland cement concrete, bituminous concrete, aggregates, and timber.

**CEE 323. Soil Mechanics.** Lecture 3 hours; 3 credits. Prerequisite: MAE 220. Corequisite: CEE 335. Fundamental engineering properties of soil and their application to earth structures and foundations. Topics include seepage, compaction, strength, and deformation characteristics of soils.

**CEE 330. Hydromechanics.** Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Fluid properties, fluid statics and fundamentals of fluid kinematics. Steady, incompressible conservation laws for mass, momentum and energy including real fluid energy losses. Turbulent, incompressible fluid flows in closed conduits and with a free surface. Introduction to thermodynamics.

**CEE 335. CE Soils and Hydraulics Laboratory.** Laboratory 2 hours; 1 credit. Corequisites: CEE 323 and 340. Soils and hydraulics tests, including index testing, compaction, permeability, consolidation, shear tests for soils. Pipe flow, open channel flow, surface hydrology, groundwater, and hydraulic structures for hydraulics.

**CEE 340. Hydraulics and Water Resources.** Lecture 3 hours; 3 credits. Prerequisite: CEE 330. Corequisite: CEE 335. Analysis of closed-conduit flow and open-channel flow. Principles of surface water hydrology and groundwater hydraulics. Economics and probability concepts in water resources planning.

**CEE 350. Environmental Pollution and Control.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 121N-122N, MATH 211, PHYS 231N. Introduction to the fundamental principles of environmental engineering. Topics in water quality, water and wastewater treatment, air quality, and solid waste and landfills are discussed.

**CEE 355. Environmental Engineering Analysis.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: PHYS 231N, CHEM 123N-124N or CHEM 117. Introduction to laboratory analytical techniques used in environmental engineering analysis. Integrates field and laboratory testing with engineering analysis and design of treatment systems.

**CEE 356. Public Health Engineering.** Lecture 3 hours; 3 credits. Prerequisite: CEE 355 or 350. Principles of public health engineering. Includes the study of contaminant interactions with human populations, pathogen identification and transport in the environment and design of on-site wastewater treatment systems.

**CEE 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for cooperative education programs.

Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**CEE 368. Internship.** 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**CEE 369. Practicum.** 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**CEE 402. Professional Practice of Engineering.** Lecture 1 hour; 1 credit. Prerequisite: senior standing. The course will cover the practice and business aspects of engineering including concepts in management, business, public policy, and leadership. It will also cover public and private procurement of work, project management and execution, responsibility to clients, contracting, project finances, professional liability, and public safety.

**CEE 403W. Civil Engineering Design Project and Professional Practice.** Lecture 1 hour; laboratory 4 hours; 3 credits. For graduating seniors only. Group design project of civil engineering systems requiring synthesis, data gathering, preliminary investigation, master planning, conceptual designs, layouts, cost estimates and report writing. Emphasis on alternatives, constraints, economics, ethics and professional practice, business and project management, public policy and leadership. (qualifies as a CAP experience) (This is a writing intensive course.)

**CEE 404W. Environmental Engineering Design Project and Professional Practice.** Lecture 1 hour; laboratory 4 hours; 3 credits. For graduating seniors only. Synthesis of environmental engineering fundamentals into integrated systems design. Emphasis on pollution prevention and life cycle design concepts. Semester long project leads to engineering report and oral presentation. Includes consideration of technical and social constraints on engineering design and impacts on society. (qualifies as a CAP experience) (This is a writing intensive course.)

**CEE 410. Concrete Design I.** Lecture 3 hours; 3 credits. Prerequisites: CEE 230 and 310. Fundamental concepts of reinforced concrete analysis and design by ultimate strength and working stress methods.

**CEE 411/511. Concrete Design II.** Lecture 3 hours; 3 credits. Prerequisite: CEE 410 or equivalent. Analysis and design of complex concrete structural members, flat and two-way slabs, special topics and introduction to prestressed concrete design.

**CEE 414/514. Masonry Structures Design.** Lecture 3 hours; 3 credits. Prerequisite: CEE 310. Masonry materials, reinforced beams and lintels, walls, columns and pilasters, shear walls, and buildings.

**CEE 415/515. Steel Structures Design.** Lecture 3 hours; 3 credits. Prerequisite: CEE 310.

Load and resistance factor design methods for steel structures.

**CEE 416/516. Wood Structures Design.** Lecture 3 hours; 3 credits. Prerequisite: CEE 310. Design of wood structures based on national design specification and load and resistance factor design.

**CEE 430/530. Foundation Engineering.** Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Subsurface exploration, site preparation, design of shallow and deep foundations, and retaining structures.

**CEE 431/531. Earth Structures Design with Geosynthetics.** Lecture 3 hours; 3 credits. Prerequisite: CEE 323. Seepage and stability analysis and design of manmade and natural slopes and retaining structures. Applications of geosynthetic material to seepage control, reinforcement of earth works, and containment of hazardous materials.

**CEE 432/532. Introduction to Earthquake Engineering.** Lecture 3 hours; 3 credits. Prerequisites: senior standing and permission of the instructor. An overview of earthquake processes and details of the characteristics of destructive ground motion; the effects of such motion on civil engineering structures; reviews of current design practice in mitigating earthquake hazards for various civil engineering structures such as buildings, bridges, dams, lifelines, ports and harbors.

**CEE 440/540. Hydraulic Engineering.** Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Hydraulic transients; flow control structures; computer analysis of hydraulic systems; design of pipelines, open channels and culverts.

**CEE 446/546. Urban Stormwater Hydrology.** Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Storm rainfall analysis, design rainfall hyetographs, runoff calculation procedures, detention basins, use of mathematical models to analyze and design urban storm drainage systems.

**CEE 447/547. Groundwater Hydraulics.** Lecture 3 hours; 3 credits. Prerequisite: CEE 340. Description of well hydraulics in single and multiple well systems. Determination of aquifer parameters from pumping tests. Use of computer models to determine drawdowns due to multiple well systems.

**CEE 450/550. Water Distribution and Wastewater Collection System Design.** Lecture 3 hours; 3 credits. Prerequisite: CEE 330. Corequisite: CEE 340. Design of water distribution systems, sanitary sewer systems and appurtenances.

**CEE 451. Water and Wastewater Treatment.** Lecture 3 hours; 3 credits. Prerequisites: CEE 330, CEE 250 or 350. Discussion of water quality constituents and introduction to the design and operation of water and wastewater treatment facilities.

**CEE 452/552. Air Quality.** Lecture 3 hours; 3 credits. Prerequisite: CEE 250 or 350. Study of air quality management standards and regulations and pollutant dynamics. Design and operation of emission control equipment for mobile and stationary sources of air pollution.

**CEE 454/554. Hazardous Wastes.** Lecture 3 hours; 3 credits. Prerequisite: CEE 250 or 350. Study of sources, generation rates and characteristics of hazardous wastes and their regulation, handling, and design of treatment and disposal facilities.

**CEE 458/558. Sustainable Development.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Overview of

social, economical, technical environmental aspects of regional, national and international efforts to achieve sustainable development. Discussion of the integration of industrial activity and ecological concerns utilizing principles of zero emissions, pollution prevention and design for the environment.

**CEE 459/559. Biofuels Engineering.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Course will cover the overview of renewable energy sources; fundamentals of biofuels; biomass and types of biomass (e.g. woody biomass, forest residues, agricultural residues, energy crops); composition of lignocelluloses (cellulose, hemicellulose, and lignin); biomass conversion technologies; thermochemical, supercritical water, and biochemical conversion processes; types of biofuels from biomass; liquid fuels (bioethanol, bio-oil, biocrude, and hydrocarbons); gaseous fuels (synthesis gas, hydrogen, biodiesel); solid fuels (biochar, torrefied biomass); biodiesel from vegetable oils, algae to biofuels; value-added processing of biofuel residues; economic and environmental assessments; policies and future R&D.

**CEE 470/570. Transportation Fundamentals.** Lecture 3 hours; 3 credits. Prerequisite: senior standing. This course surveys the current practice of transportation engineering in the United States. It focuses on various ground transportation modes and covers policy, institutional planning and operational issues. Students are introduced to planning models, capacity analysis, traffic impact analysis, and parking studies.

**CEE 471/571. Transportation Operations I.** Lecture 3 hours; 3 credits. Prerequisite: CEE 470/570. This is the first course in transportation operations and traffic flow theory. Topics include traffic engineering studies, capacity analysis, intersection control, traffic flow models, shockwave analysis, signal warrant analysis, and safety analysis. Course includes applications of modeling and simulation to isolated intersections.

**CEE 476/576. Transportation Operations Applications.** Lecture 3 hours; 3 credits. Prerequisite: CEE 470. This course deals with operations applications in transportation. It covers theory and practical examples of traffic engineering studies, capacity analysis, intersection control, signal warrant analysis, and safety analysis. Topics discussed also include traffic management, access management, traffic calming, and regional operations management.

**CEE 482/582. Introduction to Coastal Engineering.** Lecture 3 hours; 3 credits. Prerequisites: CEE 330 and permission of the instructor. Classical small amplitude wave theory, wave transformations in shallow water, shoaling, refraction, diffraction, reflection, breaking. Wave induced near shore currents and sediment transport processes. Alternatives to mitigate coastal erosion processes. Introduction to coastal structures.

**CEE 495/595. Topics in Civil and Environmental Engineering.** Lecture 1-3 hours; 1-3 credits. Prerequisite: Permission of the department chair. Special topics of interest with emphasis placed on recent developments in civil and/or environmental engineering.

## Civil Engineering Technology — See Engineering Technology

## Communication — COMM

**COMM 101R. Public Speaking.** Lecture 3 hours; 3 credits. Preparation, delivery, and analysis of types of speeches with emphasis on extemporaneous speaking.

**COMM 103R. Voice and Diction.** Lecture 3 hours; 3 credits. An introduction to the analysis and practice of effective voice and articulation. Applications across various communication contexts, such as public communication, media, and social communication.

**COMM 112R. Introduction to Interpersonal Communication.** Lecture 3 hours; 3 credits. An introduction to concepts, processes, and effects of communication in personal and social relationships. Emphasis on fundamental communication skills necessary for the formation and maintenance of relationships.

**COMM 126R. Honors: Public Speaking.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A study of the theory, strategies, and techniques of public speaking with emphasis on its application to effective conflict resolution.

**COMM 195, 196. Topics in Communication.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

**COMM 200S. Introduction to Human Communication.** Lecture and discussion 3 hours; 3 credits. An introduction to the discipline and methods of human communication. Survey of the major approaches to studying communication across the range of human communication contexts and functions.

**COMM 225. Introduction to Production Technology.** Lecture 3 hours; 3 credits. Fundamentals of construction, lighting and production techniques in contemporary theatre and film. Students will apply acquired skills to active productions for ODU theatre and film productions. (cross-listed with THEA 225)

**COMM 226S. Honors: Introduction to Human Communication.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of COMM 200S.

**COMM 227A. Honors: Film Appreciation.** Lecture 2 hours; laboratory 2 hours; 3 credits. Open only to students in the Honors College. Special section of COMM 270A, which focuses both on the contextual and close text analysis of masterworks as they have influenced film art and industry. Special emphasis is placed on basic research, communication, and critical thinking skills as they relate to the film experience. (cross-listed with THEA 227A)

**COMM 260. Understanding Media.** Lecture 3 hours; 3 credits. An examination of mass communication—books, newspapers, magazines, radio, TV, film, sound recordings, and the Internet—as a global institution, industry, and social force. Media literacy skills are emphasized, as are matters of technology, content, economics, history and impact.

**COMM 270A. Film Appreciation.** Lecture 2 hours; laboratory 2 hours; 3 credits. This class will focus on both contextual and close text analysis of masterworks as they have influenced film art and industry. Students in this course are expected to develop basic research, communication, viewing and critical thinking skills as they apply their knowledge to the analysis of the film experience. (cross-listed with THEA 270A)

**COMM 271. Introduction to Digital Filmmaking.** Lecture 3 hours; 3 credits. This course will introduce the beginning student to the elements of digital filmmaking from the script to the screen. Students will learn the basics of cameras, lights, sound, editing and post productions as well as scripting and storyboarding. This is a hands-on production course. (cross-listed with THEA 271)

**COMM 295, 296. Topics in Communication.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will be more fully described by academic advisors.

**COMM 300. International Sojourning.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A course designed to prepare ODU study-abroad students for successful international sojourns. Topics to be covered include culture, culture shock, reverse culture shock.

**COMM 302. Communication Research Methods I.** Lecture 3 hours; 3 credits. Prerequisites: STAT 130M, COMM 200S and six hours of 300-400 level communication courses or permission of instructor. An introduction to communication research from a social science perspective. Experiment, survey, content analysis and observational approaches are covered. Students learn statistical data collection and data analysis techniques.

**COMM 303. Introduction to Public Relations.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. A study of interactions within and among communication workplaces and the public. Attention is given to the media, promotions, community relations, and public information.

**COMM 304. Advanced Public Speaking.** Lecture 3 hours; 3 credits. Prerequisite: COMM 101R. An analysis and expression of professional speeches, delivered in public, business and special occasion contexts. Attention is given to audience analysis, library research, development of arguments/evidence as content, creation and use of professional visual aids, expression of appropriate verbal and nonverbal speech cues, speaker credibility, and extemporaneous delivery skills.

**COMM 305. Professional Communication.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. An examination of both the theory and practice of communication in the professional setting. Content includes communication theory, as well as the roles of interpersonal, small group, organizational, and mass media communication as related to the workplace. A student receiving credit for COMM 305 cannot receive credit for COMM 200S.

**COMM 306. Diplomatic Communication.** Lecture 3 hours; 3 credits. Prerequisite: COMM 300 or 400W. This course is designed to familiarize students with the basic elements of diplomatic communication by providing them with an overview of the language, the protocol, contact practices, and administrative policies of the Diplomatic Corps. Students will be trained in the technical aspects of diplomatic discourse from resolution writing to mission briefings, and the ever-evolving use of computers and other electronic modes of communication in carrying out government business.

**COMM 307. Understanding European Film.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course provides students with an

historic overview of films from a variety of European countries. Students will gain the vocabulary necessary to analyze individual films and for the comparative analysis of films from different cultural and historical contexts. The course will focus on issues such as national and individual identity, film as aesthetic form, gender and sexuality, and popular culture. (cross-listed with FLET 307)

**COMM 308. Public Relations Writing.** Lecture 3 hours; 3 credits. Prerequisite: COMM 303 or permission of the instructor. This course is designed to introduce students to the basic elements of public relations writing. Through an examination of scholarly texts, case studies and media coverage of public relations scenarios, students will develop an understanding of the crucial role that writing plays in effective public relations. Students will also be required to complete several writing assignments that relate to actual public relations scenarios.

**COMM 311. Communication and the Classroom.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of communication education topics and issues relevant to communication in the classroom. Topics may include children's communication development, teacher-pupil relationships, administration, and communication activities for the elementary and secondary classroom.

**COMM 314. Nonverbal Communication.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. An introduction to the theories, processes and effects of communication in nonverbal codes. Topics include kinesics, proxemics, paralanguage. Critical analysis and contemporary research emphasized.

**COMM 315W. Communication Between the Sexes.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and COMM 200S, or permission of the instructor. An overview of communication theory and research examining verbal and nonverbal communication between men and women. Topics include communication differences as a function of gender, theories which seek to explain these differences, and prescriptions for change: "the hope of androgyny." (This is a writing intensive course.)

**COMM 321. Production Management for Television and Stage.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course will assist students in understanding the elements of production management both in television and on stage. The course emphasizes organizational and communication skills; technical production knowledge; professional rehearsal and performance protocol according to the rules of AEA, AFTRA and SAG as well as basic production budgeting and scheduling. (cross-listed with THEA 321)

**COMM 323. Leadership and Events Management.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. The course covers the systematic process of organizational assessment from basic communication channels (verbal, printed, and electronic modes of communication), to interpersonal and group communication, to the management of events and staff. This course will examine the importance of leadership roles within organizations in planning any event as well as the communication dynamics between management and those being supervised.

**COMM 325. Sound Design for Stage and Camera.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This class will introduce the concepts and techniques of sound design and sound effects for the stage and camera. Students will learn design of sound element in both a live and recorded environment as well as learn the current equipment and software in digital sound reproduction. (cross-listed with THEA 325)

**COMM 326. Foundations of Group Communication.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. An introduction to the study of communication in task groups. Course reviews foundational literature and emphasizes communication competencies relevant to optimizing group outcomes including group observation, participation, assessment, and leadership.

**COMM 330. The Short Script.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course introduces the principles of screenwriting using the short script as a basis for the exploration. The intent of the course is to introduce concepts of format, characterization, plot, dialogue and narrative style for the short script. (cross-listed with THEA 330)

**COMM 331. Argumentation and Debate.** Lecture 3 hours; 3 credits. Prerequisite: COMM 101R or permission of the instructor. Study of the principles of argumentation; frequent practice in debating current public problems.

**COMM 333. Persuasion.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of the rhetorical and social scientific theories and research about persuasion and applications in speeches and campaigns.

**COMM 335W. Rhetorical Criticism.** Lecture 3 hours; 3 credits. Prerequisite: COMM 101R or permission of the instructor. With the goal of being able to critique a communication event, students will study a variety of rhetorical approaches that may include neo-Aristotelian, generic, feminist, metaphoric, narrative, fantasy theme, and pentadic approaches to rhetorical criticism. (This is a writing intensive course.)

**COMM 337. Model League of Arab States.** Lecture 3 hours; 3 credits. Prerequisite: COMM 101R. A study of the basic principles of negotiation and diplomacy through the vehicle of a simulation. The students will study political, economic and social issues that impact upon the Middle East, research and prepare issue positions and debate/discuss these positions in a model.

**COMM 340. Media and Popular Culture.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. This course examines the basic ways in which media intersect with the currents of contemporary culture. Both historical and critical approaches to the study of mass communication and popular culture trace the full implications of their mutual determination and interdependence.

**COMM 341. Lighting Design for Stage and Film.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 370 or permission of instructor. This is a production course introducing students to the world of light and shadow, mood and composition by surveying lighting design, its technologies for stage and camera, and such principles as basic electrical theory and stage/studio/location design aesthetics. (cross-listed with THEA 341)

**COMM 346. Screenwriting I.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course that exposes the student to the fundamental narrative screenwriting principles taught through text reading, film viewing and analysis, class discussions, and writing assignments. (cross-listed with THEA 346)

**COMM 348. Acting for the Camera.** Lecture 3 hours; 3 credits. Prerequisite: THEA 242. Course will examine the process of building characters for the camera, and the ways in which the conventions of the stage are adapted for the film or video audience. (cross-listed with THEA 348)

**COMM 349. Costume Design for Stage and Camera.** Lecture 3 hours; 3 credits. Prerequisite: THEA 244. This course explores the design aesthetic, historical context, and contemporary impact on performance of the costume garment and its accessories. Students will explore the application of design principles in a practical experience. (cross-listed with THEA 349)

**COMM 351. Interpersonal Communication in Organizations.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S, or permission of the instructor. Focuses on communication theory, research, and applications of a variety of forms of communication in organizational relationships. Topics include superior-subordinate communication, interviewing, and presentations with an emphasis on a diversity of perspectives and types of organizations.

**COMM 355. Organizational Communication.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of instructor. Focuses on critical analysis of theory and research organizations as functional communication systems at the individual, dyadic, small group, and organizational levels. Topics include information processing, problem solving, impression management, compliance gaining, and network analysis.

**COMM 364. Radio.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of the instructor. Focuses on programming, station practices, ownership, and operations of radio stations in the context of past, present, and future market and regulatory restrictions. Demonstration audio tapes and station visits required.

**COMM 365. Electronic News.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. Theory and techniques of preparing news for the electronic media, including evaluation of newscasts and news reports for radio, television, and cable. Electronic news on the local, national, and international levels is analyzed as an institution and as a social force.

**COMM 366. Public Journalism in the Digital Age.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and ENGL 211C and either ENGL 380 or 382 or COMM 260 or permission of the instructor. This course exposes students to conventional and alternative approaches to reporting in public journalism. Students use a combination of conventional and alternative approaches as they research, interview, and construct a story on a local community issue or concern. (cross-listed with ENGL 366)

**COMM 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience,

criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

**COMM 368. Internship.** 3 credits. Prerequisite: approval of department chair prior to registration. Available for pass/fail grading only. A structured work experience with or without remuneration, in a communication-related field. A paper, a log and portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

**COMM 369. Research Practicum.** 3 credits. Prerequisites: completion of core courses and 6 hours of upper-level major courses, and approval of supervising faculty and department chair, prior to registration. A structured research experience, under the supervision of communication faculty member. A paper evaluating/analyzing the research, a log of research progress, and satisfactory evaluation by the supervising faculty are required. (qualifies as a CAP experience)

**COMM 370. The Video Project.** Lecture 3 hours; 3 credits. Prerequisite: THEA 271 or permission of instructor. A studio course that presents an opportunity for students to explore production through the eye of the camera. The course is organized to allow students to experience the entire process of developing a project for the camera (from scripting through filming to editing and finishing detail). (cross-listed with THEA 370)

**COMM 371. History of Animation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course traces the evolution of the animated film worldwide, from the silent to the modern era. The purpose of the course is to provide students with a broad chronological and international overview of animated film masterworks. (cross-listed with THEA 371)

**COMM 372T. Introduction to New Media Technologies.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Introduction to new media practices and theories. Focuses upon the powers of composition, networked communities, information management, social networking and identification in digital environments. Students will examine practical applications such as blogging, online mapping and tagging, online collaborative work such as wikis, and self composition in online social networks.

**COMM 375. Television Production.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The purpose of this course is to explore and understand the basic process of producing television from script to presentation. (cross-listed with THEA 375)

**COMM 377, 378. Extracurricular Studies.** 1-6 credits each semester. Prerequisite: approval of the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and student prior to the semester in which the activity is to take place. Such credit is subject to review by the provost.

**COMM 380. The Video Documentary I.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 271 or permission of the instructor. This course offers the student an opportunity to explore the world of documentary filmmaking. By using the camera as a research tool in developing evidence in support of a thesis, the student is better able to understand documentary filmmaking.

Students will develop projects leading towards the completion of a short documentary film or video. (cross-listed with THEA 380)

**COMM 382. Reporting News for Television and Digital Media.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C and ENGL 211C. This course focuses on writing for television news and producing online news reports. Students will strengthen their journalistic skills and learn the importance of writing clearly for a viewing audience while working under newsroom deadlines. By the end of the course, students should feel confident in producing accurate, detailed reports for television news and online news sites. (cross-listed with ENGL 382)

**COMM 385. Cinematography.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 370. Introduces students to the fundamentals of the videographed digital image. The course explores live-action photography, compositing, filters, digital formats, motion control, and grip equipment. The concepts of the course are applied to fiction and nonfiction cinema. (cross-listed with THEA 385)

**COMM 395, 396. Topics in Communication.** 1-3 credits each semester. Prerequisites: junior standing and permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**COMM 400W/500. Intercultural Communication.** Lecture 3 hours; 3 credits. Prerequisites: COMM 200S or permission of the instructor. This course is designed to introduce students to the study of communication in cultural contexts, the purpose of which is to prepare students to live and work within an increasingly multicultural world. This will be accomplished by first defining and critically analyzing concepts of culture. Throughout the semester, the course will investigate theories of culture and communication that address the development of cultural identity, intercultural communication competence, the role of verbal and nonverbal communication across cultures, the cultural composition of the U.S., and finally ethical communication and challenges in a globalized era. (This is a writing intensive course.)

**COMM 401/501. Communication Theory.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. An overview of general and contextual theories of communication. Focus is on the nature of communication theory, the role of theory in communication inquiry, and the relationships among theory, research, and practice.

**COMM 403/503. Public Relations and Crisis Communications.** Lecture 3 hours; 3 credits. Prerequisite: COMM 303 or permission of instructor. This course introduces students to the basic elements of public relations as it pertains to assisting organizations avoid, mitigate and recover from crisis situations. Students will have the opportunity to both observe and participate in crisis communications situations.

**COMM 405/505. Communication and Culture in the Middle East.** Lecture 3 hours; 3 credits. Prerequisite: six hours of lower-level social science. The course examines the tensions between modernity and tradition in the context of Middle East culture. Cultural variables for study include myth and religion, family structures and the use of science and technology. (cross-listed with MIDE 405)

**COMM 407/507. Communication and Culture in Asia.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours of lower level social science. Course provides theoretical models for examining the values, communication patterns and cultural perspectives of the peoples of Asia. Films, folklore, newspapers and literature from Asia will be investigated.

**COMM 412W/512. Interpersonal Communication Theory and Research.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S. A survey of classic and contemporary theories and research of communication in personal and social relationships across the lifespan. Emphasizes communication as a means to facilitate conditions for development of positive relational outcomes. (This is a writing intensive course.)

**COMM 421/521. Communication and Conflict Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S or permission of the instructor. Focus on theory and research of communication processes in conflict episodes across social and personal relational contexts. Applications of communication approaches to conflict management emphasized.

**COMM 425/525. Family Communication Theory and Research.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 200S or permission of the instructor. A survey of classic and contemporary theories and research of communication in family units, family relationships, and family interfacings with society. The course emphasizes communication in the social construction of evolving "family" realities as well as communication as means to facilitate conditions for development of positive domestic outcomes.

**COMM 426/526. Group Communication Theory and Research.** Lecture 3 hours; 3 credits. Prerequisites: COMM 200S and 326. A survey of classic and contemporary theories and research of communication in task groups as well as the interconnections of task groups with societal institutions such as the family, government, and health care. Communication factors that facilitate conditions for creating and maintaining optimally functioning groups are emphasized.

**COMM 427/527. Children's Communication Theory and Research.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of instructor. A survey of theories and research of communication during childhood. Emphasis is on children as developing communicators, their relationships, and their interactions with media. Factors affecting optimal development of children's communication and development of applications to enhance children's communication development are emphasized.

**COMM 434/534. African-American Rhetoric—Voices of Liberation.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. With the goals of examining the rhetorical strategies and their historical context, students will study and critique original speeches and various forms of discourse by African-American speakers.

**COMM 441. The Music Industry and Communication.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of the instructor. This course will seek to better understand the music industry. To do this, the organization and operation of the modern music industry will be examined. Issues of publishing, copyright and intellectual property and technology will also be examined.

**COMM 444/544. German Cinema.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 270A. This course will focus on the German cinema from perspectives such as fascism and its legacy, film as historical critique, or Weimar cinema. (cross-listed with GER 445/545 and FLET 445/545)

**COMM 445/545. Communication Analysis and Criticism.** Lecture 3 hours; 3 credits. Prerequisite: COMM 200S or permission of the instructor. A survey of the key methods used in critiquing various forms of human and mediated communication for the purpose of becoming more discerning consumers of public and mass mediated messages. Analysis will include films, television, and radio programs, advertisements, newspapers, public discourses, speeches, and conversations.

**COMM 446. Directing for the Camera.** Lecture 3 hours; 3 credits. Prerequisite: COMM 370 or THEA 370. This course seeks to provide students with fundamental principles and practical techniques of directing the narrative fiction film: script development and analysis, production planning, shot composition and framing, and working with actors and crew. (cross-listed with THEA 446)

**COMM 447W/547. Electronic Media Law and Policy.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of the instructor. Course will focus on legal and policy issues related to modern media systems and technologies, with an emphasis on legal considerations of electronic media. Subjects will include First Amendment issues concerning news, programming, and advertising; station licensing; and challenges to traditional legal thought brought about by new technologies. (This is a writing intensive course.)

**COMM 448/548. Transnational Media Systems.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of the instructor. An examination of the rise of broadcast technology and world flow of information and entertainment. Theory and policy issues of systems of broadcast ownership, access, regulation, programming, transborder, broadcasting and cultural imperialism and dominance of Western programming will be addressed.

**COMM 455/555. Critical Analysis of Journalism.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. A critical examination of the news industry as practiced in the printed press, network and cable television, magazines, the Internet, and alternative press. Class examines the political economy of journalism, the sociology of journalistic practice, international news flows, ideological/political control of news, and mythological narrative forms within news.

**COMM 456/556. Organizations and Social Influence.** Lecture 3 hours; 3 credits. Prerequisites: COMM 333 or 355 or permission of the instructor. Focuses on theories, research and applications of the social influence function of communication in a variety of organizational contexts. Examines traditional and nontraditional social influence theories and research as applied to organizational change.

**COMM 465/565. Mass Media and the National Elections.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260, junior standing, or permission of the instructor. Focuses on use of media in presidential elections from 1952 to the present. Topics include image creation and management, and the relationship between media and voting behavior.

**COMM 467/567. Media, Politics and Civic Engagement.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. Focuses on the ways in which citizens develop knowledge of, engage with, and practice politics through mass media and personal media forms. Students examine historical and contemporary practices of civic engagement and political organizing via media such as the alternative press, talk radio, rebel radio, letters-to-the-editor, the Internet, cinematic representations, public access television, and others. Students seek to understand the power available to citizens for political engagement via mediated communication forms.

**COMM 468/568. Communication and Political Symbolism.** Lecture 3 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. The persistent communication and display of symbols and rituals of political meaning are central to how political power is built and legitimately exercised. This course examines such symbols and rituals by focusing on public rituals such as elections, the State of the Union address, and wars; political symbols such as the American and Confederate flag, Statue of Liberty, and television news; and institutions and practices related to public memory, such as war memorials, historical reenactments, museum and theme park displays, and firm narratives.

**COMM 469. Communication Education Practicum.** 3 credits. Prerequisites: completion of core courses and 6 hours of upper-level major courses, and approval of supervising faculty and department chair, prior to registration. An examination of communication education theory and methodology via structured experiences and readings. Students taking this course serve as teaching assistants for COMM 200S, which serves as a lab for practicing skills and techniques.

**COMM 471W/571. International Film History.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: THEA/COMM 270A, junior standing or permission of the instructor. An examination of world cinema as a technology, a business, an institution, and an art form from its inception to the present. Emphasis is on the narrative fiction film, its technological and aesthetic development, economic organization, and socio-cultural context. Representative classic and contemporary works will be screened and analyzed. (cross-listed with THEA 471W/571) (This is a writing intensive course.)

**COMM 472/572. New Media Topics: Theories and Practices.** Lecture 3 hours; 3 credits. Prerequisite: COMM 372T or permission of the instructor. This upper-division seminar investigates one or two particular emergent new media practices and theories. The topics will be chosen at the discretion of the instructor but may include issues such as "mobile media," "micro media and audiences," "social media," etc.

**COMM 473/573. Television and Society.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and COMM 260. The role of television in the cultural, psychological, and economic life of America. The structure and design of television programs; and the history and function of television in reinforcing or altering public perceptions of ideas, events, and people. Major critical approaches are employed in examining television's social impact and global reach.

**COMM 478/578. Principles of Media Marketing and Promotion.** Lecture 3 hours; 3 credits. Prerequisite: junior standing, COMM 260, or permission of the instructor. Course will

introduce students to the ways in which different media forms are used for advertising and marketing purposes. Emphasis is on electronic media, though other approaches, such as direct marketing techniques and the increasing use of new media technologies for marketing, will also be examined.

**COMM 479W/579. American Film History.** Lecture 2 hours, laboratory 2 hours; 3 credits. Prerequisites: THEA/COMM 270A, junior standing or permission of the instructor. An examination of American motion pictures as an art form, a business and an institution from its inception to the present. Primary attention is accorded to the narrative fiction film, its technological and aesthetic development, economic organization and social impact. This course highlights the many connections between film history and American culture. (cross-listed with THEA 479W/579) (This is a writing intensive course.)

**COMM 480/580. The Video Documentary II.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 380. This is a production/studio course designed to complete the preparatory work developed in Theatre 380: The Video Documentary I. Discussion/presentation topics range from production field work to post-production editing. The final third of the semester will be devoted to compiling the rough footage in post production. (cross-listed with THEA 480/580)

**COMM 481/581. The Documentary Tradition.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: COMM 260 or permission of instructor. An in-depth investigation of the history and theory of the documentary tradition in film, television, and radio. Examining both American and international examples, the course will look at major schools, movements, goals, and styles of documentary production. Representative texts will be studied for their socio-political influences, persuasive techniques, and aesthetic formulas.

**COMM 482. Screenwriting II.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 346. Students explore visual storytelling through the theories guiding character development, narrative construction, thematic layers, scene analysis, and many more. Students participate in a variety of critical and writing exercises to enhance their knowledge of the craft of screenwriting. (cross-listed with THEA 482)

**COMM 483. Advanced Video Project.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 370. This course introduces students to the processes and techniques of a narrative film production. Students experience pre-production, production, and post-production phases in creating a product to be entered in regional and national competitions. (cross-listed with THEA 483)

**COMM 485/585. Film and Television Genres.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 270A or COMM 260. This course is designed to examine the conventions and meanings of various film and television genres within their broader aesthetic, socio-historical, cultural, and political contexts. Each time the class is offered it will focus in depth on a different genre, such as the gangster, the Western, the musical, the comedy, science fiction, among others. (cross listed with THEA 485)

**COMM 486/586. Advanced Filmmaking.** Lecture 3 hours; 3 credits. Prerequisites: COMM 346, 370, 385, and THEA 446, and 483. Offers the advanced film/video maker an opportunity to



produce a project beyond the scope of previous classroom projects. Students come to the course in production teams (typically 5 members), with each member assigned a specific duty (cinematography, editing, directing, etc.). Students are permitted into the course solely by instructor approval and only after demonstration of superior skills in subordinate courses and acceptance of a submitted screenplay. (cross-listed with THEA 486/586)

**COMM 495/595, 496/596. Topics in Communication.** 3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**COMM 497/597, 498/598. Tutorial Work in Special Topics in Communication.** 3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Communication Sciences and Disorders — CSD

**CSD 351. Anatomy of Speech, Language, and Hearing.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the psycholinguistic, acoustic, anatomical, and physiological aspects of speech.

**CSD 352. Phonetics.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the production and classification of sounds in American English; practice in phonetic transcription.

**CSD 447/547. Introduction to Language Disorders in Children.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course presents an introduction to the various language disorders manifested by children and adolescents with a focus on characteristics, etiologies and general intervention approaches.

**CSD 448/548. Speech-Language and Hearing Programs in the Public Schools.** Lecture 3 hours; 3 credits. Prerequisites: CSD 450/550 and 460/560. The emphasis of this course is on the organization and administration of public school speech-language and hearing programs, as well as clinical, professional and legal issues related to service delivery.

**CSD 449W/549. Introduction to Clinical Procedures in Speech-Language Pathology.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course provides an introduction to basic clinical procedures and competencies in speech-language pathology with an emphasis on language sampling and identification of grammatical categories. Professionals practicing in the field of speech-language pathology require these skills. This course includes structured and supervised observation activities. ASHA requires 25 supervised hours of therapy observation. (This is a writing intensive course.)

**CSD 450/550. Survey of Communication Disorders.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course is designed to acquaint the student with recognition, identification, and understanding of speech and language disorders.

**CSD 451/551. Articulation and Phonological Disorders.** Lecture 3 hours; 3 credits. Prerequisites: CSD 352 and 450. This course emphasizes causes, identification and treatment of articulation and phonological disorders.

**CSD 452/552. Voice Disorders.** Lecture 3 hours; 3 credits. Prerequisites: CSD 351 and 450. This course focuses upon anatomical and physiological bases, etiologies, assessment and treatment of voice disorders.

**CSD 453/553. Language Development.** Lecture 3 hours; 3 credits. Prerequisite: CSD 450. This course emphasizes language development from the perspective of the speech-language pathologist.

**CSD 454/554. Clinical Practica in Speech Pathology/Audiology I, II, III.** Lecture 3 hours; practicum 6 hours; 4 credits each, 3 separate semesters. Prerequisites: CSD 351 or 650, 352, 449W/549, 450/550, 451/551, 453/553, 459/559, 460/560, and permission of program faculty. These practica are designed to provide students with experiences in the evaluation and treatment of communication disorders. (qualifies as a CAP experience)

**CSD 457/557. Language Diagnosis and Remediation.** Lecture 3 hours; 3 credits. Prerequisites: CSD 450/550 and 453/553. This course acquaints the student with diagnostic methods and remediation techniques for the language-disordered and nonverbal child.

**CSD 458/558. Speech and Hearing Science.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The content of this course focuses upon basic acoustics, speech acoustics, psychoacoustics, speech perception, and clinical laboratory instrumentation. The course is designed to provide fundamental information regarding normal and abnormal aspects of speech and hearing processes.

**CSD 459/559. Seminar in Speech Pathology Methods and Materials.** Seminar 3 hours; 3 credits. Prerequisites: CSD 450 and 451. This course focuses upon current therapy methods, equipment, and materials which are utilized in the remediation of communicative disorders.

**CSD 460/560. Hearing Disorders and Basic Audiometry.** Lecture 3 hours; 3 credits. Prerequisite: CSD 351. A study of the physics of sound, anatomy, and physiology of the human ear, basic audiometry and hearing disorders.

**CSD 461/561. Aural Rehabilitation I.** Lecture 3 hours; 3 credits. Prerequisites: CSD 351 and 460. A study of audiological findings and the implications for hearing therapy; speech and language development of the deaf.

**CSD 465/565. Signing I-Beginning Nonverbal Communication.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Study of the grammatical structure and use of American sign language; exposure to ideals and culture of the deaf community. (This course does not satisfy the general education foreign language skills requirement.)

## Communication Sciences Special Education — CDSE

**CDSE 495/595. Topics in Education.** 1-6 credits. Prerequisite: junior standing or permission of the instructor. Selected topics in education.

**CDSE 497/597. Independent Study in Special Topics in Education.** 1-3 credits.

Prerequisite: junior standing or permission of the instructor. Independent study of selected topics.

## Community Health Professions — CHP

**CHP 200. Principles of Public Health.** Lecture 3 hours; 3 credits. Overview of the principles and practice of public health in the world. What is public health? What are its origins, evolution, and how is it structured and administered globally? A discussion of the mission, concepts, principles and practices of population-based public health will predominate. Topics will include global health, environmental health.

**CHP 201. Public Health in the United States after 9/11.** Lecture 3 hours; 3 credits. This course will focus on the changing practices of protecting the public's health in the United States. Topics include: biosecurity, bioterrorism, food safety, disease surveillance, and they new threats of biological, chemical and physical hazards.

**CHP 310. Clinical Services I.** Lecture 3 hours; clinic 4 hours; 5 credits. Prerequisite: junior standing and permission of the instructor. This course will require the student to demonstrate competence in a clinical skill at the entry level.

**CHP 318. Principles of Nutrition.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 105N-106N and 107N-108N or CHEM 121N-122N and 123N-124N, or the equivalent; BIOL 190 or 250 or 251 or permission of the instructor. Course designed especially for those entering the health education or health care field, covering the physiology of each of the major body systems as a basis for understanding those aspects of its function that reflect the importance of various nutrients.

**CHP 360. Introduction to Global Health.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C, SOC 201S or ANTR 110S, or permission of the instructor. This course introduces students to health-care delivery systems of nonWestern countries, specifically developing countries. The various factors that influence health-care planning and delivery of health services are addressed.

**CHP 368. Internship.** 1-3 credits. Prerequisites: CHP 200, 360, 450, 465, ENVH 301W, 448 and DNTH 415. This course will allow a BSHS student to complete an internship for gaining basic job entry skills or to enhance a job skill.

**CHP 369. Practicum in Health Sciences.** 1-3 credits. Prerequisites: junior standing and approval of the Health Sciences Advisor and the Career Management Center. This is a 1-3 credit course intended for the student in the College of Health Sciences seeking a CAP experience. (qualifies as a CAP experience)

**CHP 395. Topics in Health.** 1-3 credits. Prerequisite: permission of the instructor.

**CHP 400/500. Ethics in Health Administration.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. A survey of philosophical problems common to health sciences, including an analysis of the nature of health in its historical and contemporary contexts.

**CHP 415W/515. Critical Issues in Public/Community Health Administration.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and ENGL 211C or ENGL 231C and permission of the instructor. Identification and analyses of critical issues currently facing public/community health and the American health care system. (This is a writing intensive course.)

**CHP 420/520. Foundations of Gerontology.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Focuses on changes in the characteristics, status, and roles of the elderly; personality development, mental health, and adjustment of individuals with emphasis on biophysical and psychosocial processes as they influence capacity and performance in the elderly.

**CHP 425/525. Health Aspects of Aging.** Lecture 3 hours; 3 credits. Prerequisite: CHP 420/520 or permission of the instructor. Identifies major issues and problems in meeting health care needs of the aged. Emphasis on role of social assets and supports in determining effects of life changes on the aging process.

**CHP 426/526. Skills in Health Services Administration I.** Lecture 2 hours; 1 hour web; 1-3 credits. Prerequisite: permission of instructor. Introduction of basic concepts which will allow for development of critical skills in a variety of managerial areas pertinent to the delivery of health care.

**CHP 427/527. Skills in Health Services Administration II.** Lecture 2 hours; 1 hour web; 1-3 credits. Prerequisite: permission of instructor. Continuation of basic concepts and development of critical management skills pertinent to the delivery of health care. Experts in various fields will provide students with useful strategies in the administration of health care services.

**CHP 430W/530. Community Health Resources and Health Promotion.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 211C or ENGL 231C and permission of the instructor. Designed to provide information about community health resources. (This is a writing intensive course.)

**CHP 440/540. Finance and Budgeting in Healthcare.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course covers financial management functions in healthcare organizations including operating and capital budgeting processes along with budgeting and financial controls.

**CHP 450/550. Public and Community Health Administration.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. A review of the principles and practice of administering public and community health organizations and programs at federal, state, and local levels. Constitutional, statutory and administrative bases for organizing and conducting public/community health programs will be discussed. CHP 400, CHP 415W or CHP 430W, and CHP 450 meet the oral communication requirement in the major. All three courses must be taken to meet the requirement.

**CHP 455/555. Interpersonal and Counseling Skills for Health Professionals.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Study and practice in human relations for health practitioners. The course is designed to incorporate the latest and best techniques from the health sciences with a "therapeutic use of self."

**CHP 456/556. Substance Use and Abuse.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Focuses on facts about drugs and drug abuse, on value judgments concerning drugs, and on interaction of facts and value judgments. Emphasis is on drug abuse prevention.

**CHP 465/565. Policy and Politics of Health.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course will explore both health policy and the politics of health. Students will develop an understanding of the systematic and

analytical framework for developing health and health care policy issues.

**CHP 470/570. Death, Dying and Survivorship.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. Utilizes readings from sociology, psychology, literature, art, law, religion, and the medical and nursing sciences to explore death in its personal, cultural and professional significance. Audiovisual presentations and guest speakers will provoke thought and discussion to allow students to come to terms with their attitudes toward death and assist others in dealing with this important life experience.

**CHP 475/575. Healthcare Marketing.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course provides a basic understanding of marketing in a health care setting. This course will cover the following: the history of marketing in a health care setting, health care markets, marketing techniques, and leadership skills in managing and supporting the marketing efforts.

**CHP 480/580. Health Ethics and the Law.** Lecture 3 hours; 3 credits. Prerequisite: permission of instructor. This course provides the students with a basic knowledge of health law and examines legal issues confronting health services administrators in various health care environments.

**CHP 485/585. Health Informatics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course focuses on healthcare informatics (information systems) and application in health care organizations. It provides an overview of health information system concepts, management, and integration of technology in healthcare organizations.

**CHP 495/595, 496/596. Topics in Public/Community Health Administration.** 1-3 credits. Prerequisite: permission of the instructor. This course provides the opportunity for the study of selected topics in public/community health, including informatics, under the supervision of a faculty member.

**CHP 497/597. Readings in Public/Community Health Administration.** 1-3 credits. Prerequisite: permission of the instructor. This course provides the opportunity for advanced investigations of selected issues/concerns in public/community health administration, under the supervision of a faculty member. It must be taken by students who wish to pursue topics not covered by regularly scheduled courses.

## Computer Science — CS

**CS 101. Computers: An Introduction.** Lecture 3 hours; recitation 1 hour; 3 credits. Laboratory work required. An introductory course about computers and how they work. Students need no prior experience with computers. Students will receive instruction and hands-on experience with operating system, word processing, electronic spreadsheet, graphic presentation, and other software available in the university computer labs.

**CS 102. Introduction to Networks and the Internet.** Lecture 3 hours; recitation 1 hour; 3 credits. Laboratory work required. Introduction to networked computer systems that have access to the Internet with its vast information. Emphasis on a computer network's architecture, the University's network, electronic mail, World Wide Web, WWW browsers, and gaining access to information that resides on computer systems throughout the world. Knowledge of how to

effectively use the Internet and the understanding of how and why it works are critical elements.

**CS 106. Intermediate Wordprocessing.** Lecture 1 hour; 1 credit. Intermediate coverage of wordprocessing to produce professional quality documents and reports. Computer-based training and a project-based approach teach students to solve the realistic problems of organization, formatting and display as they practice and learn the features of Microsoft Word.

**CS 107. Intermediate Spreadsheets.** Lecture 1 hour; 1 credit. Introduction to data management and analysis using spreadsheets. Computer-based training using a project-based approach teaches students to solve realistic problems as they practice and learn the features in Microsoft Excel.

**CS 108. Intermediate Presentation Software.** Lecture 1 hour; 1 credit. Intermediate course in utilizing presentation software to produce quality slideshows. Computer-based training using a project-based approach teaches students to solve realistic problems as they practice and learn the features of Microsoft PowerPoint.

**CS 110. Introduction to Computer Science.** Lecture 1 hour; 1 credit. Available for pass/fail grading only. Introduction to the Computer Science Department, College of Sciences, Old Dominion University, and to the profession of computer science. This course provides students with a broad introduction to the scientific research efforts of computer science and the applications using those research efforts. Required for incoming computer science majors.

**CS 120G. Introduction to Information Literacy and Research.** Lecture 3 hours; 3 credits. Students will learn to locate, manage, critically evaluate and use information for problem solving, research and decision making. Includes collaborative tools for document development and office productivity tools for presentation. Information security, laws and etiquette related to use and access of information are covered.

**CS 121G. Introduction to Information Literacy and Research for Scientists.** Lecture 3 hours; 3 credits. Students will learn to locate, manage, critically evaluate and use information for scientific problem solving and research. Includes mathematical tools for data analysis and presentation and office and collaborative tools as well. Information security, laws and etiquette related to use and access of information are covered.

**CS 126G. Honors: Introduction to Information Literacy and Research.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors version of CS 120G.

**CS 149. Elements of Computer Science.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: MATH 102M or equivalent or higher math course, ability to use email and a web browser. Laboratory work required. Topics include basic computer organization, data representation, programming environments, elementary programming, simple networking concepts, the Internet, and related digital technologies. Students develop simple programs related to science applications.

**CS 150. Problem Solving and Programming I.** Lecture 3 hours; laboratory 2.5 hours; 4 credits. Prerequisite: MATH 102M or equivalent. Laboratory work required. Introduction to computer-based problem solving and programming in C++. Topics include problem-solving methodologies, program design, algorithm development, and testing. C++ language concepts

include variables, data types and expressions, assignment, control-flow statements, arrays, sorting, functions, pointers, and linked lists.

**CS 170. Introduction to Computer Architecture I.** Lecture 3 hours; 3 credits. Prerequisite: MATH 102M and a grade of C or better in CS 150. Fundamentals of the architecture and operation of modern computers. Basic computer logic: logic equations; gates; combinatorial logic. Basic computer arithmetic: binary numbers; floating point representation. System hierarchy, overview of a computer; integrated circuit technology. Performance: metrics; choosing benchmarks; Amdahl's law. Instruction Sets and Operations: assembly language; machine language; examples of other instruction sets.

**CS 250. Problem Solving and Programming II.** Lecture 3 hours; laboratory 2.5 hours; 4 credits. Prerequisites: MATH 162M and a grade of C or better in CS 150. Corequisite: CS 252. Laboratory work required. Design issues arising in software systems and C++ programming techniques aiding in their solution. Topics include the software life cycle, methods of functional decomposition, design documentation, abstract data types and classes, common data structures, dynamic data structures, algorithmic patterns, and testing and debugging techniques. Term project required.

**CS 252. Introduction to Unix for Programmers.** Lecture 1 hour; 1 credit. Prerequisites: A grade of C or better in CS 149 or 150 or corequisite of CS 333. Laboratory work required. Available for pass/fail grading only. An introduction to Unix with emphasis on the skills necessary to be a productive programmer in Unix, Linux, and related environments. Topics include command line shells, files and directories, editing, compiling and common command line utilities.

**CS 270. Introduction to Computer Architecture II.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 150 and 170. Fundamentals of the architecture and operation of modern computers. Building an ALU. The cache-Ram interaction. The virtual memory system. The Fetch/Execute cycle. Implementing a set of the ALU, Load/Store and Branch instructions in a single cycle implementation. Basics of microprogramming. Design of the control unit. A pipelined implementation. Multicores, multiprocessors and clusters.

**CS 295. Topics in Computer Science.** 1-3 credits. Special topics in computer science which are not part of the current curriculum at the freshman/sophomore level.

**CS 300T. Computers in Society.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. Covers changes in the world's society due to continuing implementation of computing technologies. Evaluation of technological expansions in areas of governments, business/industry, education, medicine, transportation, communication, and entertainment. Topics include: intellectual property, software piracy, computer crimes and ethics. Students must research a societal topic and present results in written and oral forms.

**CS 312. Internet Concepts.** Lecture 3 hours; 3 credits. Prerequisite: CS 252. Laboratory work required. An in-depth introduction to the Internet and the World Wide Web for CS or similar majors as a basis for more advanced studies in Web programming. Topics include: historical and current development of the Internet Web document publishing. Internet design, communication, and

application protocols and the tools that use them. Internet search tools and their design. Internet issues such as netiquette, copyright, spam, computer viruses, cookies, security, and future of the Internet.

**CS 330. Object-Oriented Programming and Design.** Lecture 3 hours; 3 credits. Prerequisites: MATH 163, CS 252 and a grade of C or better in CS 250 or CS 333. Laboratory work required. The techniques and idioms of object-oriented programming in C++ and Java. Methods of object-oriented analysis and design with the Unified Modeling Language. Multi-thread programs and synchronization.

**CS 333. Programming and Problem Solving in C++.** Lecture 4 hours; 4 credits. Prerequisites: MATH 163 and a grade of C or better in CS 150 (or an equivalent course in a high level language). Laboratory work required. Corequisite: CS 252. Topics include C++ syntax and semantics, principles of design and basic software engineering skills. This course satisfies the requirements of both CS 150 and 250. It is intended for the student who has already been introduced to programming, possibly in another language. This web-based course requires considerable maturity and independent responsibility on the part of the student.

**CS 334. Computer Architecture Fundamentals.** Lecture 4 hours; 4 credits. Prerequisites: MATH 163 and a grade of C or better in CS 150 (or an equivalent course in a high level language). Topics include: number representation, base conversion, Boolean algebra, combinatorial circuits, arithmetic units, registers, memory, hardware and microprogrammed control units, architecture of typical microcomputers, and the development of systems from basic components. The performance of competing architectures will be a major concern. This course satisfies the requirements of both CS 170 and 270. This web-based course requires considerable maturity and independent responsibility on the part of the student.

**CS 350. Introduction to Software Engineering.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 330 or 361 or corequisite of CS 333. Laboratory work required. Topics include: use of a defined software process (such as PSP), software costing methods, software metrics, quality assurance, inspection teams, testing methodologies, schedules and budgets, and configuration management. The course requires each student to participate as a member of a team in a significant team project. Each student will be required to demonstrate proficiency in several software development tools.

**CS 355. Principles of Programming Languages.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 250 and 252. Laboratory work required. Survey of significant features of programming languages. Language types including imperative, object-oriented, functional, and logical are covered. Concepts include lexical and syntactic analysis, type systems, flow control, modularity, and parallel programming. Small programs in several languages required.

**CS 361. Advanced Data Structures and Algorithms.** Lecture 3 hours; 3 credits. Prerequisites: MATH 163, CS 252 and a grade of C or better in CS 250 or 333. Laboratory work required. Common abstract data types, including vectors, lists, stacks, queues, sets, maps, heaps, and graphs. Standard C++ interfaces for these ADTs. Generic programming via iterators and templates.

Choosing data structures and algorithms to implement ADTs, via analysis of their time and space complexity.

**CS 367. Cooperative Education.** 1-3 credits. Prerequisite: approval by the CS Department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. Written report required. (qualifies as a CAP experience)

**CS 368. Computer Science Internship.** 3 credits. Prerequisite: approval by CS Department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. An academic project may be required by the department to enhance the value of the educational experience. Written report required. (qualifies as a CAP experience)

**CS 381. Introduction to Discrete Structures.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisites: MATH 163 and a grade of C or better in CS 150. Topics include propositional and predicate logic, rules of inference, methods of proof, set operations, functions, complexity of algorithms, growth of functions, induction, counting, relations, equivalence relations and graphs.

**CS 390. Introduction to Theoretical Computer Science.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 250 and 381. Elementary study of theoretical aspects of computer science. Topics in formal languages and automata theory are covered including regular languages, regular expressions, finite automata, context-free languages, pushdown automata, grammars, Turing machines, and unsolvable problems.

**CS 395. Topics in Computer Science.** 1-3 credits. Prerequisite: permission of the instructor.

**CS 410/510. Professional Workforce Development I.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisites: A grade of C or better in CS 300 and 350. Laboratory work required. Provides students with challenges of business environments in developing a technology based project. Students identify a societal problem, identify solutions, define project solutions, develop project objectives, conduct feasibility analysis, establish organizational group structure to meet project objectives and develop formal specifications. Students make formal technical project presentations and develop web documentation. Students prepare a draft grant proposal.

**CS 411W/511. Professional Workforce Development II.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 330 and 410. Laboratory work required. Students write professional and non-technical documents and continue the development of the project defined in CS 410. Written work is reviewed and returned for corrective rewriting. Students will design and develop a project prototype, and demonstrate the prototype to a formal panel along with delivering the formal product specifications and a draft formal grant proposal. (qualifies as a CAP experience) (This is a writing intensive course.)

**CS 417/517. Computational Methods and Software.** Lecture 3 hours; 3 credits. Prerequisites: MATH 316 and a grade of C or better in CS 250. Laboratory work required. Algorithms and software for fundamental problems in scientific computing. Topics: properties of floating point arithmetic, linear systems of equations, matrix factorizations, stability of algorithms, conditioning of problems, least-squares problems, eigenvalue computations, numerical integration and differentiation, nonlinear equations, iterative solution of linear systems.

**CS 418/518. Web Programming.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 312 and 330. Laboratory work required. Overview of Internet and World Wide Web; web servers and security, HTTP protocol; web application and design; server side scripts and database integration, and programming for the Web.

**CS 450/550. Database Concepts.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 381 and either CS 330 or 361. Laboratory work required. Database Architecture. The relational model and relational algebra. Interactive SQL, SQL and programming languages (PL/SQL and PHP). Entity Relationship Modeling. Functional dependencies and normalization. Transactions, concurrency and recovery.

**CS 451/551. Software Engineering Survey.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 330 or 361. Laboratory work required. Evaluation of software development methodologies. Topics include: software life cycle models, software specification and design methodologies, informal specification techniques, formal specifications, design tools, software analysis, quality assurance, life cycle management, software costing models and complexity.

**CS 454/554. Network Management.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 455. Laboratory work required. The administration of computer networks and their interaction with wide area networks: network topologies for local and wide area networks, common protocols and services, management of distributed file services, routing and configuration, security, monitoring and trouble-shooting.

**CS 455/555. Introduction to Networks and Communications.** Lecture 3 hours; 3 credits. Prerequisites: STAT 330 and a grade of C or better in CS 270. Laboratory work required. OSI and TCP/IP reference models and protocols. Hardware survey, datalink, network, and transport layers. Broadcast and point-to-point networking techniques, routing, switching, and LAN media access. Internetworking, ATM, Gigabit Ethernet, wireless networks, and network security.

**CS 456/556. Database Administration I.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 381 and either CS 330 or 361. Laboratory work required. Programming in SQL and PL/SQL and hands-on development of DBA administration skills in the ORACLE database environment. Creating database objects, querying and manipulating, and PL/SQL programming constructs. Setup and administer databases. Create, organize, and manage database files, users, privileges and other resources.

**CS 457/557. Database Administration II.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 456/556. Laboratory work required. Advanced DBA administration skills in the Oracle database environment. Topics in planning and implementing backup and recovery

of the database. Performance optimization and tuning of database and applications including memory and disk structures. Configuration and maintenance of clients and servers in a network environment.

**CS 458/558. Unix System Administration.** Lecture 3 hours; 3 credits. Prerequisite: experience with UNIX. Laboratory work required. Aspects of administering a SOLARIS/UNIX operating system in a networked environment are covered. Topics covered include installation, file system management, backup procedures, process control, user administration, device management, Network File Systems (NFS), Network Information Systems (NIS), UNIX security, Domain Name Services (DNS), and integration with other operating systems.

**CS 460/560. Computer Graphics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 361. Laboratory work required. An introduction to graphical systems and methods. Topics include basic primitives, windowing, transformations, hardware, interaction devices, 3-D graphics, curved surfaces, solids, and realism techniques such as visible surface, lighting, shadows, and surface detail. Requires project involving OpenGL programming.

**CS 471. Operating Systems.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 270 and 361. Laboratory work required. Operating system structures. Multiprogramming and multiprocessing. Process management. Memory and other resource management. Storage management, I/O systems, distributed systems. Protection and security. The concepts will be illustrated through example systems such as Unix and Windows.

**CS 472. Network and Systems Security.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 361. Laboratory work required. Basic protocols, techniques and programming issues to secure network and computer systems. Topics include: cryptographic algorithms and concepts (Secret Key Cryptography, Hashes and Message Digests, Public Key and Authentication); Security Standards (Kerberos, Public Key Infrastructure, IPsec, SSL/TLS); Security applications (PEM, S/MIME, PGP, HTTP, Firewalls); Hands-on programming using OpenSSL.

**CS 475/575. Introduction to Computer Simulation.** Lecture 3 hours; 3 credits. Prerequisites: STAT 330 and a grade of C or better in CS 330 or 361. Laboratory work required. Efficient implementation methods. Time management. Planning and design of simulation experiments. Statistical issues in simulation. Generation of random numbers and stochastic variates. Programming with graphically- and text-based simulation languages. Verification and validation of simulation models. Distributed simulation. Special topics such as HLA will be discussed.

**CS 476/576. Systems Programming.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 330 and 361. Laboratory work required. This course is to help students fully understand and utilize the internal workings and capabilities provided by modern computing, networking and programming environments. Topics include: Shell Script Programming, X Windows (Xlib and Motif), UNIX internals (I/O, Processes, Threads, IPC and Signals), Network Programming (UDP/TCP Sockets and Multicasting) and Java Systems Programming (SWING, Multithreading and Networking).

**CS 480/580. Introduction to Artificial Intelligence.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 361. Laboratory work required. Introduction to concepts, principles, challenges, and research in major areas of AI. Areas of discussion include: natural language and vision processing, machine learning, machine logic and reasoning, robotics, expert and mundane systems.

**CS 486/586. Introduction to Parallel Computing.** Lecture 3 hours; 3 credits. Prerequisites: MATH 316; knowledge of a high level language. Laboratory work required. The motivation for and successes of parallel computing. A taxonomy of commercially available parallel computers. Strategies for parallel decompositions. Parallel performance metrics. Parallel algorithms and their relation to corresponding serial algorithms. Numerous examples from scientific computing, mainly in linear algebra and differential equations. Implementations using public-domain network libraries on workstation clusters and computers.

**CS 487. Applied Parallel Computing.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in CS 270 and either CS 361 or CS 330. (CS 417 or linear algebra is recommended.) Laboratory work required. Fundamental concepts of parallel computing: Machine models, architectures, parallel topologies and languages, parallel algorithm design and parallel programming, architecture independent message passing interface (MPI) communication library, and scaled-speedup. Group project required.

**CS 488/588. Principles of Compiler Construction.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in CS 361. Laboratory work required. Theoretical and practical aspects of compiler design and implementation. Topics will include lexical analysis, parsing, translation, code generation, optimization, and error handling.

**CS 495/595. Topics in Computer Science.** 1-3 credits. Prerequisite: permission of the instructor.

**CS 497/597. Independent Study in Computer Science.** 1-3 credits. Prerequisite: permission of the instructor. Independent study under the direction of an instructor.

## Criminal Justice — CRJS

**CRJS 215S. Introduction to Criminology.** Lecture 3 hours; 3 credits. Introduction to criminology as a science, including the study of crime, criminals, and society's response to them.

**CRJS 222. The Criminal Justice System.** Lecture 3 hours; 3 credits. A study of social response to criminal behavior as cases move through the machinery of justice. Describes the interdependence of crime statistics, law enforcement, criminal courts, and correctional procedures for purposes of analyzing the entire system.

**CRJS 226S. Honors: Introduction to Criminology.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of CRJS 215S.

**CRJS 262. Law and the Criminal Justice System.** Lecture 3 hours; 3 credits. The course covers both substantive and procedural law related to the definitions, investigations, processing and punishment of crimes. It is meant to provide the students with an overall understanding of the articulation between law and the criminal justice system.

**CRJS 295. Topics in Criminal Justice.** Lecture 3 hours; 3 credits. A study of selected topics designed as electives for criminal justice majors. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**CRJS 316. Juvenile Delinquency.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of instructor. A study of juvenile misbehavior in the contemporary community, its nature, extent, treatment, and control, including juvenile court procedure and philosophy. (cross-listed with SOC 316)

**CRJS 317. Correctional Institutions.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. Examines the history of prisons and jails, their formal and informal organization, their effects on individuals, and issues and philosophies of penal reform.

**CRJS 318. Probation, Parole and Community-Based Corrections.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. Examines the history, law, administration and social setting of probation, parole and other noninstitutional sentencing alternatives. Also explores nontraditional alternatives to criminal adjudication such as arbitration and diversion programs.

**CRJS 319. Public and Private Security.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. The organization of security systems in public and private agencies and institutions.

**CRJS 320. Law and Social Control.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. Examines the creation, use and effectiveness of formal and informal mechanisms of social control for both criminal and noncriminal deviant behavior. Cross-cultural comparisons are given special emphasis.

**CRJS 323. Police in American Society.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. Examines the role of police in a free society. Police functions, subculture, community relations and decision making receive special attention. Problems such as police corruption, violence and the methods by which society attempts to control police behavior are also discussed.

**CRJS 325. Women and Crime.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. Examines the role of women as offenders, victims and employees of the criminal justice system. Theories of female criminality and the treatment of female offenders are explored. Attention is given to the victimization of women, specifically wife abuse and rape, problems of minority women, and the impact of current legislation.

**CRJS 340. White-Collar Crime.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S. This course will describe and explain corporate, state-corporate, government (state) crime and crimes of globalization from a sociological and criminological perspective. Although the course will deal with the general topic of white collar crime, the specific focus will be on organizational offenders such as business corporations, government, state agencies and international finance organizations.

**CRJS 345. Organized Crime: A Survey of Domestic and World-Wide Organized Crime Activities.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S, CRJS 222, or CRJS 262. A broad survey of the history and consequences of organized crime in the United States and the world.

Special focus will be directed at the economic, social and developmental effects of organized criminal activities.

**CRJS 350. Victimology.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or six hours in the social science perspective or permission of the instructor. Examination of the multifaceted problem of criminal victimization. Focuses on defining victimization, the incidents of victimization, social characteristics of victims, treatment of victims in the criminal justice system, and efforts designed to alleviate the consequences of victimization.

**CRJS 355. Crime and the Community.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of the instructor. This course will focus on the effect of crime on communities and the ways in which communities affect crime. The class will consider both ethnographic community studies as well as larger-scale demographic analysis.

**CRJS 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit is based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**CRJS 368. Internship.** 1-6 credits. Prerequisite: approval by the department. This course allows students to volunteer in an agency related to their major for pass/fail credit. Students must volunteer for 50 hours per course credit. Internships for less than three credits require prior approval by the Internship Faculty Director. (qualifies as a CAP experience)

**CRJS 369. Practicum.** 1-3 credits. Prerequisite: permission of the department. (qualifies as a CAP experience)

**CRJS 395, 396. Topics in Criminal Justice.** 3 credits each semester. Prerequisite: CRJS 215S or permission of the instructor. A study of selected topics designed for nonmajors or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**CRJS 401/501. Understanding Violence.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of the instructor. Examines a variety of forms of violence from suicide, child abuse, rape and family violence to terrorism, torture, death squads and the death penalty, and hate violence. Explores the circumstances, rationalizations, patterns, explanations and effects on survivors.

**CRJS 403. Violence in the World of Children.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in the social science perspective or SOC 201S or CRJS 215S or permission of the instructor. This "child-centered" course examines the interaction of adults in violent conflict with the world of children, children's experience of violence and its meaning in the lives of children. Topics include: valuing children, violence toward children in culture, families, and schools; child physical and sexual abuse and neglect; gangs, violent communities and children and war. The effects of childhood experiences of violence, children's coping with violence, and alternatives to

violence are also developed. (cross-listed with SOC 403)

**CRJS 410/510. Correctional Treatment.** Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S or 222 or permission of the instructor. Methods and programs which attempt to correct the behaviors of juvenile delinquents and adult criminal offenders are explored. Treatment strategies employed in both community and institutional settings are examined. Techniques of classification and the role of the correctional worker are also discussed.

**CRJS 415. Courtroom As a Social System.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 222 or permission of the instructor. An overview of the role of all of the actors in the American courtroom, the interaction of these actors and the effect of social forces on their behavior. Includes prosecutor, plaintiff and defense lawyers, judges, juries, eye witnesses, expert witnesses, and court staff.

**CRJS 416. The American Jury.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 222 or permission of the instructor. A review of the literature, law and practical materials that cover the American jury system from the creation of the master list through the verdict. Includes history, social context and jury selection.

**CRJS 418. Crime, Society, and the Media.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. A critical exploration of media portrayals of crime and criminal justice. News and entertainment genres are examined. Connections between crime, culture, politics, society and individual behavior, and the mass media receive special attention.

**CRJS 421/521. Deviant Behavior.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or permission of the instructor. A study of various definitions and forms of deviant behavior, theoretical explanations of causes of deviant behavior, and the impact of deviant behavior on society and the individual. (cross-listed with SOC 421/521)

**CRJS 426W/526. Criminological Theory.** Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S and senior standing, or permission of the instructor. An in-depth study of the major theoretical issues in criminology. Deals extensively with issues of crime causation. (This is a writing intensive course.)

**CRJS 427/527. Violence Against Women.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or completion of the social science perspective or permission of the instructor. A critical analysis of violence against women as an institution of social control. Examines violence in the context of social and political inequality and feminist critique. Issues explored include pornography, prostitution, sexual harassment, incest, battering and rape. (cross-listed with SOC 427/527)

**CRJS 436. Capstone Research Project.** Lecture 3 hours; 3 credits. Prerequisites: STAT 130M, SOC 337 and senior standing. Students will work in groups to plan, design, and carry out a research project. Final papers which report the results for the study will be presented in a formal research seminar. The projects will reflect knowledge gained from undergraduate work and training received in STAT 130M and SOC 337.

**CRJS 441/541. Drugs and Society.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S. The study of sociological and social psychological explanations of drug-using behaviors and of legal and medical control of

drugs. Topics include changes in the legal status of drugs, cross-cultural and historical variations in the control of drugs, and social epidemiology of drug use in contemporary society. (cross-listed with SOC 441/541)

**CRJS 444. Community Justice.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S. This is a service learning course designed to study how the emerging field of community justice, a neighborhood-based strategy, can reduce crime and improve public safety by investing in social, human and cultural capital. (cross-listed with SOC 444)

**CRJS 448/548. Women, Sex Discrimination and the Law.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or permission of the instructor. This course introduces students to legal issues which specifically affect women and examines historical attitudes that have been used to justify differential treatment of women. It explores various legal approaches used to achieve equal protection under the law and examines a variety of specific topics such as: the equal protection analysis; Title VII and Title IX and their relationship to sex discrimination; affirmative action; and reproductive freedom.

**CRJS 450/550. Blacks, Crime and Justice.** Lecture 3 hours; 3 credits. Prerequisites: CRJS 215S and 222 or permission of the instructor. Examines historical and contemporary theories and research on African-Americans, criminal behavior and the administration of justice. Selected topics will include African-American perspectives, the death penalty, victimization, police brutality, and justice systems in Africa and the Caribbean.

**CRJS 452. Diversity in Criminal Justice Organizations.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or permission of the instructor. This course examines the impact of diversity, culture, and ethnic origin in criminal justice organizations. The course is designed to better prepare students to meet the challenge of diversity in criminal justice organizations. (cross-listed with SOC 452)

**CRJS 462/562. Substantive Criminal Law.** Lecture and discussion 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. This course deals with the major substantive concepts involved in American criminal law, including development of criminal law, elements of criminal liability, defenses against criminal responsibility, and descriptions and definitions of specific offenses.

**CRJS 475/575. Criminal Justice Systems Around the World.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or 222 or permission of the instructor. The study of criminal justice systems around the world in order to understand how criminal behavior is defined and responded to in various cultures. Cultural differences will be highlighted in order to recognize that definitions of and responses to crimes closely reflect the cultures in which they exist.

**CRJS 495/595, 496/596. Topics in Criminal Justice.** 3 credits each semester. Prerequisite: CRJS 215S or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**CRJS 497/597, 498/598. Tutorial Work in Special Topics in Criminal Justice.** 1-3 credits. Prerequisites: senior standing and approval of the

department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Cytotechnology — CYTO

**CYTO 403. Gynecological Screening Laboratory.** Laboratory; 3 credits. Prerequisites: advanced standing and/or permission of the cytotechnology program director. Laboratory experience in the screening of gynecological smears.

**CYTO 404. General Pathology.** Lecture; 3 credits. Prerequisites: BIOL 250 and 251 or equivalent. This course is an overview of general disease processes and causes in the human. All body systems will be covered including respiratory, gastrointestinal, circulatory, nervous, reproductive, and urinary. Aging, dietary, and stress factors will be discussed in the disease process. Bacteria, fungi, and viruses will be discussed in general and for each body system. Neoplasms will be covered for each body site. This course will be of benefit to anyone interested in diseases of the human body or entering the medical field. (cross listed with MEDT 401)

**CYTO 405. Normal Gynecological Cytology.** Lecture/laboratory; 3 credits. Prerequisite: permission of program director. Introduction to histological and cytological features of the normal female genital tract with emphasis on normal and non-neoplastic abnormalities. Principles of cytological diagnostic techniques will be discussed.

**CYTO 407. Clinical Histology.** Lecture/Laboratory; 3 credits. Prerequisite: permission of the instructor. This course consists of the systematic study of cellular components as well as the grouping/organization of tissues into major "organ" systems. Microscopic and virtual identification and morphology of cells, tissues, and organ substructures will be emphasized. This course will be of benefit to anyone interested in diseases of the human body or entering the medical field.

**CYTO 415. Abnormal Gynecological Cytology.** Lecture/laboratory; 4 credits. Prerequisites: CYTO 405 and permission of the program director. Introduction to diagnostic cytological techniques and pathology of the female reproductive tract with emphasis on premalignant and malignant changes.

**CYTO 424. Respiratory Cytology.** Lecture/laboratory; 3 credits. Prerequisites: CYTO 405 and 415. Principles of diagnostic cytology and pathology of the respiratory tract, including benign conditions, inflammatory and infectious diseases, premalignant conditions and primary and metastatic malignancies.

**CYTO 428. Cytopreparatory Techniques and Procedures.** Lecture/laboratory; 2 credits. Prerequisite: permission of program director. Introduction to collection, processing, and preparation of cytologic samples from all body sites.

**CYTO 442. Gastro-Intestinal Cytology.** Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pathology and cytology of the gastro-intestinal tract, including the oral cavity, esophagus, stomach, colon, and rectum. Emphasis on normal conditions, benign inflammatory, infections, parasitic conditions, gastric ulcers, premalignant and malignant lesions.

**CYTO 444. Genitourinary Cytology.** Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pathology and

cytology of the genitourinary tract, with emphasis in normal conditions, benign inflammatory and infectious conditions, crystals, premalignant and malignant lesions.

**CYTO 445. Breast Cytology.** Lecture/laboratory; 3 credits. Prerequisites: CYTO 405 and 415. Study of pathology and cytology of the breast, with emphasis on benign, inflammatory conditions, premalignant and malignant disease in both breast smears and fine needle aspirations.

**CYTO 446. Body Fluids Cytology.** Lecture/laboratory; 2 credits. Prerequisites: CYTO 405 and 415. Study of the pleural, peritoneal and pericardial cavity fluids, synovial and cerebral spinal fluids, with emphasis on benign, inflammatory conditions, and primary and metastatic malignancies.

**CYTO 448. Non-Epithelial Cytology.** Lecture/laboratory; 2 credits. Prerequisites: CYTO 405, 415, 424, 444, 445, 446. Study of the pathology and cytology of non-epithelial lesions with emphasis on benign, inflammatory, and malignant conditions.

**CYTO 455. Fine Needle Aspiration.** Lecture/laboratory; 5 credits. Prerequisites: CYTO 405, 415, 424, 444, 445, 446. Study of specialized collection techniques, processing and diagnosis of fine needle aspirations from various body sites, including, but not limited to, thyroid, liver, lymph nodes, pancreas, lung, kidney, etc. Emphasis will be on benign, inflammatory, primary, and metastatic malignancies of all sites. Clinical practical application of these principles will be continued at the clinical sites.

**CYTO 458. Cytology Internship I.** 4 credits. Prerequisites: CYTO 405 and 415. Directly supervised experience in a clinical setting; includes evaluation of gynecologic smears and study set assignments. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience)

**CYTO 468. Cytology Internship II.** 4 credits. Prerequisites: CYTO 405, 415, 424, 444, 445 and 446. Directly supervised experience in a clinical setting. Includes evaluation of gynecologic and non-gynecologic specimen slides and study set assignments. Students will pre-screen gynecologic and non-gynecologic smears and study set assignments. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience)

**CYTO 478. Cytology Internship III.** 8 credits. Prerequisites: CYTO 405, 415, 424, 444, 445, 446, and 455. Directly supervised experience in a clinical setting. Includes evaluation of gynecologic and non-gynecologic smears and study set assignments. Students will be exposed to cytopreparatory techniques. (qualifies as a CAP experience)

**CYTO 495. Topics in Cytology.** 1-3 credits. Prerequisite: permission of the program director. Independent study of selected topics in clinical cytology. Review of cytologic specimens from various body sites.

**CYTO 497. Cytology Senior Seminar.** Seminar; 2 credits. Prerequisite: permission of the program director. Supervised experience consists of clinical cases and seminar presentations into current advances within the specialty of clinical cytology. A student research project and oral presentation of current journal articles and the research paper are required.

**Dance - See Theatre and Dance**

## Decision Sciences — See Information Systems and Technology/Decision Sciences

## Dental Hygiene — DNTH

**DNTH 300. Dental Hygiene Theory I.** Lecture 4 hours; 4 credits. Corequisites: DNTH 301 and 302. An introduction to the theoretical foundations of preventive and therapeutic oral health services used in the dental hygiene process. Emphasis is on prevention of disease transmission, patient assessment, basic dental hygiene instrumentation, oral health instruction, treatment planning and ethical decision making. (offered fall)

**DNTH 301. Dental Hygiene Services I.** Laboratory/clinic 8 hours; 3 credits. Corequisites: DNTH 300 and 302. Preclinical experience in the on-campus supervised clinic. Clinical and laboratory application of introductory skills essential to rendering oral health services to patients with emphasis on basic dental hygiene instrumentation. (offered fall) (qualifies as a CAP experience)

**DNTH 302. Oral Anatomy and Histology.** Lecture 4 hours plus laboratory demonstration; 4 credits. Prerequisites: BIOL 250 and 251 or equivalent. A study of the anatomical, histological, embryological and morphological features and development of the head, neck and dentition. Emphasis is on nomenclature, nerve and vascular innervation, muscles of mastication, orofacial embryology and histological features of the oral cavity including the dentition. Lab section covers nomenclature and anatomy of the dentition plus hands on experiences.

**DNTH 303. Applied Dental Materials.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: CHEM 105N-106N. An introduction to dental materials with emphasis on those restorative materials and techniques commonly used in dental practice and which may be required for use by the dental hygienist. An overview of current trends in dental materials is presented. (offered fall)

**DNTH 304. Oral Radiology I.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisite: permission of the instructor. Corequisite: DNTH 302. Study of the nature and production of x-rays and basic principles and procedures in oral radiology. Emphasis is on radiation physics, radiation biology, radiation protection, basic intraoral radiographic techniques and film processing and mounting procedures. (offered fall)

**DNTH 305. Dental Hygiene Theory II.** Lecture 3 hours; 3 credits. Prerequisites: DNTH 300 and 301. Continuation of study of the theoretical foundation of preventive and therapeutic oral health services used in the dental hygiene process. Emphasis is on preparation for client care. (offered spring)

**DNTH 306. Dental Hygiene Services II.** Clinic 8 hours; 3 credits. Prerequisites: DNTH 300, 301 and 304. Corequisite: DNTH 305. Clinical experience in the on-campus supervised clinic. Continued development of clinical proficiency and decision making in rendering comprehensive preventive oral health services using the dental hygiene process. Emphasis is on clinical application and development of skills in maintenance, management and evaluation of the periodontal patient; treatment planning, disease control strategies; and scaling and root planing on

periodontally involved patients (offered spring). (qualifies as a CAP experience)

**DNTH 307. Pharmacology and Medical Emergencies.** Lecture 2 hours; 2 credits. Prerequisites: DNTH 302 and BIOL 250-251. A study of pharmacologic agents used in dentistry and of medications that the patient may be taking, their clinical effects, adverse effects, and dental implications, and the prevention and management of medical emergencies. Emphasis is on agents commonly used by patients, which require the alteration of treatment procedures, therapeutic agents used adjunctively in dental hygiene therapy, and agents used in medical emergency procedures. (offered spring)

**DNTH 308. Oral Pathology.** Lecture 3 hours; 3 credits. Prerequisite: DNTH 302. Principles of the disease process and general pathology including cell injury, inflammation, neoplasia and circulatory disturbances are followed by the study of pathology of the teeth, supporting and associated oral structures. Emphasis is on the clinical and radiological appearance of local and systemic disease processes affecting the oral and facial structures. (offered spring)

**DNTH 309. Oral Radiology II.** Seminar 1 hour; laboratory 2 hours; 2 credits. Prerequisite: DNTH 304. Continued development of the principles and techniques obtained in Oral Radiology I with emphasis on supplemental intraoral techniques especially for client management, extraoral techniques, digital imaging techniques, radiographic interpretation of film-based and digitally acquired images, and the incorporation of dental photography into patient assessment. (offered spring)

**DNTH 310. Dental Hygiene Therapies and Practice.** Lecture 3 hours; 3 credits. Prerequisites: DNTH 300 and 301. Emphasis is on principles of periodontics, evaluation of periodontal disease, and theoretical and clinical preparation for delivery of dental hygiene interventions.

**DNTH 316. Dental Hygiene Theory and Services III.** Seminar 1 1/2 hours; clinic 9 hours; 7 weeks; 3 credits. Clinical experience in the on-campus supervised clinic. Prerequisites: DNTH 305, 306, 307 and 309. Continued development of clinical competency in rendering comprehensive preventive oral health services using the dental hygiene process. Introduction of principles of local anesthesia injections will be incorporated. (offered summer) (qualifies as a CAP experience)

**DNTH 317. Anxiety and Pain Control.** Lecture 15 hours; laboratory 30 hours; 1 week; 2 credits. Clinical experience in the on-campus supervised clinic. Prerequisites: DNTH 305, 306, 307, 309 and 316. Introduction of principles of local anesthesia injections and nitrous oxide analgesia administration, neurophysiologic considerations and laboratory application of techniques. Five hours of lecture will be on Blackboard. (Offered summer) (qualifies as a CAP experience)

**DNTH 397. Topics in Dental Hygiene Practice.** 1-6 credits. Prerequisite: permission of the instructor. Selected topics in dental hygiene; topics vary by semester. (offered fall, spring, summer)

**DNTH 410. Dental Hygiene Theory IV.** Lecture 3 hours; 3 credits. Prerequisites: DNTH 305, 306, 316. Corequisite: DNTH 411. Study of the psychosocial, physical and oral characteristics of patients with special needs. Emphasis is on the care and clinical management of the following patients: cognitively, developmentally and

physically challenged, aged, pregnant, epileptic, diabetic, cancer, HIV/AIDS and chemically dependent. (offered fall)

**DNTH 411. Dental Hygiene Services IV.** Clinic 16 hours; 6 credits. Prerequisites: DNTH 305, 306, 309. Corequisite: DNTH 410. Clinical experience in the on-campus supervised clinic. Continued development of clinical proficiency and decision making in providing comprehensive preventive oral health services. Emphasis is on clinical application and development of the skills necessary for the treatment of special needs and periodontally involved patients using the dental hygiene process. (offered fall) (qualifies as a CAP experience)

**DNTH 412W/512. Perspectives on Dental Hygiene Practice.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course is designed for the licensed dental hygienist who seeks to maintain an awareness of changing trends, perspectives, interventions, and technologies in dental hygiene, health, and society that impact the process of dental hygiene care. (offered spring and summer) (qualifies as a CAP experience) (This is a writing intensive course.)

**DNTH 413. Community Oral Health Planning.** Lecture 3 hours; 3 credits. Prerequisites: DNTH 305, 306 or permission of the instructor. Introduction to the principles of dental public health, oral epidemiology, prevention and control of oral disease on a community basis, and community dental health services. Emphasis is on program assessment, planning, implementation, and evaluation for the development of community dental programs. This course will prepare the dental hygienist for the role of oral health educator and resource person in community settings. (offered fall)

**DNTH 414/514. Educational Concepts for the Health Professional I.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. Explores principles, theories and methods of teaching and learning intended to meet the needs of health care professionals in practice, educational settings, community health organizations, and health care facilities. Emphasis is on instructional strategies, planning, implementing and evaluating instruction.

**DNTH 415/515. Research Methods in the Health Sciences.** Lecture 3 hours; 3 credits. Prerequisite: STAT 130M. Designed to develop skills in scientific methods, evidence based decision making and critical analysis of research findings. Emphasis on types of research, problem selection and hypothesis writing, research planning and design, data collection and measuring techniques, analysis and interpretation of data, research proposal writing and computer application. A written research proposal is required for graduate credit. (offered fall)

**DNTH 416/516. Administrative Leadership and Professional Development.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. A study of current trends that influence the profession of dental hygiene including oral health care delivery, manpower, financing mechanisms, quality improvement, third party payers, professional associations, regulatory agencies and legislation. Emphasis is on ethical, political, and legal issues as they relate to the dental hygiene profession. (offered spring)

**DNTH 417W. Dental Hygiene Theory V.** Lecture 3 hours; 3 credits. Prerequisites: DNTH 410, 411. Corequisite: DNTH 418. This course is designed to transition students into diverse employment settings nationally and globally.

Emphasis is on written communication skills, practice management, working in multicultural settings, selecting an employment setting, values clarification, resume writing, interview techniques, networking, ethical dilemmas, and cross-cultural competencies necessary for contemporary healthcare environments. Various national/international career opportunities are explored. (qualifies as a CAP experience) (This is a writing intensive course.)

**DNTH 418. Dental Hygiene Services V.** Clinic 16 hours; 6 credits. Prerequisites: DNTH 410, 411. Corequisite: DNTH 417W. Clinical experience in the on-campus supervised clinic or off-campus clinic practice site as determined by clinic faculty. Continued development of clinical proficiency and decision making in providing comprehensive preventive oral health services. Emphasis is on clinical application, decision making and development of the skills necessary for the treatment of periodontally involved and special needs patients and employment in a variety of settings. (offered spring) (qualifies as a CAP experience)

**DNTH 419. Community Oral Health Practice.** Seminar/field experience 6 hours; 3 credits. Prerequisite: DNTH 413. Field experiences designed to prepare the dental hygienist to function as an oral health practitioner, educator, and resource person in a variety of community health settings. Emphasis is on providing educational and therapeutic services for special needs populations including geriatric, institutionalized, hospitalized, and cognitively, developmentally and physically challenged individuals. Participation in planning, implementing and evaluating a community health project. Design and delivery of a poster session is required. (offered spring)

**DNTH 440T/540. Telehealthcare Technology.** Lecture 3 hours; 3 credits. Prerequisite: permission of the instructor. This course will examine the concept, global impact, and trends in telehealthcare technology on the client/patient, multidisciplinary practitioners, and various healthcare systems. Emphasis is on effective evidence-based decision making to reduce errors in patient care, promote care in remote or underserved geographical areas, and the ability to retrieve and evaluate healthcare information that improves access to quality, cost effective health care.

**DNTH 450. International Dental Hygiene.** 3 credits. Prerequisite: DNTH 414. International locations are determined by the School of Dental Hygiene in conjunction with the Office of Study Abroad. Program participation requires approval from the School of Dental Hygiene and the Office of Study Abroad. This course provides an on-location international experience in oral care delivery, practice and/or education. Based on the country and culture, topics will include the healthcare system, dental hygiene practice and regulation, and dental hygiene education. Students will be required to give presentations, review the dental care delivery system, and explore how the cultural beliefs and practices affect oral health, dental care seeking behaviors, and the oral health status of the population. Orientations will be conducted prior to travel.

**DNTH 495. Topics in Dental Hygiene.** 1-3 credits. Prerequisite: permission of the instructor. Seminars on selected topics in dental hygiene. Topics vary by semester. (offered fall, spring, summer)

**DNTH 497/597. Independent Study in Dental Hygiene.** 1-6 credits. Prerequisite: permission of instructor. Independent reading and study on a topic selected under direction of a faculty member.

## Economics — ECON

**ECON 200S. Basic Economics.** Lecture and discussion 3 hours; 3 credits. The course presents an overview of the major principles of micro- and macroeconomics. Topics include opportunity costs, supply and demand, competition and monopoly, national income determination, creation of money and credit, and international problems. No credit will be given to students pursuing majors in the College of Business and Public Administration.

**ECON 201S. Principles of Macroeconomics.** Lecture and discussion 3 hours; 3 credits. Prerequisite: qualifying Math SAT/ACT score, qualifying score on the Math placement test, or completion of MATH 102M or higher. Development of the theory of supply and demand, and their interaction in a market economy. Classical, Keynesian, and monetarist explanations of inflation and unemployment are presented and analyzed. Emphasis is placed on income determination, fiscal policy, monetary policy, and the issue of government efforts to improve economic performance.

**ECON 202S. Principles of Microeconomics.** Lecture and discussion 3 hours; 3 credits. Prerequisite: qualifying Math SAT/ACT score, qualifying score on the Math placement test, or completion of MATH 102M or higher. An examination of how individuals and businesses interact in a market economy. Emphasis is placed on consumer behavior, price and output decisions of firms, the economic efficiency of the resulting allocation of society's resources, and the gains from international trade and impact of trade barriers.

**ECON 226S. Honors: Principles of Macroeconomics.** Lecture and discussion 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ECON 201S.

**ECON 227S. Honors: Principles of Microeconomics.** Lecture and discussion 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ECON 202S.

**ECON 301. Managerial Economics.** Lecture and discussion 3 hours; 3 credits. Corequisite: MATH 200 or equivalent. Prerequisites: ECON 201S, 202S, and DSCI 206, and a declared major in the university or permission of the Dean's Office of the CBPA. Examines the application of economic theory and methodology to managerial decision making and strategy. Key topics are demand analysis, economic forecasting, production, cost analysis, the economics of organization, market structure and strategic behavior, pricing techniques, and government regulation and its implications for firm behavior. Emphasis is placed on the global context of managerial decisions.

**ECON 304. Intermediate Microeconomic Theory.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 200 or equivalent, ECON 202S with a grade of C or better, and a declared major in the university or permission of the Dean's Office of the CBPA. Develops methods of microeconomic analysis beyond the principles level. Major emphasis is placed on consumer behavior and demand, production and cost, market

organization, distribution theory, and welfare theory.

**ECON 305. Intermediate Macroeconomic Theory.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 162M or equivalent, ECON 201S and 202S with a grade of C or better in each, and a declared major in the university or permission of the Dean's Office of the CBPA. Provides an overall "big picture" of the economy, focusing on the central problems of unemployment, inflation, the business cycle, and economic growth. Important issues include national income accounting, fiscal policy, monetary policy, the money supply, the money market, interest rates, saving rates, labor markets, productivity, budget surpluses/deficits, trade deficits, and exchange rates.

**ECON 368. Internship.** 1-3 credits. Prerequisites: ECON 304 and 305, a declared major in economics, and permission of the chief departmental advisor; credit for internship and practicum in economics may not both be applied to meeting requirements for the major. Supervised internship in economics. Approval for enrollment and allowable credits is determined by the department CAP advisor and the Career Management Center in the semester prior to enrollment. (qualifies as a CAP experience)

**ECON 369. Practicum in Economics.** 3 credits. Prerequisites: ECON 304 and 305; DSCI 206 and 306 and a declared major in economics. Application of economic theory and principles to a practical problem of interest to a sponsoring community organization. (qualifies as a CAP experience)

**ECON 395, 396. Topics in Economics.** Lecture and discussion 1-3 hours; 1-3 credits. Prerequisites: ECON 200S, 201S, or 202S, and a declared major in the university or permission of the Dean's Office of the CBPA. A study of selected topics, the title of which will appear in the course schedule.

**ECON 400. Research Methods in Economics.** Lecture 3 hours; 3 credits. Prerequisites: ECON 201S, 202S, DSCI 206 and 306, and a declared major in the university or permission of the Dean's Office of the CBPA. Provides students with a set of practical skills useful in economic research and in the presentation of research results. Includes training in the use of various software packages, the Internet, and regression analysis for conducting economic research.

**ECON 402/502. Transportation Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and a declared major in the university or permission of the Dean's Office of the CBPA. A survey of the transportation system in the United States including its development, pricing, and regulation. Special attention is given to railroads, highways, pipeline, water and air transportation; and the roles that these modes of transportation play in economic development.

**ECON 407W/507. Labor Market Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and a declared major in the university or permission of the Dean's Office of the CBPA. Economic analysis of various facets of labor markets. Emphasis is placed on the analysis of labor supply, labor demand, wage determination, earnings differentials and inequality, occupational choice, human capital investment, labor market discrimination, mobility



and immigration, impact of unions, and unemployment. (This is a writing intensive course.)

**ECON 421/521. Public Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. This course examines the interaction between government and the economy, with particular emphasis on the role of the federal government. Topics that address the motivation for government involvement in the economy include market failure, income inequality, and redistribution of income. Specific programs studied include Medicare/Medicaid, welfare programs, and the social security system.

**ECON 425/525. Introduction to Mathematical Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S, MATH 200 or equivalent and a declared major in the university or permission of the Dean's Office of the CBPA. The course focus is on the use of differential and integral calculus, matrix algebra, difference equations and classical optimization theory in the presentation and development of economic theory.

**ECON 427/527. Industrial Organization and Public Policy.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MATH 200 or equivalent, ECON 202S (or 200S and permission of the instructor) and a declared major in the university or permission of the Dean's Office of the CBPA. A study of market structures and the conduct and performance of business firms in different market structures. The emphasis is on the theory and measurement of industrial concentration and public policy responses to industrial concentration.

**ECON 431/531. Money and Banking.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. Examines the nature and functions of money and credit, the commercial banking system, the Federal Reserve System, the quantity theory of money, the theory of income determination, the balance of payments and exchange rates, and the history of monetary policy in the United States.

**ECON 435/535. Health Economics: A Global Perspective.** Lecture 3 hours; 3 credits. Prerequisite: ECON 202S and a declared major in the university or permission of the Dean's Office of the CBPA. This course introduces the student to the economics of health care and the application of health economics to health care problems, the issues surrounding those problems, and the potential solutions to those problems. The course will emphasize institutional features of the health care industry, the market for health care, the political economy of health care, and government involvement in the delivery of health care. Further, the course will survey the delivery of health care in other countries and provide a global perspective on selected health care issues such as AIDS, water and air quality, and the aging of the population.

**ECON 436. Sports Economics.** Lecture 3 hours; 3 credits. Prerequisite: ECON 202S or equivalent and a declared major in the university or permission of the Dean's Office of the CBPA. This course introduces the student to the economics of sports in America. The course will emphasize institutional features of the sport industry. Specific topics included are: sports franchises as profit maximizing firms; monopoly and antitrust rules as applied to the sports industry;

public finance of sports; costs and benefits of a sports franchise to a city; the labor economics of professional sports; discrimination in sports; and the economics of college sports. This course may not be applied toward the major in economics as an economics elective or toward the minor in economics or the M.A. in economics. (It could, however, be used as a non-economics elective for the major.)

**ECON 444/544. Development of the American Economy.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. A study of the economic development of the United States from colonial times to the present. An analytical course concerned with the application of economic theory in the study of the growth and development of the American economy.

**ECON 445W/545. Urban Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and a declared major in the university or permission of the Dean's Office of the CBPA. An analysis of the economic factors which give rise to the formation of urban centers and which contribute to the following problems: urban poverty, housing conditions, traffic congestion, and the fiscal crisis faced by modern cities. (This is a writing intensive course.)

**ECON 447W/547. Natural Resource and Environmental Economics.** Lecture 3 hours; 3 credits. Prerequisites: ECON 202S (or 200S and permission of the instructor) and a declared major in the university or permission of the Dean's Office of the CBPA. Topics discussed include conservation and scarcity, market failure, fishery management, benefit-cost analysis, water resource development, environmental quality, recreation, energy, and marine resources. (This is a writing intensive course.)

**ECON 450. International Economics.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. An analysis of the principles of trade theory and policy with an overall exposition of the principles of international finance. The main objective of the course is to provide knowledge of analytical tools used by economists in analyzing contemporary international economic problems.

**ECON 451/551. History of Economic Thought.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S (or 200S) and a declared major in the university or permission of the Dean's Office of the CBPA. A study of the history of economic theory with attention to the economic ideas and philosophy of Adam Smith, David Ricardo, Karl Marx, J.M. Keynes and other major figures in the development of economics.

**ECON 454W/554. Economic Development.** Lecture 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. This course is intended to provide an introduction to the problems of economic development in the Third World, including the problems of economic growth, income distribution, poverty, urbanization, uneven development, agricultural policy, economic planning, industrial policy, trade policy, balance of payments, finance, and currency crises. To illustrate these issues we will examine the problems of certain individual countries, such as Brazil, Korea, Philippines, India, Mexico, Kenya, Indonesia, and Thailand. In the course we try to

strike a balance between economic theory and institutional economics. (This is a writing intensive course.)

**ECON 455/555. Comparative Economic Systems.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. This course examines and compares different economies from around the world, including such economies as the UK, France, Germany, Sweden, Japan, India, Korea, Russia, and China. Students look at the economic growth, GDP per capita, unemployment, inflation, income distribution, economic efficiency, institutions, policies, industrial structure, legal infrastructure, and international trade of these economies. Students study the functioning of markets and the problems of market and government failure. The course addresses the question, what is the best way to organize society?

**ECON 456/556. Economics of Information, the Internet and E-Commerce.** Lecture and laboratory 3 hours; 3 credits. Prerequisites: ECON 201S, 202S and a declared major in the university or permission of the Dean's Office of the CBPA. Outlines the economic principles of information that underpin the Internet and e-commerce. Considers auctions, economies of scale and scope, data mining, price discrimination, product bundling, versioning, networking, the diffusion of innovations and intellectual property as they are utilized on the Internet and in e-commerce. Taught in a microcomputer laboratory.

**ECON 494. Federal Reserve Policy.** Lecture 3 hours; 3 credits. Prerequisites: ECON 305, 431, permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. The course covers in detail the process of monetary policymaking under varying economic conditions. Students research and analyze current and near-term economic conditions with a focus on forming a prediction regarding the future path of monetary policy. The course culminates with selected students' participation in the annual Federal Reserve Challenge competition.

**ECON 495/595. Selected Topics in Economics.** 1-3 credits. Prerequisites for 495: ECON 201S and 202S, permission of the instructor and a declared major in the university or permission of the Dean's Office of the CBPA. Prerequisite for 595: permission of the instructor. Taught on an occasional basis. A study of selected topics, the title of which will appear in the course schedule.

**ECON 499. Readings in Economics.** 3 credits. Prerequisites: ECON 201S, 202S and 304, 305, senior standing, a declared major in economics, and permission of the chief departmental advisor. Designed to provide the advanced student in economics an opportunity to do independent study under the guidance of a member of the faculty. Prior approval of the advisor is required.

## **Educational Leadership and Services—ELS**

**ELS 497/597, 498/598. Topics in Education.** 1-3 credits each semester. Prerequisite: permission of the instructor. The College of Education offers selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

## Electrical and Computer Engineering — ECE

**ECE 111. Information Literacy and Research for Electrical and Computer Engineering.** Lecture 2 hours; 2 credits. Prerequisites: ENGN 110, MATH 162M. An introductory course for ECE students that explores information literacy in terms of information basics, information need, searching, locating, and evaluating information sources, citing and ethics of information in relation to development and implementation of electrical and computer engineering projects.

**ECE 200. Engineering Analysis Using Modern Software Tools for Electrical and Computer Engineers.** Lecture 3 hours; 3 credits. Corequisite: MATH 307. Prerequisite: a grade of C or better in MATH 212. This course will introduce the fundamental mathematical and scientific concepts with emphasis on applications specifically for electrical and computer engineering students needed for their intended major. The course will also introduce some important software tools such as MATLAB and EXCEL which will be integrated with the analysis. Topics will include: Integration and differentiation, Leibnitz's rule, Linear algebra, Vector spaces, Complex variables, Matrices, Ordinary Differential Equations, Plotting and Linear Regression, Data Analysis, Discrete Mathematics, Aspects of Graph Theory and Proof-by-Induction, Laplace Transforms, and Aspects of Vector Calculus.

**ECE 201. Circuit Analysis.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MATH 212. Corequisites: ECE 200, MATH 307 and PHYS 232N. An introduction to the analysis and theory of linear electrical circuits. Topics include: component definitions and connection rules; development of network reduction techniques; formulation of mesh-current and node-voltage equations; circuit models for one-port and two-port networks; signal models using impulse functions, step functions, and piecewise continuous notation; introduction to energy storage elements; time domain analysis of first-order and second-order electrical circuits. (offered fall, spring)

**ECE 202. Circuits, Signals and Linear Systems.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 201. Corequisite: ECE 287. Frequency-domain analysis of linear electrical circuits. Laplace transforms and Laplace transform analysis of circuits. Linear systems. Classification of systems; Time and frequency domain representation of linear systems. Methods of linear system analysis including convolution and Laplace transforms. Frequency domain representation of signals including Fourier series, Fourier transforms. Application of analysis techniques to electrical filters, signal sampling, and signal multiplexing. (offered fall, spring, summer)

**ECE 241. Fundamentals of Computer Engineering.** Lecture 3 hours; recitation 1 hour; laboratory 2 hours; 4 credits. Prerequisites: a grade of C or better in CS 150 and MATH 211. This course develops the foundation of computer engineering for computer engineers as well as an introductory breadth appropriate for electrical engineers. Class topics include computer information, digital design (combinational and sequential circuits) and computer organization. The laboratory includes building digital circuits (focusing on programmable logic) and system interfacing. The use of a hardware description

language is employed in class and the laboratory to specify, simulate and synthesize digital circuits.

**ECE 287. Fundamental Electric Circuit Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Corequisite: ECE 202. Prerequisites: a grade of C or better in CS 150 and ECE 201. Objective of course is to provide students in electrical and computer engineering with a "hands-on" introduction to selected topics in electrical engineering. Students will use basic circuit analysis skills and C programming skills to design, build, and test electrical networks interfacing to a microcontroller. Labs will also provide an introduction to basic measurement techniques and electrical laboratory equipment (power supplies, oscilloscopes, voltmeters, etc).

**ECE 303. Introduction to Electrical Power.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 201. Basic concepts of AC systems, sinusoidal steady state response, phasor analysis, AC steady state power, single-phase and three-phase networks, electric power generation, transformers, transmission lines, electric machinery and the use of power. Energy resources, power plants, renewable energy, electric safety. (offered fall)

**ECE 304. Probability, Statistics, and Reliability.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MATH 212. Introduction to probability, probability models, discrete and continuous random variables, statistics, reliability and stochastic processes. Examples discussed will focus on computer and electrical engineering applications that include both component- and system-level aspects. MATLAB and/or EXCEL are introduced as tools for data analysis, computation and simulation.

**ECE 313. Electronic Circuits.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: a grade of C or better in ECE 202. Corequisite: ECE 241. Introduction to junction diodes, bipolar junction transistors (BJTs), MOS field-effect transistors (MOSFETs) and operational amplifiers (op-amps). Design concepts for discrete analog circuits with diodes, BJTs, MOSFETs and op-amps. The lab component introduces design and techniques for implementation of analog circuits.

**ECE 323. Electromagnetics.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 202. An introduction to electromagnetic waves, wave propagation in various media; propagation across interfaces; propagation in waveguides and transmission lines. Antennas and radiation from antennas.

**ECE 332. Microelectronic Materials and Processes.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 202. An introduction to fundamentals of properties semiconductors and device fabrication processes. The topics include crystal structure, bonding, energy bands, doping, carrier densities, mobility, resistivity, recombination, drift, and diffusion. Basic structure and operations of p-n junctions, BJTs and MOSFETs and their fabrication processes, including solid state diffusion, thermal oxidation of silicon, ion implantation, chemical vapor deposition, thin film deposition, photolithography and etching. (offered fall)

**ECE 340. Digital Circuits.** Lecture 3 hours; recitation 1 hour; laboratory 2 hours; 4 credits. Prerequisites: a grade of C or better in CS 150 and MATH 211. Not open to electrical and computer engineering majors. This course develops the foundations of computer engineering for students outside of electrical and computer engineering. Class topics include computer information, digital

design (combinational and sequential circuits) and computer organization. The laboratory includes building digital circuits (focusing on programmable logic) and system interfacing. The use of a hardware description language is employed in class and the laboratory to specify, simulate and synthesize digital circuits.

**ECE 341. Digital System Design.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 241. Tools and methodologies for top-down design of complex digital systems. Important topics include minimization, mixed logic, algorithmic state machines, microprogrammed controllers, creating and using a gold model, data and control path design and data movement and routing via buses. Design methodologies covered include managing the design process from concept to implementation, verification using a gold model, and introduction to design flow. A hardware description language is used extensively to demonstrate models and methodologies, and is also used in design exercises and projects. (offered fall, spring)

**ECE 346. Microcontrollers.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 241. A hands-on approach to microprocessor and peripheral system programming, I/O interfacing, and interrupt management. A sequence of projects requiring the programming and integration of a microcontroller-based system is conducted. Project assignments require a microcontroller evaluation board and accessories supplied by the student. (offered spring)

**ECE 355. Introduction to Networks and Data Communications.** Lecture 3 hours; 3 credits. Prerequisite: junior standing in an engineering discipline or related work experience. This course introduces the basic concepts of computer networks and data communications. Topics include protocol layers, the application layer, the transport layer, the network layer, the data link layer, and the physical layer. Students will learn how to use network packet analyzer tools to do simple network analysis. Emphasis is on gaining an understanding of network engineering as it relates to hardware configuration, system operation and maintenance. (offered fall)

**ECE 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (offered fall, spring, summer) (qualifies as a CAP experience)

**ECE 368. Student Internship.** 1-3 credits (may be repeated for credit). Prerequisite: Approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**ECE 369. Practicum.** 1-3 credits. Prerequisite: approval by department and Career Management. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students an opportunity to gain short duration career related experience. (qualifies as a CAP experience)

**ECE 371. Circuits and Systems.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 201. Corequisite: ECE 287. Frequency-domain analysis of linear electrical circuits. Laplace transforms and Laplace transform analysis of circuits. Classification of systems; Time and frequency domain representation of linear systems. Methods of linear system analysis including convolution and Laplace transforms. Frequency domain representation of signals including Fourier series, Fourier transforms. Application of analysis techniques to electrical filters, signal sampling, and signal multiplexing. This course is intended for non-ECE students. (offered fall, spring, summer)

**ECE 381. Introduction to Discrete-time Signal Processing.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 202. This course covers fundamental digital signal processing techniques that form the basis to a wide variety of application areas. Topics include discrete-time signals and systems, time domain analysis, solutions of difference equations, Z-transform analysis, discrete Fourier transforms (DFT), sampling theorem, transform analysis of linear time-invariant systems, structure of discrete-time systems and introduction to power spectrum estimation. (offered fall)

**ECE 387. Microelectronics Fabrication Laboratory.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: ECE 332. The laboratory course will enable students to fabricate MOSFETs, MOS capacitors, diffused resistors and p-n diodes. Students will be trained to operate the equipment required for wet and dry oxidation, thin film deposition, solid state diffusion, photolithography, and etching. Students will fabricate and analyze the devices by current-voltage characteristic, capacitance-voltage characteristic, film thickness and conductivity measurements. (offered spring)

**ECE 395, 396. Topics in Electrical and Computer Engineering.** Lecture 1-3 hours; 1-3 credits. Prerequisite: departmental approval.

**ECE 403/503. Power Electronics.** Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and ECE 303. Power electronics provides the needed interface between an electrical source and an electrical load and facilitates the transfer of power from a source to a load by converting voltages and currents from one form to another. Topics include: alternating voltage rectification, Pulse Width Modulation (PWM), DC converters (Buck, Boost, Buck-Boost, Cuk and SEPIC converters), negative feedback control in power electronics, isolated switching mode power supply, flyback and forward power supply, solid state power switches, AC inverter.

**ECE 404/504. Electric Drives.** Lecture 3 hours; 3 credits. Prerequisites: ECE 201 and ECE 303. Electric drives efficiently control the torque, speed and position of electric motors. This course has a multi-disciplinary nature and includes fields such as electric machine theory, power electronics, and control theory. Topics include: switch-mode power electronics, magnetic circuit, DC motor, AC motor, Brushless DC motor, induction motor, speed control of induction motor, vector control of induction motor, stepper-motor.

**ECE 405/505. Introduction to Discrete Event Simulation.** Lecture 3 hours; 3 credits. Prerequisites: undergraduate course in probability and statistics; computer literacy. An introduction to the fundamentals of discrete event simulation (DES). Topics include discrete event simulation methodology, development of simulation models, simulation verification and validation, and the

design of simulation experiments. Important statistical concepts, including selection of input probability distribution and output data analysis are developed and applied. A DES tool will be used to create, simulate and analyze self-defined projects. (cross listed with MSIM 405/505)

**ECE 406/506. Introduction to Visualization.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in CS 150. Introduction to computer graphics and visualization with emphasis on using 3D application programmer's interface (API) libraries. It covers mathematical foundations, rendering pipeline, geometrical transformations, 3D viewing and projections, shading, texture mapping, and programmable shaders. Various visualization applications are covered.

**ECE 407/507. Introduction to Game Development.** Lecture 3 hours; 3 credits. Prerequisite: CS 361 or equivalent. An introductory course focused on game development theory and practices using Microsoft XNA Game Studio with emphasis on educational game development. Topics covered include game architecture, computer graphics theory, user interaction, audio, high level shading language, animation, physics, and artificial intelligence. Students will develop games related to science, technology, engineering, and mathematics (STEM) education. The developed games can run on a variety of platforms, including Microsoft Windows, Xbox 360, Windows Phone 7.

**ECE 441/541. Advanced Digital Design and Field Programmable Gate Arrays.** Lecture 3 hours; 3 credits. Prerequisite: ECE 341. Course will provide a description of FPGA technologies and the methods using CAD design tools for implementation of digital systems using FPGAs. It provides advanced methods of digital circuit design, specification, synthesis, implementation and prototyping. It introduces practical system design examples. (Offered spring)

**ECE 443/543. Computer Architecture.** Lecture 3 hours; 3 credits. Corequisites: ECE 304 and 484W. Prerequisites: ECE 341, 346. An introduction to computer architectures. Analysis and design of computer subsystems including central processing units, memories and input/output subsystems. Important concepts include datapaths, computer arithmetic, instruction cycles, pipelining, virtual and cache memories, direct memory access and controller design. (offered fall)

**ECE 451/551. Communication Systems.** Lecture 3 hours; 3 credits. Prerequisites: ECE 304 and a grade of C or better in ECE 202. Fundamentals of communication systems engineering. Modulation methods including continuous waveform modulation (amplitude, angle). Design of modulation systems and the performance in the presence of noise. Communication simulation exercises through computer experiments.

**ECE 452/552. Introduction to Wireless Communication Networks.** Lecture 3 hours; 3 credits. Prerequisite: ECE 304 and a grade of C or better in ECE 202. Introduction to current wireless network technologies and standards. The radio spectrum and radio wave propagation models (pathloss, fading, and multipath). Modulation, diversity, and multiple access techniques. Wireless network planning and operation. Current and emerging wireless technologies (satellite systems, vehicular/sensor networks).

**ECE 454/554. Introduction to Bioelectrics.** Lecture and design 3 hours; 3 credits. Prerequisites: PHYS 111N or higher; MATH 200

or higher. A one-semester course covering the electrical properties of cells and tissues as well as the use of electrical and magnetic signals and stimuli in the diagnosis and treatment of disease. Typical topics to be covered include basic cell physiology, endogenous electric fields in the body, electrocardiography, cardiac pacing, defibrillation, electrotherapy, electroporation, electrotherapy in wound healing. In addition, ultrashort electrical pulses for intracellular manipulation and the application of plasmas to biological systems will be covered. (Cross-listed with ENGN 454/554)

**ECE 455/555. Network Engineering and Design.** Lecture and design 3 hours; 3 credits. Prerequisite: ECE 355 or permission of the instructor. This course is an extension of ECE 355 into a semester long project. Emphasis is on gaining an understanding of networking design principles that entails all aspects of the network development life cycle. Topics include campus LAN models and design, VLANs, internetworking principles and design, WAN design, design of hybrid IP networks, differentiated vs. integrated services, traffic flow measurement and management. (offered spring)

**ECE 458/558. Instrumentation.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: PHYS 102N, 112N, or 232N, and a grade of C or better in ECE 202. Computer interfacing using a graphical programming language with applications involving digital-to-analog conversion (DAC), analog-to-digital conversion (ADC), digital input output (DIO), serial ports, and the general-purpose instrument bus (GPIB). Analysis of sampled data involving the use of the probability density function, mean and standard derivations, correlations, and the power spectrum. (offered spring, summer)

**ECE 461/561. Automatic Control Systems.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 202. Analysis and design of control systems via frequency and time domain techniques. Root locus, Bode and Nyquist techniques. Stability, sensitivity, and performance specifications. Cascade and feedback compensation. Computer-aided analysis and design. Pole placement through state variable feedback.

**ECE 462/562. Introduction to Medical Image Analysis (MIA).** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MATH 212. Introduction to basic concepts in medical image analysis. Medical image registration, segmentation, feature extraction, and classification are discussed. Basic psychophysics, fundamental ROC analysis and FROC methodologies are covered.

**ECE 472/572. Plasma Processing at the Nanoscale.** Lecture 3 hours; 3 credits. Prerequisite: ECE 323. The science and design of partially ionized plasma and plasma processing devices used in applications such as etching and deposition at the nanoscale. Gas phase collisions, transport parameters, DC and RF glow discharges, the plasma sheath, sputtering, etching, and plasma deposition.

**ECE 473/573. Solid State Electronics.** Lecture 3 hours; 3 credits. Prerequisites: ECE 313, 323 and 332. The objective of this course is to understand basic semiconductor devices by understanding semiconductor physics (energy bands, carrier statistics, recombination and carrier drift and diffusion) and to gain an advanced understanding of the physics and fundamental operation of advanced semiconductor devices. Following the initial introductory chapters on

semiconductor physics, this course will focus on p-n junctions, metal-semiconductor devices, MOS capacitors, MOS field effect transistors (MOSFET) and bipolar junction transistors.

**ECE 474/574. Optical Communications.** Lecture 3 hours; 3 credits. Prerequisites: ECE 323 and MATH 312. Electromagnetic waves; optical sources including laser diodes; optical amplifiers; modulators; optical fibers; attenuation and dispersion in optical fibers; photodetectors; optical receivers; noise considerations in optical receivers; optical communication systems.

**ECE 478/578. Lasers and Laser Applications in Engineering.** Lecture 3 hours; 3 credits. Prerequisites: ECE 313 and MATH 312. Applications of lasers in various areas of engineering will be addressed. Relevant aspects of laser engineering and design will be covered. Topics include interaction of light with matter; non-intrusive optical diagnostic techniques; and applications of lasers in engineering, technology, science and medicine.

**ECE 481/581. Introduction to Digital Image Processing.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ECE 202 or permission of the instructor. This course introduces the fundamentals of digital image/picture processing in the MATLAB environment. Techniques in spatial and spatial-frequency domains are discussed and implemented for image enhancement and compression.

**ECE 482/582. VLSI System Design.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: ECE 313 and a grade of C or better in ECE 241. This course focuses on the transistor level design of Very Large Scale Integrated (VLSI) chips for complex digital systems using advanced design tools and hierarchical design methods. Design issues at layout, schematic, logic and register-transfer levels will be studied. Commercial design software will be used for laboratory exercises. An overview of VLSI computer-aided design (CAD) tools and theoretical concepts in VLSI architectures and algorithms will also be discussed.

**ECE 483/583. Embedded Systems.** Lecture 3 hours; 3 credits. Prerequisite: ECE 346. This course covers fundamentals of embedded systems: basic architecture, programming, and design. Topics include processors and hardware for embedded systems, embedded programming and real time operating systems.

**ECE 484W. Computer Engineering Design I.** Lecture 3 hours; 3 credits. Prerequisite: ECE 341 and 346. Pre/corequisite: ECE 313. Corequisite: ECE 443. Emphasis is on the design of a complex digital circuit and microcontroller interfacing. A semester-long project involves the design, simulation and testing of a digital architecture and software GUI. Several moderate scale digital modules are designed, simulated, implemented and tested during the semester. Design methods incorporate CAD design tools, implementation with advanced integrated circuit technology and contemporary software tools. Oral and written communication skills are stressed. (This is a writing intensive course.) (offered fall)

**ECE 485W. Electrical Engineering Design I.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: ECE 313. Corequisites: ECE 303, 323, 332, and 304. Part one of the senior capstone design experience for electrical engineering majors. Lectures focus on providing professional orientation and exploration of the design process. Small group design projects focus on the development of electronic subsystems. Oral and

written communication skills are stressed. (This is a writing intensive course.) (offered fall, spring)

**ECE 486. Preparatory ECE Senior Design II.** Lecture 1 hour; 1 credit. Corequisites: ECE 484W or 485W. The course is the preparatory, proposal development section of part two of the senior capstone design experience for computer engineering and electrical engineering majors. The course will focus on developing a proposal for a group design project. The senior design projects aim at developing engineering design skills of a complete computer/electrical system. Elements of developing a successful proposal are emphasized along with written communication skills. Industry-sponsored multi-disciplinary design projects are an option.

**ECE 487. ECE Senior Design II.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisite: ECE 486. Part two of the senior capstone design experience for computer engineering and electrical engineering majors. In this course, the students will implement the design proposal developed in ECE 486. The senior design projects aim at developing engineering design skills of a complete computer/electrical system. Oral and written communication skills are emphasized. Industry-sponsored multi-disciplinary design projects are an option.

**ECE 488. ECE Senior Design III.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: ECE 487. Part three of the senior capstone design experience for electrical and computer engineering majors. Individual and group design projects focus on the development of complete electrical and computer systems. Oral and written communication skills are stressed. Industry-sponsored multi-disciplinary design projects are an option.

**ECE 491. Microelectronics Design Experience.** Lecture 3 hours; 3 credits. Prerequisite: junior standing in electrical or computer engineering. This is a Virginia Microelectronics Consortium (VMEC) hands-on, state-of-the-art summer research experience. The VMEC internship provides excellent technical knowledge as well as industrial and academic contacts for career development. Students complete a 10-13 week summer project on a microelectronics research or design activity at an engineering school or in the State-of-the-Art Cleanroom of industry members of the VMEC at Micron Technology, Inc in Manassas, VA or at British Aerospace Engineering (BAE). For eligibility, the student has to apply to the VMEC program and must be selected as a VMEC Student Scholar in a competition held late in the fall semester of each academic year. Each student will be required to give a least two formal oral reports and one formal poster presentation summarizing the research results at the end of the summer session. The project must be completed at an institution other than Old Dominion University. Students will be supervised by faculty or industry mentors at the summer location, but must also have an Old Dominion University co-advisor and instructor of record for the course.

**ECE 495/595, 496/596. Topics in Electrical and Computer Engineering.** Lecture 1 to 3 hours; 1 to 3 credits each semester. Prerequisite: departmental approval.

## Electrical Engineering Technology — See Engineering Technology

## Engineering — ENGN

**ENGN 108. Introduction to Engineering.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: MATH 102M. A one-semester course covering topics in civil, environmental, mechanical, electrical and computer engineering. For non-engineering majors.

**ENGN 110. Explore Engineering and Technology.** Laboratory 3 hours; recitation 1 hour; 2 credits. Corequisite: MATH 162M. First series of projects to introduce a variety of engineering and technology disciplines; hands-on experiences with selected engineering problems and issues; team approach to managing engineering projects; discovering the unknown, formulating solutions, designing, manufacturing, and testing; emphasis on learning modules, communication and presentation skills, creativity and innovation.

**ENGN 301. e-Engineering.** Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: junior standing. A study of the theory and best practices involved in conducting physically-dispersed engineering team collaboration. Student teams will apply e-Engineering concepts using a distributed product engineering scenario. Course module topics include project management, virtual teaming, distributed collaborative tools, and scenario-specific engineering skills.

**ENGN 401. Fundamentals of Engineering Review.** Lecture 1 hour; 1 credit. Prerequisite: junior standing. This course prepares the engineering and engineering technology students for the Fundamentals of Engineering Examination.

**ENGN 454/554. Introduction to Bioelectrics.** Lecture and design 3 hours; 3 credits. Prerequisites: PHYS 111N or higher; MATH 200 or higher. A one-semester course covering the electrical properties of cells and tissues as well as the use of electricity and magnetism in the diagnosis and treatment of disease. Typical topics to be covered include electrocardiography, cardiac pacing, defibrillation, electrotherapy, electroporation, electrotherapy in wound healing. In addition, ultrashort electrical pulses for intracellular manipulation and the application of plasmas to biological systems will be covered. (Cross-listed with ECE 454/554)

**ENGN 495. Multidisciplinary Topics in Engineering and Technology.** 1-3 credits. Special interdisciplinary or multidisciplinary topics of interest with emphasis on emerging areas in engineering.

## Engineering Management — ENMA

**ENMA 301. Engineering Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to principles of management and organizational behavior as they apply to the engineering profession. Special emphasis on project management, systems engineering and analysis, team building, quality leadership, planning, and quantitative decision making. Topic exercises, case studies, and writing assignments. Enrollment restricted to students who have declared, with the Registrar, Engineering Management as their minor, or by permission of the department.

**ENMA 302. Engineering Economics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Economic analysis of engineering alternatives. Valuation techniques; time value of money; cash flow analysis; cost estimation; taxes and depreciation; operations planning and control; project evaluation; accounting and budgeting tools.

**ENMA 401. Project Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Foundations, principles, methods, and tools for effective design and management of projects in technology-based organizations. Project organization, life cycle, planning, scheduling, implementation, control, and evaluation. Special emphasis on project leadership, problem solving in team-based projects, project failure analysis, and advanced methods. Use of case studies and applications to reinforce course concepts. Students design and plan a project from concept through completion including proposal and post-project analysis.

**ENMA 415/515. Introduction to Systems Engineering.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Introduces the principles, concepts and process of systems engineering. Examination of problem formulation, analysis, and interpretation as they apply to the study of complex systems. Emphasizes the design nature of systems engineering problem solving, and includes case studies stressing realistic problems. Development of system requirements, system objectives, and the evaluation of system alternatives.

**ENMA 420/520. Statistical Concepts in Engineering Management.** Lecture 3 hours; 3 credits. Prerequisite: MATH 211 or equivalent. Introduction to concepts and tools in probability and statistics with applications to engineering design, systems analysis, manufacturing, and quality management problems.

**ENMA 421. Decision Techniques in Engineering.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A systematic approach to the formulation of problems, the generation and evaluation of alternatives, and the selection and implementation of courses of action applied to engineering design, manufacturing, and management decisions. Topics include: goals and objectives; variables and relations; constraints and feasibility; uncertainty and risk; models and optimization; data and information; analysis and simulation. Case studies requiring oral presentations and written reports are used to emphasize concepts and systems analysis.

**ENMA 422/522. Global Engineering and Project Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Foundation, principles, methods and tools for effective design and management of projects in global transnational technology-based organizations. Project organization, life cycle, planning, scheduling implementation, control and evaluation. Use of case studies and oral and written reports to reinforce course concepts.

**ENMA 424. Risk Analysis in Engineering Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The systematic approach to analysis of risk as applied to engineering, production, and management decisions is covered. The objectives of this course are (1) to gain an appreciation of the strategic importance of risk analysis and its relationship to other business and engineering functions and (2) to develop a working knowledge of the concepts and methods in risk analysis.

**ENMA 444. Leading Engineering Organizations.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to expose prospective engineers to leadership theories and practices encountered in the day-to-day activities of an engineering manager. Topics include leadership definitions, in-depth explorations of relevant leadership theories,

exposure to concepts and practices that include the definition and exercise of power, leading empowered teams, communicating effectively, appreciating diversity and applying the ethical foundations of leadership. Students will take advantage of assessments to determine strengths and areas for improvement. Students will identify, explore and analyze best practices of leaders and are expected to use the knowledge and skills gained in the course to create a service oriented leadership development.

**ENMA 480. Ethics and Philosophy in Engineering Applications.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to expose prospective engineering managers to the theories and practices that are inherent in the ethical environment of modern organizations. Topics include definitions of ethical behavior and leadership, the history of ethical thought, moral decision-making, and the importance of values such as honesty, integrity, and trustworthiness. A full exploration of ethical autonomy, collaboration, communication, and moral imagination will be conducted.

## Engineering Technology

### Engineering Technology — ENGT

**ENGT 111. Engineering Technology Information Literacy/Research.** Lecture 2 hours; 2 credits. Prerequisite: ENGN 110. Fundamental information literacy and research as applied to engineering technology. Course includes where and how to efficiently locate and critically evaluate technical information. Proper use of technical information and the associated ethical and legal issues will be examined.

### Civil Engineering Technology — CET

For schedule of offerings see <http://www.et.odu.edu/cetschedule.pdf>

**CET 200. Statics.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MATH 163. Corequisite: MATH 211. Scalar methods and free body diagrams are employed in the analysis of discrete and distributed force systems and their application to bodies in external equilibrium. Friction, moment of inertia, and center of gravity are also included.

**CET 220. Strength of Materials.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MATH 211 and CET 200. Mechanical behavior of materials subjected to various external loads. Stress-strain relationships are utilized to design members subjected to shear, axial, bending, and torsional loads. Deformations are predicted and Mohr's circle is introduced.

**CET 301. Structural Analysis.** Lecture 3 hours; 3 credits. Prerequisite: CET 220. Determination of forces, moments, and deflections in statically determinate and indeterminate beams, frames, and trusses due to various load cases and load combinations. Methods of analysis will include matrix stiffness analysis, moment distribution and other approximate and computer methods.

**CET 305. Principles of Surveying.** Lecture 2.5 hours; laboratory 1 hour; 3 credits. Prerequisites: MATH 163 and MET 120. Basic plane surveying measurements and computations, survey control systems, elementary digital mapping and simple curves, and building construction survey and stakeout. Field exercises using standard surveying instrumentation, traverse

and leveling techniques, topographic mapping and curve layout.

**CET 310. Fundamentals of Building Construction.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Introduction to various materials and methods available for design and construction of buildings. Covers application and combination of traditional materials and methods, and recent innovations in construction systems.

**CET 313. Advanced Surveying.** Lecture 2.5 hours; laboratory 1 hour; 3 credits. Prerequisites: CET 305 and MET 120. Advanced traverse and leveling techniques, astronomic determination of meridian, state plane coordinate systems, automated field-to-finish mapping systems, horizontal and vertical curves, highway construction surveying and pipeline and tunnel surveying.

**CET 314. Boundary Law.** Lecture 3 hours; 3 credits. Prerequisite: CET 305. Laws, evidence and procedures in boundary surveying. Topics include written, unwritten and riparian rights, easements, interpretation of written and field boundary evidence, subdivisions, and preparation of boundary descriptions and plans. Boundary project management and professional practice are emphasized throughout the course.

**CET 318. Control/GPS Surveying.** Lecture 2.5 hours; laboratory 1 hour; 3 credits. Prerequisite: CET 313. Fundamental concepts and computations for higher order control surveys using terrestrial and satellite (GPS) based systems. Use of least squares adjustment techniques.

**CET 319. Surveying for Engineers.** Laboratory 3 hours; 1 credit. Prerequisite: MATH 163. Special topics in surveying for civil engineering students and professional engineers. Not open to civil engineering technology majors.

**CET 320. Adjustment Computations.** Lecture 3 hours; 3 credits. Prerequisites: CET 305 and EET 305. This course covers the numerical and statistical analysis of system of spatial measurements, formation and solution of simultaneous observation equations, propagation of errors, adjustment by least squares, weights and precision of adjusted quantities, error ellipses and applications to typical surveying, geodesy and photogrammetry problems.

**CET 340. Soils and Foundations.** Lecture 3 hours; 3 credits. Prerequisite: CET 220. A study of the engineering properties of soil including stress, shear strength, and bearing capacity. Movement of water through soils, consolidation and settlement of structures and the design of shallow and deep foundations are also covered.

**CET 341W. Soils Testing Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: CET 220. Pre- or corequisite: CET 340. Course includes standard methods for inspecting, sampling, testing, and evaluating soils. Students use typical test equipment and perform tests on samples of local soils. A written report is required for each experiment. (This is a writing intensive course.)

**CET 345W. Materials Testing Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: CET 220. Standard methods of inspecting and testing structural materials used in construction are followed. A written report is required for each experiment. (This is a writing intensive course.)

**CET 360. Plans and Specifications.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: CET 310 and MET 120. A detailed study of the form and content of typical plans and specification

documents used in the construction industry. The use of computer-aided drafting in assembling a set of plans and specifications.

**CET 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (offered fall, spring, summer) (qualifies as a CAP experience)

**CET 368. Internship.** 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**CET 369. Practicum.** 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. (qualifies as a CAP experience)

**CET 400. Computer Applications in Structural Design.** Laboratory 2 hours; 1 credit. Prerequisite: CET 301. The use of computer programs to assist in structural analysis and design projects.

**CET 410. Reinforced Concrete Design.** Lecture 3 hours; 3 credits. Prerequisite: CET 220. Structural analysis and design of reinforced concrete members. Topics include flexural analysis and design of structures, including slabs, beams and columns using strength design procedures.

**CET 411. Photogrammetry.** Lecture 3 hours; 3 credits. Prerequisites: CET 305 and MATH 102M or equivalent. This course covers the study of aerial and close range photogrammetry and the corresponding reduction and interpretation of data.

**CET 413. Elements of GIS.** Lecture 3 hours; 3 credits. Prerequisite: CET 305. The study of geographic and land information systems as they relate to the practice of land surveying. Surveying reference systems for control, attributes of computerized land data bases, and their impact on the recording of land titles and boundaries are treated, as well as the use of CAD enhancements and satellite technology.

**CET 420. Hydrology and Drainage.** Lecture 3 hours; 3 credits. Prerequisite: senior standing. Hydrologic and hydraulic principles are utilized in the planning, design, operation and construction of water management projects. Topics include elements of stormwater drainage pertaining to hydrology, hydraulics of open channel and pipe flow, stormwater management, and issues pertinent to state stormwater regulations and the Chesapeake Bay Preservation Act. The course also covers water distribution and sewage collection systems.

**CET 421. Advanced Analytical and Digital Photogrammetry.** Lecture 3 hours; 3 credits. Prerequisites: CET 305, 320 and MATH 102M or equivalent. This course covers digital and analytical stereoscopic plotting instruments. Image and ground coordinate systems, coordinate transformations and refinement, rotation matrices, collinearity and coplanarity equations, analytical space resection, space intersection, trip and block formation and adjustment. It also covers digital

image enhancement, image correlation, feature extraction and orthophotography.

**CET 422. Remote Sensing.** Lecture 3 hours; 3 credits. Prerequisites: CET 305 and MATH 102M or equivalent. A course in differential calculus, such as MATH 211, is recommended but not required. This course covers electromagnetic energy, passive and active sensing systems, earth resource satellite systems, digital image formats, image enhancement, image interpretation and applications of computer-assisted interpretation in mapping, geology, soils, water quality and urban and regional planning. It also covers image rectification, registration and image data merger with GIS.

**CET 425. Land Design and Development.** Lecture 3 hours; 3 credits. Prerequisites: CET 340 and 420. Applications of fundamental site engineering principles, land design principles and permitting issues. A brief historical review of exemplary subdivision, NewTown, and urban designs and their impact on current practice. Site surveying and engineering issues including hydrology, storm water management, site geometry, grading, design of roads, engineering design standards and computer applications in site engineering are examined. The principles of siting and theories of design for esthetic and efficient alignment of roads, layout of structures and subdivision parcels are introduced.

**CET 434. Introduction to Senior Project.** Lecture 1 hour; 1 credit. Prerequisite: senior standing. This course must be taken in the semester prior to the Senior Project course. A collection of career-related topics pertaining to engineering technology. Topics include engineering codes and standards, engineering ethics, technical report writing, job search and resume writing techniques, patents and property rights, and professional engineering licensure. The course concludes with the selection of the student's project topic for the subsequent Senior Project course.

**CET 440. Contract Documents.** Lecture 3 hours; 3 credits. Prerequisite: CET 310. The basic concepts of contracts and the standard contract documents used in construction. Also included is a study of the dispute resolution process in arbitration.

**CET 445. Construction Planning and Scheduling.** Lecture 3 hours; 3 credits. Prerequisite: CET 310. The basic elements of planning and scheduling building construction projects. All elements of building construction, including the precedence methods of scheduling. Use of computers and planning and scheduling software are emphasized.

**CET 450. Structural Steel Design.** Lecture 3 hours; 3 credits. Prerequisite: CET 220. Structural analysis and design of steel structures, including beams, girders, columns, composite sections, trusses, rigid frames and connections using the LRFD method. Analysis of statically-determinate cantilever (hungspan) systems also are covered.

**CET 452. Wood Design.** Lecture 3 hours; 3 credits. Prerequisite: CET 220. Analysis and design of wooden structural elements of buildings to satisfy design codes. Included are shearwall design and connections as well as beams, columns and other elements.

**CET 460. Construction Cost Estimating.** Lecture 3 hours; 3 credits. Prerequisite: CET 310. Evaluation and analysis of the basic elements of estimating construction costs for buildings. Elements of take off and pricing for Division 1

through Division 6 are covered. Use of computers and estimating software are emphasized.

**CET 465. Construction Project Management.** Lecture 3 hours; 3 credits. Prerequisite: CET 310. An introduction to the procedures and methods that are used by a contractor during the construction phase of a project. Special emphasis on planning, managing and documenting project activities. Topics include jobsite layout and control, subcontracting and purchasing and changes and claims/progress payments.

**CET 475. Senior Design Project.** Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisites: CET 434, final semester or permission of the instructor. Students in the structural design emphasis area must also have CET 360. Independent or group design projects in the various CET emphasis areas with instructor and/or mentor guidance. Projects should include development and design, leading to appropriate engineering documents, with written and oral reports. (qualifies as a CAP experience)

**CET 495/496. Topics in Civil Engineering Technology.** 1-3 credits each semester.

### Electrical Engineering Technology — EET

For schedule of offerings see <http://www.et.odu.edu/eetschedule.pdf>

**EET 110. Electrical Circuits I.** Lecture 3 hours; 3 credits. Prerequisite: MATH 162M. Fundamentals of electrical circuits including basic electrical parameters and variables, circuit laws and theorems, mesh analysis, node analysis, Thevenin's and Norton's Theorems, capacitance, inductance, magnetism, and elementary RC and RL transients.

**EET 120. Logic Circuits and Microprocessors.** Lecture 3 hours; 3 credits. An introductory to logic circuits, Boolean algebra, digital interface devices, combinational and sequential logic design, and microprocessor fundamentals. (offered fall)

**EET 125. Logic And Microprocessor Laboratory.** Lecture 1 hour; laboratory 2 hours; 2 credits. Pre- or corequisite: EET 120. Team-oriented experiments in basic combinational and sequential logic circuits, and an introduction to fundamental microprocessors. (offered fall)

**EET 200. Electrical Circuits II.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in EET 110 and MATH 163. A continuation of EET 110 with emphasis on steady-state ac circuit analysis and applications. Topics include alternating current and voltage, phasors and complex numbers and their applications in circuit analysis, series and parallel resonance, complex power, and polyphase circuits. (offered fall)

**EET 205. Circuits Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: EET 200. Electrical laboratory instruction including test equipment, measurements, data analysis, verification of circuit laws, formal report preparation, and circuit construction.

**EET 210. Electronic Devices and Circuits I.** Lecture 3 hours; 3 credits. Prerequisite: EET 110. Semiconductor devices with emphasis on dc circuit models and switching applications. Diodes, bipolar junction transistors, field effect transistors, and special devices. Analysis and design of stable biasing circuits. Frequency response analysis.

**EET 220. Electronic Devices and Circuits II.** Lecture 3 hours; 3 credits. Prerequisites: EET 200 and 210. A continuation of EET 210 with emphasis on ac circuit models and applications

using the hybrid-pi model. Common emitter, common base, common collector, common source, common gate, and common drain amplifier configurations. Negative and positive feedback, operational amplifiers, oscillators, and power supplies.

**EET 225. Electronics Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: EET 205. Pre- or corequisite: EET 220. Practical design, construction, testing and troubleshooting of electronic circuits including single state and multistage amplifiers, power amplifiers, linear integrated circuits, and control devices.

**EET 230. Microcomputer Methods.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: EET 110 and MATH 162M. An introductory course studying computing issues and problem solving for EET (and ComET) majors. Emphasis is placed on modern problem solving and algorithm development applied to engineering computer applications and hardware using the C++ programming language. Topics include: top-down refinement, procedure definition, looping, pointers, hardware I/O, masking and bit manipulation, and extensive program documentation.

**EET 300. Advanced Circuit Analysis.** Lecture 3 hours; 3 credits. Prerequisites: MATH 211 and a grade of C or better in EET 200. General analysis of linear networks using classical methods, Laplace transforms and computer-aided methods. Topics include single element transients, first- and second-order circuits, transfer function analysis, and phasor analysis, Bode plots and waveform analysis. Circuit analysis software is used to support the analytical methods.

**EET 305. Advanced Technical Analysis.** Lecture 3 hours; 3 credits. Prerequisite: at least one course covering both differential and integral calculus. Analytical and computational methods to support upper-division engineering technology courses. Topics include linear algebra, ordinary differential equations of engineering systems, elements of vector analysis, introductory statistical concepts, and software usage/development. MATLAB is used throughout the course to support all the topics.

**EET 310. Digital Electronics.** Lecture 3 hours; 3 credits. Prerequisites: EET 120, 125, 205, and 210. First course in an upper division sequence in digital electronics circuits and systems. Topics include a comprehensive treatment of Boolean algebra, computer arithmetic, and applications of digital integrated circuits.

**EET 315. Digital Electronics Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: EET 310. Application-oriented experiments and project design in digital electronics. Digital circuit design, modeling and simulation, use of general electronic test equipment to measure/troubleshoot digital designs, and prototype construction using wirewrap methods. Formal written reports will be required.

**EET 320. Microprocessors and Microcontrollers.** Lecture 3 hours; 3 credits. Prerequisite: EET 310. Second lecture course in the upper-division digital electronics sequence. Software/hardware design of microprocessors and microcontrollers, interface circuitry, and system designs. Organization, architecture, software programming, simulation, peripheral interface designs, communication protocols, and the application of microprocessor-based systems design.

**EET 325. Microprocessor Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: EET 320. Hands-on

implementation of microprocessor and microcontroller systems and peripheral interfacing experiments. Emphasis is placed on the hardware and software design and firmware construction in embedded system applications.

**EET 330. Linear Electronics.** Lecture 3 hours; 3 credits. Prerequisites: EET 220 and 300. General treatment of linear electronic circuits with emphasis on the operational amplifier and integrated circuits derived from it. Topics include various amplifier circuits and converters, integrators and differentiators, comparators, waveform generators, active filters, A/D and D/A converters, and regulators. Design of circuits to meet specifications. Circuit analysis software is used to validate some of the designs.

**EET 335. Linear Electronics Laboratory.** Lecture 1 hour; laboratory 3 hours; 2 credits. Pre- or corequisite: EET 330. Design testing, and evaluation of "linear" electronic circuits and subsystems with primary emphasis on circuit components and modules. Measurement techniques, instrumentation and error analysis. Simulation of circuit designs using Multisim including transient response and frequency response.

**EET 340. Transmission Networks.** Lecture 3 hours; 3 credits. Prerequisite: EET 300. Transmission line theory including both transients and steady-state conditions. Smith chart and its application to RF design. Introduction to electric and magnetic fields and plane wave propagation. Circuit analysis software is used to support the analytical methods.

**EET 350. Fundamentals of Electrical Technology.** Lecture 3 hours; 3 credits. Pre- or corequisite: MATH 211. A comprehensive course in electrical engineering technology for nonmajors. Major topics are basic electricity (AC and DC), circuit analysis, linear electronics and digital electronics. Not open to electrical engineering technology majors except as a substitute for EET 110 in special cases.

**EET 355. Electrical Laboratory.** Laboratory 2 hours; 1 credit. Pre- or corequisite: EET 350. Selected electrical laboratory topics for nonmajors including basic measurements, instrumentation, operational amplifiers, digital circuits, and rotating machines. Not open to electrical engineering technology majors.

**EET 360. Electrical Power and Machinery.** Lecture 3 hours; 3 credits. Prerequisite: EET 200 or EET 350. A study of transformers, synchronous and asynchronous AC machinery, DC machinery, power distribution systems, and instrumentation.

**EET 365W. Electrical Power and Machinery Laboratory.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: EET 205 or 355; Pre- or corequisite: EET 360. A laboratory course dealing with electrical power and machinery as covered in EET 360. Formal written reports will be required. (This is a writing intensive course.)

**EET 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**EET 368. Internship.** 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**EET 369. Practicum.** 1-3 credits. Available for pass/fail grading only. (qualifies as a CAP experience)

**EET 370T. Energy and the Environment.** Lecture 3 hours; 3 credits. Prerequisite: PHYS 101N, or 111N, or 231N, or instructor approval. A study of existing and new energy production methods, energy as a purchased/traded commodity, physics of energy, positive and negative implications for the environment, economics of energy alternatives, and resulting human/social impacts.

**EET 400. CAD Electronics.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: EET 310, 320, 325. An upper-division study of the fundamentals of electronic schematic capture, circuit simulation, and printed circuit board design using microcomputers. Schematic symbols, simulation models, and pcb modules are developed by the students.

**EET 405. Introduction to Local Area Networks.** Lecture 3 hours; 3 credits. Prerequisite: EET 320 and 325. Design, installation, and management of PC based local area networks. Topics include network topology (Ethernet, token ring, FDDI, etc.), network interface card installation and configuration, client/server hardware, LAN/WAN concepts, bridges and routers, and software controls.

**EET 410. Communication Principles.** Lecture 3 hours, 3 credits. Prerequisite: EET 300 or 350. Fourier series and transforms, spectral analysis, signal transmission, analog modulation and detection methods, sampling theorem, pulse and digital modulation methods, and time-division and frequency-division multiplexing.

**EET 415. Programmable Machine Controls.** Lecture 2 hours; laboratory 2 hours; 3 credits. Pre- or corequisite: EET 310, or prerequisite: EET 350. Application oriented experiments and design problems in programmable controller setup and programming techniques with emphasis on practical applications. Computer assignments include ladder programs simulation.

**EET 420. Advanced Logic Design.** Lecture 3 hours; 3 credits. Prerequisite: EET 310. Advanced digital logic design and circuit reduction. Topics include lattice structure, symmetry recognition and simplification, threshold logic, design-for-testing techniques, shortest path test planning, adaptive testing, and fuzzy logic. Computer assignments include design simulation and testing.

**EET 430. Automatic Control Systems.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: EET 305, 330, 360, 365W. A study of modern control devices and applications including electrical, mechanical and pneumatic types.

**EET 434. Introduction to Senior Project.** Lecture 1 hour; 1 credit. Prerequisite: senior standing. This course must be taken in the semester prior to the Senior Project course. A collection of career-related topics pertaining to engineering technology. Topics include engineering codes and standards, engineering ethics, technical report writing, job search and resume writing techniques, patents and property rights, and professional engineering licensure. The

course concludes with the selection of the student's project topic for the subsequent Senior Project course.

**EET 440. High Frequency and Microwave Technology.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: EET 340. Methods for generating, transmitting, and detecting signals in the VHF, UHF, and microwave frequency ranges. Laboratory will emphasize high frequency and microwave measurements including bridges, slotted lines, spectrum analyzers and reflectometers.

**EET 450. Digital Control Systems.** Lecture 3 hours; 3 credits. Prerequisites: EET 305, 320, 325, 330. A study of modern digital control systems including the sampling process of linear systems, modeling of discrete systems, z-transforms, analysis of discrete systems, signal conversion, the digital computer as controller, feedback and cascade compensation, and hardware and software for digital control systems.

**EET 460. Modern Communication Systems.** Lecture 3 hours; 3 credits. Prerequisite: EET 410. Overview of the principles of satellite communications, television systems, fiber optics, antennas and other relevant topics.

**EET 470. Microprocessor Based Design.** Lecture 3 hours; 3 credits. Prerequisites: EET 310, 325 and a grade of C or better in EET 320. High level and low level programming languages that relate to advanced microprocessor/microcontroller embedded system designs. The low level assembly language in embedded systems, and high level C and C++ languages in a PC that are used in real time controls and communications are the focus of this course. Topics include the related hardware/software interfacing built between different devices such as memories, ADCs, and display modules; mathematic utilities routines development; wireless RF modules; communication in serial and parallel formats; and communications protocols.

**EET 480W. Senior Project.** Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisites: EET 434, senior standing and faculty approval. Individual projects performed under the direction of a sponsoring faculty member. Projects may involve analytical and/or experimental results. Formal written reports will be required. (qualifies as a CAP experience) (This is a writing intensive course.)

**EET 485. Electrical Power Systems.** Lecture 3 hours; 3 credits. Prerequisite: EET 360. Fundamentals of electrical power transmission and distribution systems. Transformer operation/application, balanced/unbalanced loads, power factor correction, per-unit system applications, fault calculations, power quality, over-current protection, relay construction and application, lighting system design, grounding, and an introduction to the National Electric Code.

**EET 490. Computer-Aided Circuit Simulation.** Lecture 3 hours; 3 credits. Prerequisites: EET 300, 330, 335, and 340. Advanced treatment of computer-aided analysis software such as Multisim and MATLAB and the applications to electronic circuit analysis and design. Topics include non-linear models, distortion analysis, spectral analysis, and Monte Carlo techniques.

**EET 495, 496. Topics in Electrical Engineering Technology.** 1-3 credits each semester. Prerequisite: junior standing.

## Mechanical Engineering Technology — MET

For schedule of offerings see <http://www.et.edu/metschedule.pdf>

**MET 120. Computer Aided Drafting.** Lecture 2 hours; laboratory 2 hours; 3 credits. Computer based drafting methods are taught with a major emphasis on "Hands On" practice using 2-D AutoCAD software in the computer lab, along with the various methods of editing, manipulation, visualization and presentation of technical drawings. This course includes the basic principles of engineering drawing/hand sketching, dimensioning and tolerancing.

**MET 200. Manufacturing Processes and Methods.** Lecture 3 hours; 3 credits. Application and characteristics, both physical and chemical, of the materials most commonly used in industry as well as procedures and processes used in converting raw materials into a finished product.

**MET 240. Computer Solid Modeling.** Lecture 3 hours; 3 credits. Prerequisite: MET 120. A treatment of modern 3-D parametric solid modeling techniques including introduction of the software utilized sketching, parts and assembly creation techniques, orthographic views extraction and manufacturing drawing generation. Presentations include exploded views and animation.

**MET 300. Thermodynamics.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 121N and a C or better in PHYS 111N (or 231N), PHYS 112N (or 232N) and MATH 211. The basic laws of thermodynamics, properties of fluids, heat, and work and their applications in processes and cycles and an introduction to conduction heat transfer.

**MET 305. Fundamentals of Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 111N and MATH 211. Selected topics in statics and strength of materials are applied to mechanical engineering technology. Coverage includes force systems, equilibrium, friction, and stress-strain relationships and their application to the mechanical behavior of materials.

**MET 310. Dynamics.** Lecture 3 hours; 3 credits. Prerequisites: a C or better in CET 200, MATH 211 and PHYS 111N (or 231N). A fundamental treatment of coplanar and three-dimensional kinematics and kinetics of particles and rigid bodies, including relative motion, mass moments of inertia. Newton's laws, work and energy, impulse and momentum, and simple vibrations.

**MET 320. Design of Machine Elements.** Lecture 3 hours; 3 credits. Prerequisite: a C or better in CET 220, MATH 211 and PHYS 111N (or 231N). A rapid review of the fundamental principles of strength of materials and working stresses followed by practical analyses of fundamental machine elements such as shafts, springs, and screws.

**MET 330. Fluid Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: a C or better in MET 310. The study of fluid statics and dynamics, including momentum, energy, Bernoulli's equation, laminar and turbulent fluid flow and friction in pipes, fluid machinery, and open-channel flow.

**MET 335W. Fluid Mechanics Laboratory.** Laboratory 2 hours; 1 credit. Pre- or corequisite: MET 330. A laboratory course dealing with the verification of fluid equations and principles and the characteristics of fluid machinery with emphasis on laboratory report writing, including presentation and interpretation of experimental data. (This is a writing intensive course.)

**MET 350. Thermal Applications.** Lecture 3 hours; 3 credits. Prerequisite: a C or better in MET 300. A study of basic applications of

thermodynamics. Topics include the basic steam and gas turbine power plant, introduction to refrigeration systems, psychometrics, basic conduction and convection heat transfer including heat exchangers and surveys of other energy conversion systems.

**MET 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Career Management program prior to the semester in which the work experience is to take place. (offered fall, spring, summer) (qualifies as a CAP experience)

**MET 368. Internship.** 1-3 credits. Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**MET 369. Practicum.** 1-3 credits. Available for pass/fail grading only. (qualifies as a CAP experience)

**MET 370. Automation and Controls.** Lecture 3 hours; 3 credits. Prerequisites: MATH 211 and EET 350 and 355. A study of the design and analysis of feedback control system. Includes the fundamentals of programmable controllers as well as practical applications of interfacing mechanical, electrical, pneumatic and hydraulic feedback control circuits. Computer simulation software is used to model system responses.

**MET 386. Automation and Controls Laboratory.** Laboratory 2 hours; 1 credit. Pre- or corequisite: MET 370. Laboratory and computer simulation of control systems including programmable controllers as well as practical applications of interfacing mechanical, electrical and pneumatic control systems.

**MET 387. Power and Energy Laboratory.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: MET 335W and 350. Experiments dealing with applied thermodynamics, mechanical power and energy systems with emphasis on laboratory report writing, including presentation and interpretation of experimental data.

**MET 400. Computer Numerical Control in Production.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MET 120 or fundamental CAD knowledge. Principles of computer numerical control consistent with most recently developed standards, industry practices, and CAD/CAM systems including such topics as types of CNC machines, CNC milling, CNC turning and CNC electro-discharge machinery. A significant portion of the course includes programming in multiple axes.

**MET 410. Advanced Manufacturing Processes.** Lecture 3 hours; 3 credits. Prerequisite: MET 200. A course in nontraditional manufacturing processes including ultrasonic machining, abrasive jet machining, waterjet cutting, electromechanical machining, electrical discharge machining, plasma arc machining and chemical milling. Semester project is required. (qualifies as a CAP experience)

**MET 415. Introduction to Robotics.** Lecture 2 hours; laboratory 2 hours; 3 credits.



Prerequisites: MET 310 and EET 350. An introductory course in robotics dealing with the history and development of robots, mechanical components and control systems, actuators, robot programming and utilization. Included are laboratory experiments in robot motion and programming.

**MET 420. Design for Manufacturing.** Lecture 3 hours; 3 credits. Prerequisites: MET 200 and 320. Principles of design for manufacturing, materials and process selection for design, role of geometric dimensioning and tolerancing, design for assembly, design for production and case studies. Also includes impact of product design, design for maintenance, recyclability, disassembly, quality and robustness. Semester project requires redesign of an existing product for manufacturing.

**MET 430. Mechanical Subsystem Design.** Lecture 3 hours; 3 credits. Prerequisite: MET 320. Fundamental principles required for the correct design of the separate elements which compose the machine with attention given to problems of synthesis and the interrelationships of the design of elements within the sub-assembly. Topics include stress analysis of screws, belts, clutches, brakes, chains and thin and thick cylinders, and lubrication and bearings.

**MET 434. Introduction to Senior Project.** Lecture 1 hour; 1 credit. Prerequisite: MET 320, 330 and 350. This course must be taken in the semester prior to the Senior Project course. A collection of career-related topics pertaining to engineering technology. Topics include engineering codes and standards, engineering ethics, technical report writing, job search and resume writing techniques, patents and property rights, and professional engineering licensure. The course concludes with the selection of the student's project topic for the subsequent Senior Project course.

**MET 435W. Senior Design Project.** Lecture 1 hour; laboratory 6 hours; 3 credits. Prerequisites: MET 434 and senior standing. A capstone course exercising upper level course work involving independent or group design projects. Students are required to collect data and synthesize a mechanical design. Submission of written reports and a final oral presentation are required. (qualifies as a CAP experience) (This is a writing intensive course.)

**MET 440. Heat Transfer.** Lecture 3 hours; 3 credits. Prerequisite: MET 300. A study of conduction, convection and radiation heat transfer and heat exchangers. Emphasis is on applications and problem solving using current techniques, and modern correlations.

**MET 445. Computer Integrated Manufacturing.** Lecture 3 hours; 3 credits. Prerequisite: senior standing. Principles of computer integrated manufacturing, system integration, architecture and data base development. Topics include part design specifications, process engineering, fixed automation and process planning.

**MET 450. Energy Systems.** Lecture 3 hours; 3 credits. Prerequisite: MET 350. A study of the application of thermodynamics to power plants, engines, compressors, turbines, and associated systems. A detailed study is made of fossil fuel power plants with an introductory study of nuclear power and other energy conversion systems.

**MET 455. Lean Engineering.** Lecture 3 hours; 3 credits. Prerequisite: MET 200 and senior standing. This course looks at the history of lean and six sigma philosophies, their principles and implementation methodologies for creating a

world class enterprise. Topics in Lean include five s, value stream mapping, cellular manufacturing, pull system, performance metrics, Lean supplier network, Lean product development and Lean implementation models. Semester research report is a course requirement. Class activities may involve physical simulation of production environment.

**MET 460. Refrigeration and Air Conditioning.** Lecture 3 hours; 3 credits. Prerequisites: MET 330 and 350. The design and application of refrigeration and air conditioning systems. Studies are made of compressors, condensers, evaporators, psychometric processes, load calculations and air distribution systems. High performance vapor compression systems, absorption systems and other cycles are analyzed.

**MET 465. Geometric Dimensioning and Tolerancing.** Lecture 3 hours; 3 credits. Prerequisite: MET 120. Methods and rules of dimensioning and tolerancing, calculation of fits, and geometrical tolerances using ANSI-Y14.5M, tolerances of form, orientation, and profile, including flatness, straightness, circularity, cylindricity, angularity, etc. Student work consists of designing and detailing various product drawings.

**MET 471. Nuclear Systems I.** Lecture 3 hours; 3 credits. Prerequisite: MATH 211 and PHYS 111N. Reactor physics principles as applied to the design and operation of various types of commercial nuclear power reactors. Topics include sources of radiation and interaction with matter, neutron interactions, diffusion theory, and reactor kinetics.

**MET 472. Nuclear Systems II.** Lecture 3 hours; 3 credits. Prerequisites: MET 471 and CHEM 121N-122N or equivalent. Complete study of the nuclear fuel cycle, from mining through fabrication, fuel management in an operating commercial power reactor, spent fuel management, and fuel reprocessing, with emphasis on chemical engineering considerations.

**MET 475. Marine Engineering I.** Lecture 3 hours; 3 credits. Prerequisites: MET 330 and 350. This course includes: fundamental principles of naval architecture including nomenclature, geometry, stability, hydrostatics, structures, and motions; ship design processes; and a basic introduction to shipboard systems such as HVAC, refrigeration, power generation, propulsion, hydraulics, electronics, cargo handling systems, seawater systems, freshwater systems, and fuel, lube and other oil systems.

**MET 476. Marine Engineering II.** Lecture 3 hours; 3 credits. Prerequisite: MET 475. This course builds upon MET 475 and provides a more in-depth look at shipboard systems and introduces topics such as basic shipboard operations and ship specifications.

**MET 480. High Performance Piston Engines.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: MET 300 or MAE 311. Corequisite: MET 350 or MAE 312. A study of the fundamental principles and performance characteristics of spark ignition and diesel internal combustion engines. Overview of engine types and their operation, engine design and operating parameters; ideal and semi-empirical models of engine cycles; combustion, fluid flow and thermal considerations in engine design and performance. Laboratory evaluation of engine performance using flow and dynamometer systems. (cross-listed with MAE 477/577)

**MET 485. Maintenance Engineering.** Lecture 3 hours; 3 credits. Prerequisites: EET 305

and MET 200. This course looks at maintenance systems: predictive, preventative and corrective; large scale maintenance systems, principles of reliability engineering, maritime logistics; planning for maintenance and repair, using and ordering spare parts, technical manuals, system specifications, and shipyard operations.

**MET 490. Lean Enterprise.** Lecture 3 hours; 3 credits. Prerequisite: MET 200. The history of lean philosophy, founding principles, and the extension of these principles to above-shop-floor activities to create a lean enterprise. Topics include five s, value stream mapping, cellular manufacturing, pull system, performance metrics, point of use storage, built-in-quality, mistake proofing and lean implementation models. Research report on one of the lean principles is a course requirement.

**MET 495, 496. Topics in Mechanical Engineering Technology.** 1-3 credits each semester.

## English — ENGL

### SUMMARY OF COURSE DISTRIBUTION

**I. Composition and Professional Writing.** Undergraduate: 110C, 126C, 211C, 221C, 231C, 307, 325, 327W, 334W, 335, 354, 368, 427W, 435W, 439W, 455, 468, 473.

**II. Creative Writing.** Undergraduate: 300, 351, 352, 353, 449, 451, 452, 454, 456, 457.

**III. Language Studies and Linguistics.** Undergraduate: 350, 370, 371W, 440, 444, 450, 477.

**IV. Journalism.** Undergraduate: 335, 366, 380, 381, 382, 472, 480, 481, 482, 483W, 484, 485W, 486.

**V. Literature and Film.** Undergraduate: 112L, 127L, 114L, 200, 301, 302, 303, 304, 312, 333, 336, 340, 342, 345, 346, 349, 360, 361, 363, 403, 407, 416, 421, 423, 424, 425, 432, 433, 437, 438, 446, 447, 448, 459, 460, 461, 462, 463, 465, 466W, 492, 493.

**VI. Teaching.** Undergraduate: 406, 455.

**VII. Non-Lecture Courses.** Undergraduate: 367, 368, 369, 468, 497, 498.

**VIII. Topics Courses.** Undergraduate: 395, 396, 495, 496.

### COURSE DESCRIPTIONS

**ENGL 110C. English Composition.** Lecture and discussion 3 hours; 3 credits. Prerequisite: Students must have passed the University Writing Sample Placement Test before registering for 110C. The principal objective of the course is to prepare students to be effective writers of the kinds of compositions they will be called on to produce during their college careers. By the end of the course, students should be more mature in their understanding and use of language, should develop efficient writing processes, and should know and demonstrate the qualities of effective composition in a given rhetorical situation.

**ENGL 112L. Introduction to Literature.** Lecture 3 hours; 3 credits. This course shows the general student how to understand the distinctive forms and meanings of short stories, poems, and

plays, and key notions such as character, plot, and imagery. Through critical reading, analysis, class and small group discussion, formal essays and examinations, students will develop an understanding of the effective use of the English language and its contribution to our cultural heritage. Works include women and minority writers.

**ENGL 114L. American Writers, American Experiences.** Lecture 3 hours; 3 credits. This course introduces the student to the diversity of American culture as depicted in American literature. Works include minority and women writers and provide visions of city, frontier, and regional life; ethnic and racial immigrant experiences; religion, democracy, and capitalism. A student with credit for ENGL 144L cannot receive credit for ENGL 114L.

**ENGL 126C. Honors: English Composition.** Lecture 3 hours; 3 credits. Prerequisite: Students must have passed the Writing Sample Placement Test before registering for ENGL 126C. Open only to students in the Honors College. Special honors section of ENGL 110C.

**ENGL 127L. Honors: Introduction to Literature.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of ENGL 112L.

**ENGL 200. Introduction to English Studies.** Lecture 1 hour; 1 credit. A preview of the subject areas of an English major (literature, linguistics, creative writing, journalism, professional writing, rhetoric, teaching) with attention to the student's curricular and career planning. Required of English majors. Open to anyone interested in English.

**ENGL 211C. English Composition.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course emphasizes critical reading, thinking, and writing. Students are introduced to principles of analysis and argumentation and taught the requisite skills that will allow them properly to paraphrase, summarize, and synthesize research in the common modes of academic writing. The course culminates in the preparation of a fully-documented research paper. A student with credit for ENGL 111C cannot receive credit for ENGL 211C.

**ENGL 221C. Introduction to Writing in Business, Education and the Social Sciences.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course emphasizes critical reading, thinking, and writing as they apply to business, education and the social sciences. Students are introduced to principles of analysis and argumentation and taught the requisite skills that will allow them to properly paraphrase, summarize, and synthesize research as it applies to and is most commonly found in business, education and the social sciences. The course culminates in the preparation of a fully-documented research paper.

**ENGL 231C. Introduction to Technical Writing.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course emphasizes critical reading, thinking, and writing as they apply to the technical and scientific disciplines. Students are introduced to principles of analysis and argumentation and taught the requisite skills that will allow them properly to paraphrase, summarize, and synthesize research as it applies to and is most commonly found in the technical and scientific communities. The course culminates in the preparation of a fully-documented research paper. A student with credit for ENGL 131C cannot receive credit for ENGL 231C.

**ENGL 300. Introduction to Creative Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 110C and 211C. A creative writing workshop course combining individual conferences with the instructor and class discussion of student writing. Students will work in fiction, non-fiction, poetry, and drama.

**ENGL 301. Introduction to British Literature I.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, and 6-hour General Education composition requirement or permission of the instructor. A survey of British literature from the beginning of textual records until 1780, focusing on the development of different literary forms in their social and cultural contexts.

**ENGL 302. Introduction to British Literature II.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, and 6-hour General Education composition requirement or permission of the instructor. A survey of British literature after 1780, focusing on the development of different literary forms in their social and cultural contexts.

**ENGL 303. Shakespeare's Histories and Comedies.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An exploration of Shakespearean comedy and historical drama, through plays such as *A Midsummer Night's Dream*, *The Merchant of Venice*, *As You Like It*, *Measure for Measure*, and *The Tempest* for the former; *Richard II*, *Henry IV*, and *Richard III* for the latter.

**ENGL 304. Shakespeare's Tragedies and Poetry.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. A study of Shakespearean poetry and tragedy through the longer poems and the sonnets for the former, and through plays such as *Romeo and Juliet*, *Hamlet*, *Othello*, *Macbeth*, and *Antony and Cleopatra* for the latter.

**ENGL 307T. Digital Writing.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 211C. This course introduces students to issues of writing in various digital environments like web pages, email, blogs, wikis, and discussion boards. This class also introduces fundamentals of hypertext authoring, digital and visual rhetoric, and image manipulation.

**ENGL 312. The Film.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in English. A multimedia course using slides, video cassettes, and 16mm films to increase appreciation of film as an art form, particularly as a narrative medium. Attention is given to all the elements of filmmaking (including directing, acting, writing, editing, visual composition, and music), especially as they contribute to the way films tell stories. After students become familiar with film techniques, they study eight to ten films for their narrative methods.

**ENGL 325. Introduction to Rhetorical Studies.** Lecture 3 hours; 3 credits. Prerequisites:

passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. Explores the nature and function of rhetoric and its contribution to the knowledge-making enterprises of English studies and other disciplines. Students will use that "lens" to assess the effectiveness of their own language practices.

**ENGL 327W. Advanced Composition.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and ENGL 211C, 221C, or 231C. This course emphasizes development of a mature, professional style in expository writing by study of the stylistic and analytical principles underlying effective prose writing. (This is a writing intensive course.)

**ENGL 333. The Interpretation of Literary Works.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, junior standing and three hours of literature, or permission of the instructor. This course introduces students to theories about the nature and value of literature and gives them experience in applying such theories to specific literary texts.

**ENGL 334W. Technical Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 6-hour General Education composition requirement. This course provides the student with a working knowledge of various types of technical communication, including the writing of proposals, instructions, and reports for both the specialist and the nonspecialist. (This is a writing intensive course.)

**ENGL 335. Editing and Document Design.** Lecture/lab 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six hours in English to include ENGL 334W or 380. This course provides practical experience in copy editing and includes an analysis of technical formats used in journalism, business, industry, and government. It features hands-on lab work in document presentation, page layout, and design.

**ENGL 336. The Short Story.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement and 6-hour General Education composition requirement or permission of the instructor. A genre course on the art of the short story. Students will explore how the writers' careful selection of detail creates meanings that emerge through the characters, plot, setting, diction, point of view, and other elements of fiction.

**ENGL 340. American Drama.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement and 6-hour General Education composition requirement or permission of instructor. A study of American drama from its beginnings to the present day. The course includes plays from the eighteenth and nineteenth centuries, with a generous selection from the twentieth and twenty-first centuries.

**ENGL 342. Southern Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, and 6-hour General Education composition requirement or permission of the instructor. A survey of the literature of the American South from William Byrd to Ernest Gaines. Selected writings are studied not only for their literary value but also as expressions of evolving regional attitudes to be evaluated in terms of the mainstream of American culture.

**ENGL 345. American Literature to 1860.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, and 6-hour General Education composition requirement or permission of instructor. The course presents a survey of American literature from the beginning to the Civil War and emphasizes major movements, diversity among writers, and cultural currents.

**ENGL 346. American Literature Since 1860.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, and 6-hour General Education composition requirement or permission of instructor. The course presents a survey of American literature from the Civil War to the present day and emphasizes major movements, diversity among writers, and cultural currents.

**ENGL 349. The Contemporary American Novel.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement and 6-hour General Education composition requirement or permission of the instructor. Reading and analysis of American novels published since 1945. Emphasis on contemporary themes and techniques.

**ENGL 350. Aspects of the English Language.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing or permission of the instructor. An introduction to the grammar of mainstream English. Primary focus is on analyzing English sentences, including study of parts of speech, phrases, clauses, and sentence types.

**ENGL 351. Fiction Workshop.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 300 and junior standing or permission of the instructor, based on writing samples submitted. Students write, criticize, discuss, and revise works of fiction.

**ENGL 352. Poetry Workshop.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 300 and junior standing or permission of the instructor, based on writing samples submitted. Students write, criticize, discuss, and revise poetry.

**ENGL 353. Beginning Dramatic Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 110C and 211C. Students write, criticize, discuss, and revise plays, screenplays, or television scripts. Major emphasis may be placed on one of these areas, depending on the expertise of the instructor.

**ENGL 354. Client-Based Research Writing.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 211C. This is a client-based research course that aims to provide students with workplace research experience. The primary objective is to teach students the rhetorical nature of conducting and reporting research in professional contexts for multiple audiences. Research methods such as surveys, interviews, and observations will be covered.

**ENGL 360. World Masterpieces I.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature perspective requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An introduction to selected major works in translation from the beginnings of world literature through the early seventeenth century. Works will be chosen

that illustrate the relationship of literature to cultural tradition in different global regions.

**ENGL 361. Contemporary American Poetry.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement and 6-hour General Education composition requirement or permission of the instructor. American poetry since 1945 with emphasis on recent developments.

**ENGL 363. World Masterpieces II.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement, 6-hour General Education composition requirement, and three additional hours in literature or permission of instructor. An introduction to selected major works of literature in translation from the seventeenth century to the present day. Works from a variety of world cultures will be used to explore the interaction between literature and society in centuries of expanding global awareness.

**ENGL 366. Public Journalism in the Digital Age.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 211C and either ENGL 380 or 382 or COMM 260 or permission of the instructor. This course exposes students to conventional and alternative approaches to reporting in public journalism. Students use a combination of conventional and alternative approaches as they research, interview and construct a story on a local community issue or concern. (cross-listed with COMM 366)

**ENGL 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: passing score on the Writing Sample Placement Test, approval by the department and Career Management. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**ENGL 368. Writing Internship.** 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, 15 hours in English, to include ENGL 327W or ENGL 334W, recommended. Permission of department internship coordinator required. Available for pass/fail grading only. May be repeated for a total of six credits. A structured work experience involving writing and/or editing. A paper, a portfolio of work done, and satisfactory evaluations by supervisor and cooperating faculty member are required. No more than two English internships (chosen among 368, 369, 468, or cooperative education courses of similar content) may be counted towards a degree. (qualifies as a CAP experience)

**ENGL 369. Research Practicum.** 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 327W or 335, plus 15 hours in major (with sufficient coursework in an involved emphasis) and approval by faculty practicum advisor. This course enables students to combine traditional research in scholarship with real world applications. Can be repeated for credit. (qualifies as a CAP experience)

**ENGL 370. English Linguistics.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, junior standing or permission of the instructor. A survey of topics in English linguistics. Topics include the sound system, the structure of words, the ways in which words and phrases form meaningful utterances, the structure of conversations,

differences between spoken and written English, language acquisition by children, language variation, and language in its social context.

**ENGL 371W. Communication Across Cultures.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, three hours of composition or permission of the instructor. An interdisciplinary examination of intercultural communication through film and readings in anthropology, linguistics, and world literature, this course will compare the values, beliefs, social structures and conventions of a number of cultures to those of the U.S. This course is part of the World Cultures cluster. (This is a writing intensive course.)

**ENGL 380. Introduction to Journalism and News Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six semester hours in English. Class discussions focus on media literacy and on the role of media in society. Students learn and practice elements of news writing, including writing leads, organizing stories, reporting techniques, and interviewing. Story assignments will come from handouts, press releases, press conferences, speeches, and public meetings. Some assignments will be done under simulated deadline pressure in the computer lab.

**ENGL 381. Public Relations.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six semester hours in English. This course is designed to introduce the student to certain disciplines related to the public relations process. The emphasis is equally distributed between the handling of written materials and the dynamics of group relations, i.e., the publicist and the person or persons whom he or she is representing. The course is to be distinguished from advertising by virtue of its emphasis upon public service, particularly the continued need for the free flow of information in the democratic process.

**ENGL 382. Reporting News for Television and Digital Media.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and 211C. This course focuses on writing for television news and producing online news reports. Students will strengthen their journalistic skills and learn the importance of writing clearly for a viewing audience while working under newsroom deadlines. By the end of the course, students should feel confident in producing accurate, detailed reports for both television news and online news sites.

**ENGL 395, 396. Topics in English.** 1-3 credits each semester. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in literature. A study of selected topics designed for nonmajors or for elective credit within a major. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**ENGL 403/503. Medieval Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. An introduction to representative works of English literature (some in translation) from *Beowulf* through Chaucer's *Canterbury Tales*, *The Book of Margery Kempe*, *The Second Shepherd's Play*, and Malory's *Morte d'Arthur*. Students will discover how medieval literature has contributed to and continues to complicate modern conceptions of reading, writing, and aesthetics.

**ENGL 406/506. The Teaching of Literature.** Lecture 3 hours; 3 credits. Prerequisite: ENGL

333. This course is designed to provide an intensive examination of issues, approaches, and methods utilized in the teaching of literature, particularly literature written for children and young adults.

**ENGL 407/507. Chaucer's Canterbury Tales.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in literature. A study of *The Canterbury Tales* with an introduction to Middle English language and culture.

**ENGL 414/514. Motherhood: Texts and Images.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C or 221C or 231C. This course examines the role of the mother, the experience of mothering and the institution of motherhood through a number of disciplinary and theoretical lenses. It considers how motherhood functions to women's advantage or disadvantage in professional and economic areas as well as the mother's ideological construction in public discourse, imagery, non-fiction, and film. (cross listed with WMST 414/514)

**ENGL 416/516. English Renaissance Drama.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. An extensive survey of the secular national dramas of Renaissance England that were written and performed by Shakespeare's contemporaries in London between 1576 and 1642. Students study the literary features, social contexts and ideological underpinning of representative works by Kyd, Marlowe, Jonson, Webster, Ford, and others.

**ENGL 421/521. British Literature 1660-1800.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. British literature from the Restoration of the monarchy after the Civil War and Puritan Commonwealth to the French Revolution, focusing on how cultural changes (legalized female actors, commercialized printing, colonialism, and growing market capitalism) interacted with the flowering of satire and scandalous theatrical comedy, and the emergence of modern literary forms (periodical journalism, "picturesque" poetry, and the novel).

**ENGL 423/523. The Romantic Movement in Britain.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of the literature written in Britain between 1770-1830, focusing on how the literary experiments and innovations of poets like Blake, Wordsworth, Coleridge, Byron, Percy Shelley, Keats, Burns, and Barbauld, and of novelists like Mary Shelley, Radcliffe, and Scott interacted with cultural changes such as the Industrial Revolution, the French Revolution, and the emergence of feminism and working-class radicalism.

**ENGL 424/524. Short Works in Narrative Media.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 312 or permission of instructor. This course examines short narrative forms in film, video, literature, and multi-media. Individual works will be considered, both for the specific ways in which they make use of the medium in which they appear and for the qualities they share. Particular emphasis will be placed on the relationship between writing and visualization. Students will engage in both creative and critical

exercises, so as to see the process from both sides: creative production and critical analysis.

**ENGL 425/525. World Film Directors in Context.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 312 or permission of instructor. This course will explore the works of several directors from a variety of world regions. Films will be considered as part of the body of work by each director, as well as in the context of the regions' other arts, traditions, popular culture, and historical events. Students will become familiar, therefore, with aesthetic, literary, sociological, anthropological and historical approaches to the analysis of film.

**ENGL 427W/527. Writing in the Disciplines.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and ENGL 211C, 221C, or 231C. This is a discussion/workshop course emphasizing contexts and strategies of text production in and across academic disciplines and professional settings. Students will produce a variety of texts designed to meet the needs of specific audiences. (This is a writing intensive course.)

**ENGL 432/532. Origins and Early Development of the British Novel to 1800.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of early novels and how the novel developed from other traditions such as the epic, romance, criminal biography, and travel narrative.

**ENGL 433/533. Victorian Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A study of the chief writers and the cultural and philosophical backgrounds of the Victorian era, touching on the changes from the early to the later part of the period. Works analyzed include fiction, nonfiction prose, and poetry.

**ENGL 435W/535. Management Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and six semester hours in English, to include ENGL 334W or permission of the instructor. This course focuses on writing as a means of making and presenting management decisions. (This is a writing intensive course.)

**ENGL 438/538. The Twentieth-Century British Novel.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. Examination and analysis of a variety of novels in their editorial and cultural contexts.

**ENGL 439/539. Writing in Digital Spaces.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 307T or equivalent or permission of instructor. This course offers composition practice in critical contemporary digital environments. Readings and discussions will provide the history of and context for these digital spaces. Students should expect to participate in, develop, and engage in critical discussions about a range of digital spaces, including websites, wikis, blogs, and various interactive media.

**ENGL 440/540. General Linguistics.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in English beyond ENGL 110C. A comprehensive view of the study of linguistics and an introduction to the linguist's approach to language.

**ENGL 441/541. American Travel Literature.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 112L or ENGL 114L. This is a survey course that examines the American experience, American identity and American culture through travel "texts" that include prose, poetry, art, and film. The course takes an interdisciplinary American Studies approach, using lenses such as race, gender, and class.

**ENGL 442/542. English Grammar.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 350 or permission of instructor. This course is a descriptive study of English grammar as it relates to the contexts in which it is used, with implication for grammar pedagogy and TESOL classrooms.

**ENGL 443/543. Southern and African American English.** Lecture 3 hours; 3 credits. Prerequisites: passing score on Writing Sample Placement Test and 3 upper division hours in English or permission of the instructor. This course focuses on the linguistic diversity of the American South, with emphasis on Southern White and African American varieties of English. It examines variation and change in the phonological, lexical, and syntactic systems, language contact, and dialect discrimination directed towards Southern and African American speakers both inside and out of the South.

**ENGL 444/544. History of the English Language.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level linguistics course or permission of the instructor. A study of the origins and development of the English language. Primary focus is on the internal history, emphasizing the continuity and change in successive stages of the language.

**ENGL 446/546. Studies in American Drama.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 300-level literature course, ENGL 340 preferred. With rotating topics, this course will pursue particular themes or periods in American drama and theater. Potential areas of inquiry might include melodrama, the early transatlantic stage, rise of stage realism, age of O'Neill, or the contemporary drama.

**ENGL 447/547. The American Novel to 1920.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course, ENGL 345 preferred. Examination of the American novel from its origins in the late eighteenth century through World War I. The course will emphasize the novel as a genre, cultural trends during the period, and such relevant literary modes as romanticism, realism, and naturalism.

**ENGL 448/548. The American Novel, 1920 to Present.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course, ENGL 346 preferred. Examination of the American novel from the end of World War I to the present day. The course will emphasize formal issues related to the genre of the novel and relevant literary and cultural trends during the period including modernism and postmodernism.

**ENGL 449/549. Craft of Literary Nonfiction.** Lecture 3 hours; 3 credits. Prerequisite: six semester hours in literature or three semester hours in literature and ENGL 300 or permission of the instructor. A detailed study of technique in literary nonfiction with an emphasis on the memoir, the essay, reportage, and travel narrative. Especially designed for, but not limited to, creative writing

students; supplements the creative writing workshops.

**ENGL 450/550. American English.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level linguistics course or permission of the instructor. This course explores the geographic, social and stylistic diversity of English spoken in the U.S. It also examines how perceptions of dialect diversity affect access to education and other socioeconomic opportunities.

**ENGL 451/551. Advanced Fiction Workshop.** Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 351 and junior standing or permission of the instructor, based on writing samples submitted. This course, an expansion of the principles and techniques learned in ENGL 351, focuses on the writing and criticism of the short story, the novella, and the novel.

**ENGL 452/552. Advanced Poetry Workshop.** Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 352 and junior standing or permission of the instructor, based on writing samples submitted. This course, an expansion of the principles and techniques learned in ENGL 352, focuses on the writing and criticism of poetry.

**ENGL 454/554. Creative Nonfiction.** Lecture 3 hours; 3 credits (may be repeated for credit). Prerequisites: passing score on the Writing Sample Placement Test, ENGL 327W or 351 and junior standing or permission of the instructor, based on writing samples submitted. A course in the techniques of writing nonfiction imaginatively within a factual context. Emphasis is placed on concern for reader psychology, selection of significant detail, and the development of a style at once lively and lucid. Assignments are made individually with regard to the student's field of interest—history, biography, science, politics, informal essay, etc. Advice is given on the marketing of promising manuscripts.

**ENGL 455/555. The Teaching of Composition, Grades 6-12.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and twelve semester hours in English to include ENGL 327W. A study of the theory and practice of teaching writing. Special attention will be given to the ways effective teachers allow theories and experiences to inform their pedagogical strategies.

**ENGL 456. The Craft of Fiction.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, six semester hours in literature or three semester hours in literature and ENGL 300, and junior standing or permission of the instructor. A detailed study of fictional technique in the novel and short story, with emphasis on character development, conflict, point of view, plot, setting, mood, tone, and diction. Especially designed for, but not limited to, creative writing students; supplements the creative writing workshops.

**ENGL 457. The Craft of Poetry.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, six semester hours in literature or three semester hours in literature and ENGL 300, and junior standing or permission of the instructor. A detailed study of technique in poetry, with emphasis on form, imagery, rhythm, and symbolism. Especially designed for, but not limited to, creative writing

students; supplements the creative writing workshops.

**ENGL 459/559. New Literatures in English.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing. A study of the diverse “new” literatures in English of the Caribbean and Central America, Africa, India, as well as of Canada and Australia, in their current historical and political contexts.

**ENGL 460/560. The Literature of Fact.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. A detailed study of the literary tradition of creative nonfiction.

**ENGL 461/561. Poetry of the Early Twentieth Century.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. Works of major British and American poets from 1900 to 1945 are studied.

**ENGL 462/562. Sacred Texts as Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, literature way of knowing requirement and six-hour general education composition requirement or permission of instructor. A study of how sacred texts reshape a variety of literary forms (narratives, drama, poetry, biography, history). The course may focus on a particular text or a collection of texts drawn from a variety of faith traditions and/or spiritual experiences.

**ENGL 463/563. Women Writers.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. This course applies concepts developed through women's studies scholarship and feminist literary criticism to works by women writers of different races and cultures.

**ENGL 465/565. African-American Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of instructor. An investigation of the ways in which literary movements, historical events, social transitions, and political upheavals have influenced African-American literature.

**ENGL 466W/566. Asian American Literature.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C, 211C and any 300 level literature course. The course introduces students to key texts in Asian American literature, supported by critical studies (and on occasion films) to interrogate the theme of Asian American identities in their multiple forms. The course will examine sociopolitical histories that undercut the literature, and the contributions of Asian American writers to the breadth and scope of American as well as global literatures today. (This is a writing intensive course.)

**ENGL 468. Advanced Writing Internship.** 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and 15 hours in English, to include ENGL 327W or ENGL 334W recommended. Permission of department internship coordinator required. A structured work experience involving writing and editing in a professional setting.

**ENGL 472/572. America in Vietnam: The Government and the Media in Conflict.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 110C and junior standing, or permission of the instructor.

An examination of America's role in Vietnam and how the interaction of the media with political and military leaders shaped the subsequent foreign policy decisions and military conduct.

**ENGL 473/573. Writing with Video.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 307T. This course engages students in a comprehensive exploration of video as a rhetorical narrative medium, with emphasis on the actual production of video work. Writing is also integrated into the production process. From brainstorming to storyboarding and critique, writing is positioned as an integral part of the course.

**ENGL 474. Teaching Literature with Film.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 112L or ENGL 114L. The purpose of this course is to help English teachers effectively use films or movies to teach their literature courses. The course will examine appropriate aspects of film and literary theory as well as provide students practice in teaching literature with film.

**ENGL 477/577. Language, Gender and Power.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, junior standing and three upper division hours in English, or permission of the instructor. This interdisciplinary course explores how language reflects and interacts with society, with particular emphasis on gender and race. Topics include definition, framing, stereotypes, language taboos, and powerful and powerless language.

**ENGL 480/580. Investigative Reporting Techniques.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 380. This course will acquaint students with electronic research skills essential to the practice of print and broadcast journalism. With a focus on both high tech and traditional research skills, the course will provide instruction in the uses of computer-assisted reporting, spreadsheet and database analysis programs, locating databases compiled by government agencies, filing requests through the Freedom of Information Act, and following paper trails to records of courthouse, property, and corporate public filings.

**ENGL 481/581. Advanced Public Relations.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and ENGL 381 or permission of the instructor. Designed to strengthen the skills of the public relations practitioner with emphasis on the creative aspects of problem solving. Attention is given to crisis public relations, interviewing, speech writing, and graphics.

**ENGL 482/582. Sports Journalism.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test, ENGL 110C and 211C. This is primarily a sportswriting course in which students are introduced to various types and styles of sports stories that are representative of sports journalism as practiced in newspapers and magazines. The course also explores the role of sports in American society.

**ENGL 483W/583. Advanced News Reporting.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C, 211C and 380 or equivalent. Designed to familiarize students with the fundamentals of beat reporting and its practice in the multi-media environment of “converged” newsrooms. The course emphatically focuses on writing but also provides instruction on how the tools and techniques of multimedia platforms are used to enhance storytelling. Emphasis is also placed on accessing information through web-

based resources and government documents. (This is a writing intensive course.)

**ENGL 484/584. Feature Story Writing.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and nine semester hours in English. Course includes discussion and practice of writing a variety of newspaper and magazine feature stories. Students will write and critique stories on people, places, businesses, trends, and issues. Assistance is given in the marketing of manuscripts.

**ENGL 485W/585. Editorial and Persuasive Writing.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C, 211C and 380. A study of the practice and function of writing editorials, commentary, reviews and columns for newspapers and online media. Lectures will focus on the techniques of crafting a persuasive argument, content analyses of Pulitzer Prize-winning editorials and columns, and guest lectures by newspaper editorial writers. (This is a writing intensive course.)

**ENGL 486/586. Media Law and Ethics.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and junior standing or permission of the instructor. Designed to introduce students to components of communication law that may affect the professional writer or broadcaster. Topics include defamation, constitutional constraints, freedom of information, privacy, copyright, and telecommunications law. Ethical issues relating to the mass media will also be examined.

**ENGL 492/592. Modern World Drama.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of the instructor. A study of selected major dramatic works of the world, including the non-Western world. Works written in languages other than English will be read in translation. The course begins with Ibsen in the late nineteenth century and continues to the present.

**ENGL 493/593. Contemporary World Literature.** Lecture 3 hours; 3 credits. Prerequisites: passing score on the Writing Sample Placement Test and one 300-level literature course or permission of the instructor. Fiction, poetry, and plays written during the last fifty years in nations throughout the world. Most texts will have been written originally in languages other than English. Emphasis is on the universality of the human experience as depicted in a variety of cultures.

**ENGL 495/595, 496/596. Topics in English.** 1-3 credits each semester. Prerequisites: passing score on the Writing Sample Placement Test and three semester hours in literature. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, because of their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**ENGL 497, 498. Tutorial Work in Special Topics in English.** 3 credits each semester. Prerequisites: passing score on the Writing Sample Placement Test, senior standing and approval of the chair of the Department of English. Independent study in literature, writing, or linguistics according to a program of reading and/or writing designed under the direction of an instructor.

## Environmental Health — ENVH

**ENVH 301W. Environmental Health.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the chemical, physical and biological factors affecting human health and well-being. The emphasis is on the application of controls to prevent disease and maximize environmental quality. In-depth discussions of the environmental health core issues of air, land and water pollution and public and community health will be presented. The prevention of morbidity and mortality in human populations through the anticipation, recognition, evaluation and control of hazards in the environment will be presented using the tools of epidemiology, toxicology, law, and risk assessment/communication techniques. (This is a writing intensive course.)

**ENVH 401/501. Occupational Health.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the industrial environment relative to health problems and the etiologically related agents.

**ENVH 402W/502. Environmental Health Administration and Law.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the concepts and practice of administering environmental health control programs within agencies at the federal, state and local levels. The principles of administration and leadership of programs in the private sector are also discussed. The constitutional, statutory and administrative law bases for organizing and conducting such programs and developing environmental policy as well as the legal implications of enforcement will be addressed. A review of all major environmental statutes and their agencies that enforce them will be addressed. (This is a writing intensive course.)

**ENVH 403/404. Environmental Health Internship I, II.** 3 credits each; both required. Prerequisites: ENVH 301W and permission of program director. Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. (qualifies as a CAP experience)

**ENVH 405. Environmental Health Internship III.** 6 credits. Prerequisites: ENVH 301W and permission of program director. Includes placement in a health-related facility or industrial setting, prearranged with faculty instructor. (qualifies as a CAP experience)

**ENVH 406/506. Principles of Occupational Safety and Health.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A broad overview of the field of safety. A study of the factors influencing the occurrence of accidents and incidents is set in the context of safety legislation, current issues in the practice of safety and the ethical and professional responsibilities of the safety practitioner. The course also includes discussions of product safety, fire prevention and protection systems safety and human elements in loss prevention.

**ENVH 407/507. Occupational Safety Standards, Laws and Regulations.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the important Occupational Safety and Health Standards and Codes with particular emphasis on application of these codes to typical work situations. Governmental enforcement methodologies are also discussed.

**ENVH 420/520. Communicable Diseases and Their Control.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth study of the communicable disease processes as they pertain to environmental sources. A detailed discussion of specific communicable diseases that are manifested by various environmental etiologic

agents. Various environmental control measures to prevent the incidence of communicable diseases are presented.

**ENVH 421/521. Food Safety.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A comprehensive study of food and milk production, processing and preservation and controls exercised for the prevention of foodborne illnesses and spoilage.

**ENVH 422/522. Water and Wastewater Technology.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Introduction to water quality management and wastewater treatment technology. Topics include the effect of organic, inorganic and thermal pollutants in water quality streams, waterborne diseases, monitoring concepts, methods of water quality management, regulatory considerations, theory and application of wastewater treatment concepts, wastewater characterization, and treatment methods and disposal methods.

**ENVH 423/523. Vector Control.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A study of the vectors of human disease and the methods utilized in their control. (offered spring)

**ENVH 424/524. Residential and Institutional Environments.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A study of the physical aspects of housing and institutions as they relate to human health and well-being. Coverage is also given to infection control in health-care facilities.

**ENVH 425/525. Occupational Safety and Health Program Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The establishment, implementation and maintenance of occupational safety and health programs. Paradigms of safety, techniques for safety training and creation of value for safety among business managers and employees are emphasized.

**ENVH 426/526. Physical Hazards and Their Control.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth examination of the varied types of physical hazards in the work environment and the methods of prevention, recognition and control.

**ENVH 440/540. Principles of Ergonomics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introduction to the terminology, concepts and applications of physiology, anthropometry, biomechanics and engineering to workplace and work methods design. Emphasis will be given to workplace design and work methods for job safety and health.

**ENVH 441/541. Industrial Hygiene.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An in-depth study of the chemical and physical agents responsible for occupational illness and the methods used for their measurement, evaluation and control.

**ENVH 442/542. Sampling and Analysis Laboratory.** Laboratory 4 hours; 2 credits. Prerequisite: ENVH 441/541 or permission of the instructor. Use and application of sampling and analytical equipment for measurement of chemical agents in the environment. Includes collecting media selection, sampling strategy, sample preparation and analysis.

**ENVH 443/543. Principles of Toxicology.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and BIOL 190. An introduction to the fundamentals of toxicology with emphasis on the interaction of environmental and industrial chemicals with humans are studied. Exposure, dose response, kinetics and distribution of toxicants, metabolism of toxic agents, factors that

affect toxicity and introductory chemical carcinogenesis are discussed.

**ENVH 445/545. Air Pollution and Its Control.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The study of air pollution in relation to air quality criteria, pollutant production, atmospheric evolution, measurement and control techniques.

**ENVH 446/546. Physical Hazards Laboratory.** Laboratory 4 hours; 2 credits. Prerequisite: ENVH 441/541 or permission of the instructor. Use and application of sampling methods and equipment for measurement of physical hazards in the work environment. Includes aspects such as ergonomics, noise, vibration and radiation.

**ENVH 448/548. Epidemiology and Biostatistics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An introductory course in the principles and practices of epidemiology and the application of statistical and mathematical design and analysis of health research studies for the understanding and control of population health and disease with emphasis on environmental applications.

**ENVH 461/561. Hazardous Waste Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Description of the hazardous waste problem, the fundamentals of the chemistry involved with hazardous waste transport, methods of identification, assessment, control, and disposal of toxic and hazardous waste are discussed. In addition the relevant legal statutes, risk assessment emergency response and case studies are presented. Introduction to the toxicological effects of exposure to hazardous waste is discussed.

**ENVH 465/565. Hazardous Materials Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The management of hazardous materials includes a wide array of interlocking regulations addressing use, manufacturing, exposure, storage, shipping and disposal. A life cycle review of hazardous materials highlighting best practices and legislation is presented. Useful in preparation for CHMM examination.

**ENVH 466/566. Environmental Risk Assessment and Decision Analysis.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The principles of quantitative health risk assessment of toxicants are presented. Qualitative and quantitative skills necessary to evaluate the probability of injury, disease, or death in the general population from exposure to environmental contaminants are discussed. Hazardous identification, exposure assessment, dose-response evaluation and risk characterization are emphasized. Risk management group projects assessing some real environmental risks is an important segment of the class.

**ENVH 470/570. Industrial Environmental Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Course addresses day-to-day technical and management aspects of environmental compliance, as well as regulatory issues faced in industrial applications. Includes audits and inspections, air and water pollution and hazardous waste.

**ENVH 495/595. Topics in Environmental Health.** 1-3 credits. Prerequisite: junior standing.

**ENVH 498/598. Independent Study in Environmental Health.** 1-3 credits. Prerequisite: permission of the Program Director. An opportunity is afforded students to undertake

independent study under the direction of a faculty member.

**ENVH 499. Environmental Health Senior Seminar.** 1 credit. Prerequisites: second semester senior standing and permission of the program director.

## **Exercise Science – See Human Movement Sciences**

## **Filipino-American Studies — FAST**

**FAST 395, 396. Topics in Filipino American Studies.** Lecture 3 hours; 3 credits. Prerequisite: appropriate survey or introductory course or permission of the instructor. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

## **Finance — FIN**

**FIN 210S. Personal Financial Literacy.** Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. This is an introductory course dealing with various aspects of individual financial decision making, with an emphasis on short- and long-term personal financial planning. The course uses scenarios, practical cases, and special projects to provide concrete applications of abstract concepts.

**FIN 317. Principles of Insurance and Risk Management.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Recommended elective for nonbusiness as well as business majors. The primary focus of this introductory course is on evaluating life, health, retirement, property, liability and personnel exposures to loss and analyzing the methods for managing these risks. Risk management and insurance techniques for dealing with potential losses to individuals and organizations will be emphasized.

**FIN 319. Principles of Real Estate.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. The fundamentals of real estate productivity and value are developed. Legal elements of real estate transactions, physical aspects of real estate location and production, and economic factors pertinent to real estate.

**FIN 323. Introductory Financial Management.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227, and ECON 202S and junior standing, and a declared major in the university or permission of the Dean's Office of the CBPA. Financial analysis, planning, and control in the business enterprise. An introduction to budgeting, problems in long- and short-term financing, sources of capital and financial markets.

**FIN 331. Legal Environment of Business.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Introduction to the legal environment of business, providing the student with an understanding of the nature of public law and the regulation of business and of the basic principles which control business practices

**FIN 333. The Legal Environment of Electronic Commerce.** Lecture 3 hours; 3 credits. Prerequisite: FIN 331 and a declared major in the

university or permission of the Dean's Office of the CBPA. This course will focus on the identification and management of legal issues and problems that confront businesses taking part in the rapidly growing internet economy. Issues will include the establishment and protection of an online identity, electronic contracting, libel, product and firm disparagement, and unfair consumer practices.

**FIN 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs and a declared major in the university or permission of the Dean's Office of the CBPA. Available for pass/fail grading only. (qualifies as a CAP experience)

**FIN 368. Finance, Real Estate or Insurance Internship.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA; a transfer student must have completed one semester at Old Dominion University. Student participation in a professional work experience. Approval for enrollment and allowable credits is determined by the Finance CAP advisor and the Career Management Center in the semester prior to enrollment. (qualifies as a CAP experience)

**FIN 369. Finance, Real Estate or Insurance Practicum.** 1-3 credits. Prerequisites: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA; a transfer student must have completed one semester at Old Dominion University. A faculty supervised, professionally oriented project. Approval for enrollment and allowable credits is determined by the Finance CAP advisor. (qualifies as a CAP experience)

**FIN 387. Honors: Introductory Financial Management.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201 or 226, ACCT 202 or 227, and ECON 202S and junior standing, and a declared major in the university or permission of the Dean's Office of the CBPA. A special honors section of FIN 323. Open only to students in the Honors Program in Business Administration.

**FIN 388. Honors: Legal Environment of Business.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. A special honors section of FIN 331. Open only to students in the Honors Program in Business Administration.

**FIN 410. Life and Health Insurance.** Lecture 3 hours; 3 credits. Prerequisites: FIN 317 and a declared major in the university or permission of the Dean's Office of the CBPA. This course uses a broad-based financial planning approach in considering the nature and importance of individual life and health risks and uses of individual life and health insurance in treating these risks. The implications of various legal, tax, and accounting considerations on businesses and individuals are discussed. The course also provides an overview of the operational aspects of life insurers, including organization, underwriting, actuarial, reinsurance, marketing, investment, taxation, and accounting functions. Cases are employed.

**FIN 411. Employee Benefit Planning.** Lecture 3 hours; 3 credits. Prerequisites: FIN 317 or equivalent and a declared major in the university or permission of the Dean's Office of the CBPA. This course considers the ability of group

insurance and other private pooling mechanisms to alleviate the financial problems arising from death, disability, medical treatment and retirement. Primary emphasis on design, tax and administrative characteristics as they relate to employer-sponsored benefit programs.

**FIN 412. Property-Liability Insurance Company Operations.** Lecture 3 hours; 3 credits. Prerequisites: FIN 317 and a declared major in the university or permission of the Dean's Office of the CBPA. The course provides a broad overview of the operational activities and current problems of property and liability insurance companies, including organization, regulation, pricing, underwriting, claims, reinsurance, marketing, investment, and accounting functions. Through course projects, students will also investigate the major commercial property and liability exposures, including emerging exposures, and the risk transfer of these exposures through insurance.

**FIN 413. Risk Analysis and Control.** Lecture 3 hours; 3 credits. Prerequisites: FIN 317 or equivalent, and a declared major in the university or permission of the Dean's Office of the CBPA. Recommended elective for nonbusiness as well as business majors. This course focuses on the risk analysis and control phases of the risk management process in business and governmental organizations. Particular attention is paid to the recognition, measurement, and treatment of pure risks, risk financing options other than commercial insurance, and decision making under conditions of uncertainty. Cases and computer analyses are employed.

**FIN 431. Investments.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and a declared major in the university or permission of the Dean's Office of the CBPA. This course develops the financial tools and knowledge needed to select among alternative financial assets. The emphasis is on the individual investor. Real world experience includes stock analysis, portfolio simulations and interactions with professionals in the securities industry. (qualifies as a CAP experience)

**FIN 432. Intermediate Financial Management.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and a declared major in the university or permission of the Dean's Office of the CBPA. Theoretical framework relevant to decision making in financial management; capital budgeting, capital structure, cost of capital, and working capital management.

**FIN 433. Introduction to Futures and Options.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and 431 and a declared major in the university or permission of the Dean's Office of the CBPA. An introduction to the understanding of futures and options. Basic features and trading mechanisms; valuation of financial derivatives; methods of managing financial risk; arbitrage techniques; and speculation strategies.

**FIN 434. Management of Financial Institutions.** Lecture and discussion 3 hours; 3 credits. Prerequisite: FIN 323 with a grade of C or better, and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of the objectives, functions, policies, organizational practices, and government regulations of financial institutions.

**FIN 435. International Financial Management.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323 with a grade of C or better and a declared major in the university or

permission of the Dean's Office of the CBPA. Financial decision making involving flow and funds across national boundaries.

**FIN 439. Financial Decision Making.** Lecture and discussion 3 hours; 3 credits. Prerequisite: FIN 432 with a grade of C or better, and a declared major in the university or permission of the Dean's Office of the CBPA. Application of financial theory and techniques to the analysis and solution of actual financial problems. Case analysis.

**FIN 443. Seminar in Insurance and Risk Management.** Lecture 3 hours; 3 credits. Prerequisites: FIN 317 and at least two courses from FIN 340, 410, 411, 412, and 413 as well as a declared major in the university or permission of the Dean's Office of the CBPA. This course is designed as a capstone course for students concentrating in risk management and insurance. The class will read and discuss recent works concerning advanced topics in risk management and insurance. Additionally, students will work individually and in groups on projects and presentations related to current risk management and insurance problems of national and international significance.

**FIN 450. Real Estate Finance.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. Explores the different financing and ownership arrangements used in real estate transactions.

**FIN 451. Real Estate Appraisal.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. Economic theories of value applied to real estate as a guide to business decisions.

**FIN 454. Real Estate Investment Analysis.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 319 and 323 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. Examination of developments in real estate valuation and investment with use of computer terminal models.

**FIN 497. Selected Topics in Finance.** 3 credits. Prerequisite: permission of the department chair. For advanced students in financial management.

**FIN 498. Selected Topics in Real Estate.** 3 credits. Prerequisite: permission of the department chair. For advanced students in real estate.

**FIN 499. Selected Topics in Insurance.** 3 credits. Prerequisite: permission of the department chair. For advanced students in insurance.

## Foreign Languages and Literatures

### Arabic — ARAB

**ARAB 111F. Beginning Arabic.** Lecture 6 hours; 6 credits. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**ARAB 212. Intermediate Arabic.** Lecture 6 hours; 6 credits. Prerequisite: ARAB 111F.

**ARAB 311. Advanced Arabic Language and Culture I.** Lecture 3 hours; 3 credits. Prerequisite: ARAB 212.

**ARAB 312. Advanced Arabic Language and Culture II.** Lecture 3 hours; 3 credits. Prerequisite: ARAB 311.

**ARAB 395-396. Topics in Arabic.** 1-3 credits each semester. Prerequisite: ARAB 212 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule and will be more fully described by academic advisors.

### Chinese — CHIN

**CHIN 111F. Beginning Chinese.** Lecture 6 hours; 6 credits. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**CHIN 212. Intermediate Chinese.** Lecture 6 hours; 6 credits. Prerequisite CHIN 111F.

**CHIN 311. Advanced Chinese Language and Culture I.** Lecture 3 hours; 3 credits. Prerequisite: CHIN 212.

**CHIN 312. Advanced Chinese Language and Culture II.** Lecture 3 hours; 3 credits. Prerequisite: CHIN 311.

**CHIN 395-396. Topics in Chinese.** 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics for elective credit. These courses will appear in the course schedule and will be more fully described by academic advisors.

**CHIN 495. Topics in Chinese.** Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. This course will appear in the course schedule and will be more fully described by academic advisors.

### Farsi — FARS

**FARS 111F. Beginning Farsi.** Lecture 6 hours; 6 credits. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**FARS 212. Intermediate Farsi.** Lecture 6 hours; 6 credits. Continued drill and discussion of grammar principles, written exercises, and reading assignments.

### French — FR

**FR 101F-102F. Beginning French I and II.** 101F or satisfactory score on the placement exam is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**FR 195, 196. Topics in French.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for nonmajors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**FR 201-202. Intermediate French I and II.** Lecture 3 hours; 3 credits. Prerequisite for 201: either FR 102F or satisfactory score on the placement exam. Prerequisite for 202: FR 201 or satisfactory score on the placement exam. Graded readings with grammar review. Emphasis on civilization and culture.

**FR 295-296. Topics in French.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for nonmajors. These courses will appear in the course schedule



and will be more fully described by academic advisors.

**FR 311. Communicative Competence: Speaking and Listening.** (oral communication course) Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of task-oriented communication strategies enabling students to become full conversational partners.

**FR 312W. Communicative Competence: Writing and Reading.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C, passing score on the Writing Sample Placement Test and FR 202 or advanced placement. A functional approach to reading and writing enabling students to understand content, style, audience and organization. (This is a writing intensive course.)

**FR 320. Contemporary France through the Media.** Lecture 3 hours; 3 credits. Prerequisites: FR 202 or advanced placement. This course introduces students to social, political, economic, intellectual and artistic manifestations of French culture today, and also provides a day-by-day analysis of contemporary France by reading current newspapers, television, magazines, watching French television broadcasts and tapping into Internet resources.

**FR 331. French Literary Forms: Prose.** Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of the novel and other prose genres in francophone literature with representative works from various periods and national origins.

**FR 332. French Literary Forms: Theatre.** Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. A study of the theater in francophone literature with representative works from various periods and national origins.

**FR 333. French Literary Forms: Poetry.** Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. This course will introduce students to a wide sampling of different styles and periods from the Middle Ages to today. Students will learn different ways of approaching French poetry (the traditional explication de texte; understanding cultural contexts); rules of versification, and how to write about French poetry critically and creatively.

**FR 366. Business French: Language and Culture.** Lecture 3 hours; 3 credits. Prerequisite: FR 202 or advanced placement. Presents aspects of French business life: banking, publicity, commerce, insurance, accounting, import-export, taxes, etc.

**FR 369. Practicum.** 1-3 credits. Prerequisite: nine credit hours at the 300 or 400 level. Internships in private, public and business organizations that deal with foreign nationals, foreign products or are involved in teaching French. (qualifies as a CAP experience)

**FR 395-396. Topics in French.** 1-3 credits each semester. Prerequisite: FR 202 or the equivalent. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

**FR 407/507. Advanced Grammar and Syntax.** Lecture 3 hours; 3 credits. Prerequisite: FR 312W or permission of the department chair. An intensive study of French grammar and development of style through activities, including theme, version, composition, and dictation.

**FR 410W/510. Berlin-Paris: Crucibles of European Ideas.** Lecture 3 hours; 3 credits. Prerequisite: French students must read and write in the target language. This course explores the

cultural movements that have characterized the German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary discourses such as film, literature, art, politics, and economics. Cross-listed with FLET 410/510.

**FR 415/515. Applied Phonetics.** Lecture 3 hours; 3 credits. Prerequisite: FR 311 or 312W or permission of the department chair. Designed to develop the mastery of spoken French. Intensive study of French phonetics with exercises in pronunciation and its application to media comprehension.

**FR 420/520. Francophone Civilization.** Lecture 3 hours; 3 credits. Prerequisites: FR 311, 312W or 320. A study of the culture and civilization of selected Francophone countries: the Magreb, West Africa, La Republique Malgache, the Caribbean Islands, Canada, Belgium, and Switzerland, through cultural readings, art, music and literature.

**FR 427/527. Studies in Seventeenth-Century French Literature.** Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. Following a preparatory period, the political stability of the French monarchy ushers in the golden age of classicism. Representative works from comic and dramatic theater, philosophy, poetry and the evolving novel.

**FR 428/528. Studies in Eighteenth-Century French Literature.** Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the two main currents of ideas of the Age of Reason or Enlightenment; the rationalistic drive to question established authority, exemplified by the "Encyclopedie" and leading to the Revolution of 1789; and the Rousseauistic return to nature and emotivity. Representative readings.

**FR 437/537. Studies in Nineteenth-Century French Literature.** Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the post-Revolutionary (1789) literary movements: Romanticism, Realism, Naturalism, Symbolism, which opened new horizons of modern science and culture in France. Representative works.

**FR 438/538. Studies in Twentieth-Century French Literature.** Lecture 3 hours; 3 credits. Prerequisite: senior standing or permission of the department chair. A study of the greatness and decadence of modern man trapped in the wild "belle epoque," then in two savage World Wars, and finally in the inhuman Nuclear Age. Reflecting great scientific advances, the vast new horizons to be discovered are mainly inward: Dadaism, Surrealism, Existentialism, Literature of the Absurd, Structuralism focus on the anguish, absurdity, and madness of modern life.

**FR 469/569. A History of French Cinema.** Lecture 3 hours; 3 credits. Prerequisite: FR 311 or 312W or permission of instructor. This course will function as a survey of French film classics from the birth of cinema through contemporary times, and also shed light on various French cultural and literary movements as they are represented in film (Surrealism, WWII, Nouvelle Vague, decolonization).

**FR 495/595, 496/596. Topics in French.** 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of the selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule

and will be more fully described by academic advisors.

**FR 497, 498. Tutorial Work in Special Topics in French.** 1-3 credits each semester. Prerequisites: senior standing and approval of department chair. Independent reading and study on topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## German — GER

**GER 101F-102F. Beginning German I and II.** 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**GER 195, 196. Topics in German.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**GER 201-202. Intermediate German I and II.** 201 is prerequisite to 202. Lecture 3 hours; 3 credits each semester. Prerequisite: GER 102F or satisfactory score on the placement test. Continued study of German grammar, literature and civilization.

**GER 295, 296. Topics in German.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**GER 311. Communicative Competence: Speaking and Listening.** (oral communication course) Lecture 3 hours; 3 credits. Prerequisite: GER 202 or advanced placement. Development of speaking and listening skills using a variety of task-oriented strategies enabling students to become full conversational partners.

**GER 312W. Communicative Competence: Writing and Reading.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C, passing score on the Writing Sample Placement Test and GER 202, advanced placement or permission of the instructor. A functional approach to the development of reading and writing skills targeting a variety of subjects, styles, and audiences. (This is a writing intensive course.)

**GER 321. German Civilization from the Middle Ages to World War I.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. A study of the major developments of German culture, highlighting its contributions to the modern culture of Western Civilization. Examples include the "German-Jewish Symbiosis" of the enlightenment, German Classicism (Goethe, Humboldt and their humanistic ideals), German Romanticism (music, poetry, "Lieder"), the German Gothic (the "uncanny" and its influence on the Western imagination from E.A. Poe to Baudelaire and Hollywood cinema), German philosophy, Vienna 1900 ("Art nouveau," psychoanalysis), and German Expressionism (poetry, painting and the utopian imaginary).

**GER 350. Modern Swiss German Literature: A Multicultural Model.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. Readings and discussions of selected master works by Frisch and Dürrenmatt, the two literary giants of modern Swiss culture. Topics include the multicultural aspects of modern Switzerland, the dialectics of myth and modernity, provincialism versus globalism, Old World versus New World, the

mixed blessing of technology, as well as the discourses of gender ideology.

**GER 355. The City as Cultural Focus.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. This course will focus on a particular German speaking city such as Berlin, Vienna, or Munich in light of historical and cultural shifts and continuities. Students will read literary and historical texts, poetry and newspaper articles and screen films.

**GER 366. Business German: Language and Culture.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of the instructor. An advanced language course focusing on practical vocabulary building, grammar, and cultural information for career and business-related situations.

**GER 369. Practicum.** 3 credits. Prerequisites: nine credit hours of upper-level language at Old Dominion University and junior standing. Internships in private, public and business organizations that deal with foreign nationals, foreign products or are involved in teaching German. (qualifies as a CAP experience)

**GER 380. German Literature from Sturm und Drang to Jugendstil.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. The course will cover representative literary works from Weimar Classicism to the literature of 1900, such as Goethe, Eichendorff, Büchner, Heine, Nietzsche, Rilke, et al.

**GER 395, 396. Topics in German.** 1-3 credits each semester. Prerequisite: GER 202 or the equivalent. A study of selected topics designed for non-majors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

**GER 407/507. Advanced Grammar and Syntax.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of the department chair. This course deals with idioms and the fine points of grammar with the aim of helping students to develop a good style in written German. Special problems of non-native speakers are analyzed and treated individually.

**GER 408/508. Conversation and Composition.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of the department chair. Designed to develop the mastery of spoken and written German. Recommended for prospective teachers.

**GER 410W/510. Berlin-Paris: Crucibles of European Ideas.** Lecture 3 hours; 3 credits. Prerequisite: German students must read and write in the target language. This course explores the cultural movements that have characterized the German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary discourses such as film, literature, art, politics, and economics. Cross-listed with FLET 410/510.

**GER 420/520. Masterpieces of German Poetry.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of instructor. The course will focus on exemplary poems of distinct cultural periods, ranging from the courtly love tradition of the Middle Ages to the political poetry surrounding the fall of the Berlin Wall.

**GER 445/545. German Cinema.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: GER 311 or 312W or permission of instructor. This course will focus on the German cinema from perspectives such as fascism and its legacy, film as historical critique, or Weimar cinema. (Cross-listed with FLET 445/545 and COMM 444/544)

**GER 450/550. German Satires and Parodies.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W, or permission of instructor. The course will analyze satirical features and parodic strategies in exemplary literature and visual texts from late medieval carnival plays to contemporary cabaret. Texts include excerpts from Brant's *Ship of Fools*, examples of romantic irony in Bonaventura and Heine, the graphic art of caricature from Reformation broad sheets to today's political cartoons, as well as literary parodies from Wagnerian opera to Viennese chanson.

**GER 455/555. Germany 1900-1945: From High Culture to Holocaust.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W. A study of representative works from the last years of the Austro-Hungarian Empire, the Wilhelmine Empire and the Weimar Republic, including Freud, Hofmannsthal, Kafka, Brecht, Hesse, Thomas Mann et al. The course will also discuss literature illustrating the genesis and ideology of the Third Reich.

**GER 470/570. Post World War II Germany.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. The course will cover representative literary texts and cultural events of divided and united Germany, including Heinrich Böll, Günter Grass, Max Frisch, Christa Wolf, Doris Dörrie et al, as well as film, painting, popular music, the culture of memory and German Jewish relations after the Shoah.

**GER 473/573. The Enlightenment and Its Critics.** Lecture 3 hours; 3 credits. Prerequisite: GER 311 or 312W. This course focuses on German intellectual history as represented by thinkers such as Lessing, Kant, Hegel, Marx, Nietzsche, and Freud. More recent works by Frankfurt School writers Adorno and Horkheimer represent critical engagements with the tenets of the European Enlightenment.

**GER 476/576. German-Jewish Literature and Culture.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A survey of seminal texts by German-Jewish authors from the Enlightenment to the present day, including figures such as Marx, Kafka, Freud, Schnitzler and Arendt. (cross-listed with FLET 476/576)

**GER 478/578. German Drama.** Lecture 3 hours; 3 credits. Prerequisites: GER 311 and 312W. An exploration of German dramatic works ranging from the Enlightenment period to contemporary drama. Students will read individual works by authors such as Lessing, Goethe, Schiller, Hebbel, Brecht, or Jelinek as well as texts concerned with the function of drama in German culture by these and other authors.

**GER 495/595, 496/596. Topics in German.** 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described by academic advisors.

**GER 497, 498. Tutorial Work in Special Topics in German.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

**Hebrew — HEBR**

**HEBR 111F. Beginning Hebrew I.** Lecture 6 hours; 6 credits. Aural comprehension, oral drill and discussion of grammar principles, written exercises and reading assignments.

**HEBR 212. Intermediate Hebrew.** Lecture 6 hours; 6 credits. Prerequisite: HEBR 111F or permission of the instructor. Continued drill and discussion of grammar principles, written exercises and reading assignments.

**Italian — ITAL**

**ITAL 101F-102F. Beginning Italian I and II.** Lecture 3 hours; 3 credits each semester. 101F is prerequisite to 102F. Aural comprehension, oral drill and discussion of grammar principles; written exercises, and reading assignments.

**ITAL 201-202. Intermediate Italian I and II.** Lecture 3 hours; 3 credits each semester. Prerequisite: ITAL 102F or satisfactory score on the placement test for 201; 201 is prerequisite to 202. Graded readings with grammar review followed in the second semester by an introduction to Italian literature.

**ITAL 395/396. Topics in Italian.** 1-3 credits each semester. Prerequisite: ITAL 202 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule and will be more fully described by academic advisors.

**Japanese — JAPN**

**JAPN 111F. Beginning Japanese.** Lecture 3 hours; drill 3 hours; 6 credits. Oral drill and discussion of grammar principles, written exercises, and reading assignments. This course requires extensive work in the Language Learning Center. All four skills, listening, speaking, reading and writing, are implemented from the beginning of the course.

**JAPN 212. Intermediate Japanese.** Lecture 3 hours; drill 3 hours; 6 credits. Prerequisite: JAPN 111F or satisfactory score on the placement test. More grammar principles are discussed; written exercises with more kanji. Introduction to culture with graded readings of essays.

**JAPN 250. Kanji and Developmental Reading Skills.** Lecture 3 hours; 3 credits. Corequisite: JAPN 311. Prerequisite: JAPN 212. This course is designed for students who finished Intermediate Japanese. The focus of this course is on training students to use a kanji dictionary effectively and guiding them to become independent scholars of the Japanese language.

**JAPN 295/296. Topics in Japanese.** 1-3 credits each semester. Prerequisite: 6 hours at the 100 level. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**JAPN 310. The Faces of Japan.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Lectures in English, films and slides provide an introduction to the literature, culture, contemporary life style and geography of Japan. Cross-listed with FLET 310.

**JAPN 311. Advanced Japanese Language and Culture I.** Lecture 3 hours; 3 credits. Prerequisites: JAPN 212 or satisfactory score on the placement test. Emphasis on the development of aural-oral skills. An intensive study of the principles of the Japanese grammar and syntax accompanied by oral and written exercises.

**JAPN 312. Advanced Japanese Language and Culture II.** Lecture 3 hours; 3 credits. Prerequisite: JAPN 311 or satisfactory score on the placement test. Emphasis placed on the development of writing skills. Analysis of linguistic structure and their application to personal expression.

**JAPN 395/396. Topics in Japanese.** 1-3 credits each semester. Prerequisite: JAPN 212 or the equivalent. A study of selected topics in Japanese. These courses will appear in the course schedule and will be more fully described by academic advisors.

**JAPN 495/595, 496/596. Topics in Japanese.** 1-3 credits each semester. Prerequisite: third-year Japanese or permission of the instructor. A study of selected topics in Japanese. These courses will appear in the course schedule and will be more fully described by academic advisors.

#### Latin — LATN

**LATN 101F-102F. Beginning Latin I and II.** 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Introduction to Latin literature and Roman civilization. Graded Latin readings. Study of Roman culture and its influence.

**LATN 201-202. Intermediate Latin I and II.** Lecture 3 hours; 3 credits each semester. Prerequisite: LATN 102F or satisfactory score on the placement test for 201; 201 is prerequisite to 202. Graded readings with grammar review followed in the second semester by an introduction to Roman literature and culture and its influence.

**LATN 395-396. Topics in Latin.** 1-3 credits each semester. Prerequisite: LATN 202 or equivalent. A study of selected topics for elective credit. These courses will appear in the course schedule and will be more fully described by academic advisors.

#### Portuguese — PRTG

**PRTG 101F-102F. Beginning Portuguese I and II.** Lecture 3 hours; 3 credits each semester. 101F or permission of the instructor is prerequisite to 102F. Introduction to the four skills (listening, speaking, reading, writing) of elementary Portuguese.

**PRTG 295. Topics in Portuguese.** 1-3 credits. A study of selected topics for elective credit. These courses will appear in the course schedule and will be more fully described by academic advisors.

#### Russian — RUS

**RUS 101F-102F. Beginning Russian I and II.** 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. Aural comprehension, oral drill and discussion of grammar principles, written exercises, and reading assignments.

**RUS 195, 196. Topics in Russian.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives. These courses will appear in the course schedule and will be more fully described by academic advisors.

**RUS 201-202. Intermediate Russian I and II.** Lecture 3 hours; 3 credits each semester. Prerequisite: RUS 102F or advanced placement is prerequisite for 201; 201 is prerequisite to 202. Graded readings with grammar review followed in the second semester by an introduction to Russian literature.

**RUS 295, 296. Topics in Russian.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives. These courses will appear in the course schedule and will be more fully described by academic advisors.

**RUS 305. Contemporary Russian Conversation.** Lecture 3 hours; 3 credits. Prerequisite: RUS 202 or advanced placement. A study of selected dialogues emphasizing the spoken language and designed to improve oral proficiency and aural comprehension.

**RUS 395. Topics in Russian.** 1-3 credits each semester. Prerequisite: RUS 202 or the equivalent. A study of selected topics designed as electives. These courses will appear in the course schedule and will be more fully described by academic advisors.

#### Spanish — SPAN

**SPAN 101F-102F. Beginning Spanish I and II.** 101F is prerequisite to 102F. Lecture 3 hours; 3 credits each semester. An introduction to the Spanish language providing a foundation in listening, speaking, reading, writing and culture.

**SPAN 121F. Intensive Beginning Spanish.** Lecture 3 hours; 3 credits. Prerequisite: at least three years of high school Spanish and placement test. This course is designed for students who have had significant experience in the study of Spanish but do not place in the second year of the program.

**SPAN 195, 196. Topics in Spanish.** 1-3 credits. A study of selected topics designed as electives for non-majors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**SPAN 201-202. Intermediate Spanish I and II.** Lecture 3 hours; 3 credits each semester. Prerequisite: SPAN 102F or 121F or advanced placement for 201; SPAN 201 or advanced placement for 202. 201 builds on concepts taught in 101F-102F with considerable emphasis on culture through discussion, reading and writing in Spanish. 202 focuses more attention on writing, listening and conversational skills. The culture component continues with readings which may include literary pieces.

**SPAN 221. Intensive Intermediate Spanish.** Lecture 3 hours; 3 credits. Prerequisite: SPAN 121F or advanced placement or permission of the instructor. This accelerated course is designed for students who have successfully completed Spanish 121F or have scores above the Spanish 201 level but below the 300 level on the Spanish placement test. Students completing this course will have completed the foreign language requirement through the 202 level.

**SPAN 266. Spanish for Health Professions.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 101F and 102F or 121F or 3 years of Spanish at the secondary level. This course seeks to develop Spanish language abilities for students involved in the health professions, i.e. medical fields, dentistry, physical therapy, etc. Although this course develops all skill areas (reading, writing, speaking, listening), it will concentrate on the development of oral communication and the cultural issues facing professionals and Spanish-speaking patients.

**SPAN 295, 296. Topics in Spanish.** 1-3 credits each semester. Prerequisite: none. A study of selected topics designed as electives for nonmajors. These courses will appear in the course schedule and will be more fully described by academic advisors.

**SPAN 311. Communicative Competence: Speaking and Listening.** (oral communication

course) Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in SPAN 202 or advanced placement. Development of speaking and listening skills using a variety of task-oriented strategies enabling students to become full conversational partners.

**SPAN 312W. Communicative Competence: Reading and Writing.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C, passing score on the Writing Sample Placement Test and a grade of C or better in SPAN 202 or advanced placement. A functional approach to the development of reading and writing skills targeting a variety of subjects, styles, and audiences. (This is a writing intensive course.)

**SPAN 320. Spanish Culture and Civilization.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better, advanced placement, or permission of instructor. A survey of Spanish civilization from the Roman occupation of the Iberian Peninsula to the present day with emphasis on the political and social development of Spain.

**SPAN 321. Latin American Culture and Civilization.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better, advanced placement, or permission of instructor. A course designed to introduce the student to the basics of Latin American civilization through a close study of its politics, art, literature, film and other related areas.

**SPAN 331. Introduction to Spanish Literature: Medieval to 1700.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better or permission of the instructor. This survey course introduces students to the literary tradition of medieval and Golden Age Spain. In addition to reading the prose, poetry and theater of the most prominent writers of this period, students will learn critical terminology for talking about literature. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements of the 13<sup>th</sup>-17<sup>th</sup> centuries; and relate the texts read in class to their corresponding historical contexts.

**SPAN 332. Introduction to Spanish Literature: 1700 to Present.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better or permission of the instructor. The course offers an overview of the literature of Spain from the mid-1700s to the present. Students will read works of prose, poetry and theater of the most prominent writers of these centuries, along with background material in order to become familiar with literary periods and their historical contexts. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements of the 18<sup>th</sup>-20<sup>th</sup> centuries; and relate the texts read in class to their corresponding historical contexts.

**SPAN 333. Introduction to Early Latin American Literature.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better or permission of the instructor. A panoramic study of Spanish American literature from its origins in pre-Columbian indigenous literature through the essayists of the Spanish conquest, the colonial writers of the seventeenth and eighteenth centuries, the Romantics and Realists to the Modernists. Students will read works of prose, poetry and theater of the most prominent writers of these centuries, along with

background material in order to become familiar with literary periods and their historical contexts. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements of the 16th-18th centuries; and relate the texts read in class to their corresponding historical contexts.

**SPAN 334. Introduction to Modern Latin American Literature.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W with a grade of C or better or permission of the instructor. A panoramic study of Spanish American literature from Modernists to the post-Modernists to the contemporary novelists, short story writers, poets and dramatists. A panoramic study of Spanish American literature from Modernists to the post-Modernists to the contemporary novelists, short story writers, poets and dramatists. Students will read works of prose, poetry and theater of the most prominent writers of these centuries, along with background material in order to become familiar with literary periods and their historical contexts. Course objectives are for students to be able to do the following: read, analyze, compare, and critically discuss works of literature in Spanish; characterize various literary periods and movements of the 18th-20th centuries; and relate the texts read in class to their corresponding historical contexts.

**SPAN 366. Business Spanish: Language and Culture.** Lecture 3 hours; 3 credits. Prerequisites: SPAN 311 and 312W or permission of instructor. A situation-based language course focusing on grammar, vocabulary, and conversation in culturally relevant business contexts.

**SPAN 369. Practicum.** 1-3 credits. Prerequisite: nine credit hours at the 300 or 400 level. Internships in private and public organizations that provide an opportunity for students to apply and enhance language skills or cultural knowledge in a workplace setting. (qualifies as a CAP experience)

**SPAN 395, 396. Topics in Spanish.** 1-3 credits each semester. Prerequisite: SPAN 202 or the equivalent. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

**SPAN 407/507. Advanced Grammar and Syntax.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. Designed to refine competence in grammar and style in the process of writing various types of essays.

**SPAN 410/510. Spanish Applied Linguistics.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. Course is an introduction to Spanish linguistics and its application to the teaching and learning of Spanish. Topics include Spanish syntax, semantics, phonetics, and pragmatics and their practical applications to language learning.

**SPAN 415/515. Spanish Phonetics.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of the sound system of Spanish from both theoretical and applied perspectives. Intensive practice in pronunciation and contrastive analysis of Spanish and English.

**SPAN 447/547. Drama of the Spanish Golden Age.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of selected works of the major playwrights of the Golden Age: Lope de Vega,

Calderon de la Barca, Tirso de Molina, Ruiz de Alarcon.

**SPAN 448/548. Contemporary Spanish Drama.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of contemporary Spanish playwrights since Federico García Lorca.

**SPAN 449/549. Contemporary Spanish-American Drama.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of contemporary Spanish-American drama through the reading of representative authors.

**SPAN 464/564. The Contemporary Novel in Spanish America.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of the Spanish-American novel since the Mexican revolution. Reading of representative works.

**SPAN 465/565. The Spanish-American Short Story.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of the Spanish American short story with readings from the 16th to the 20th centuries.

**SPAN 466/566. The Spanish Short Story.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of the development of the short story in Spain involving writers from the 15th century to the present.

**SPAN 467/567. Cervantes.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of the principal works of the foremost Spanish novelist, including *Don Quijote*, *Novelas Ejemplares*, and selected theatrical works.

**SPAN 468/568. The Spanish Novel.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. Study of the Spanish novel from Don Quijote to modern times.

**SPAN 469/569. Hispanic Film.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A topical study of the major works of Spanish and Latin American film from Bunuel to the present. The course will explore many issues, including those related to gender, race, symbolism, and class struggle.

**SPAN 471/571. Hispanic Women Authors.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. A study of fictional and non-fictional works by Spanish, Spanish-American, and U.S. Latina writers from the 16th to the 20th century. The course analyzes gender identity and roles and the interaction of gender, race, and class in literary representations of courtship and marriage, spirituality, nationalism, colonialism, and multiculturalism. (cross-listed with FLET 471/571)

**SPAN 473/573. Contemporary Latina Literature: From Borders to Crossroads.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of 300-level Spanish courses. The course focuses on poetry, prose fiction and theater written by Chicana, Puerto Rican, Cuban-American, and Dominican-American women authors in the last twenty years. Attention will also be paid to the very influential theoretical work written by Chicanas.

**SPAN 495/595, 496/596. Topics in Spanish.** 1-3 credits each semester. Prerequisite: 12 hours of 300-level Spanish courses. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described by academic advisors.

**SPAN 497, 498. Tutorial Work in Special Topics in Spanish.** 1-3 credits each semester. Prerequisites: 12 hours of 300-level Spanish courses. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Foreign Languages and Literatures — FL

**FL 195/196. Topics in Foreign Languages.** 1-3 credits. A study of selected topics for elective credit. These courses will appear in the schedule and will be more fully described by academic advisors.

**FL 369. Foreign Language Practicum.** 3 credits. Prerequisites: nine credit hours of upper-level language at ODU, junior standing. Internships in private, public and business organizations that deal with foreign nationals, foreign products or are involved in teaching French, German or Spanish. (qualifies as a CAP experience)

**FL 452. Methods for Teaching Foreign Languages in Pre-K through Grade 12.** Lecture 3 hours; 3 credits. Prerequisite: admission to the teacher preparation program or licensure only program, a cumulative and major GPA of 2.75 with grades of C or higher, and professional education GPA of 2.75 or higher with grades of C- or higher. Passing PRAXIS I scores, qualifying SAT or ACT scores, or passing PRAXIS I math and VCLA scores also required. Corequisite: FL 456. Taken in the fall semester preceding student teaching. A systematic approach to established and experimental methods of foreign language instruction.

**FL 456. Seminar in Foreign Language Teacher Education.** Hours to be arranged; 1 credit. Must be taken concurrently with FL 452. Prerequisite: passing scores on Praxis I and admission to the teacher education program. Students observe teachers in PreK-12 and may practice teaching methods under supervision. Preparation for Praxis II with passing scores required on Praxis II and VCLA and Advanced-low rating or higher on the ACTFL OPI. Available for pass/fail grading only. (qualifies as a CAP experience)

**FL 495/595, 496/596. Topics in Foreign Languages.** 1-3 credits each semester. Prerequisite: permission of the instructor or, in the case of 595, graduate standing. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the schedule and will be more fully described by academic advisors.

**FL 497/498. Tutorial Work in Special Topics in Foreign Languages and Literatures.** 1-6 credits. Prerequisite: appropriate survey course or permission by the instructor and chair. Independent readings and study on a topic to be selected under direction of professor.

## Foreign Literatures in English Translation — FLET

**FLET 100L. Understanding World Literature.** Lecture 3 hours; 3 credits. This multicultural course introduces the student to the forms and meanings of poems, stories, novels, and plays from around the world. It provides students with the skills necessary for the appreciation and comparative analysis of these works both as

literature and as representations of rich and diverse cultural values. A primary focus of the course will be the role of culture in the formation of national and individual identity, paying special attention to gender, sexuality, race, and class. All works will be read in English.

**FLET 307. Understanding European Film.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course provides students with an historic overview of films from a variety of European countries. Students will gain the vocabulary necessary to analyze individual films and for the comparative analysis of films from different cultural and historical contexts. The course will focus on issues such as national and individual identity, film as aesthetic form, gender and sexuality, and popular culture. (cross-listed with COMM 307)

**FLET 310. The Faces of Japan.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Lectures, films and slides provide an introduction to the literature, culture, contemporary life style and geography of Japan. Taught in English. (cross-listed with JAPAN 310)

**FLET 410/510. Berlin-Paris: Crucibles of European Ideas.** Lecture 3 hours; 3 credits. Prerequisite: junior standing, completion of the literature perspective, or permission of the instructor. This course explores the cultural movements that have characterized the German-French commonalities and differences from the early 1900s through the 1990s in cross-disciplinary discourses such as film, literature, art, politics, and economics.

**FLET 445/545. German Cinema.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: junior standing. This course will focus on the German cinema from perspectives such as fascism and its legacy, film as historical critique, or Weimar cinema. (cross-listed with GER 445/545 and COMM 444/544)

**FLET 471/571. Hispanic Women Authors.** Lecture 3 hours; 3 credits. Prerequisite: junior standing, completion of the literary perspective, or permission of the instructor. A study of fictional and non-fictional works by Spanish, Spanish-American, and U.S. Latina writers from the 16th to the 20th century. The course analyzes gender identity and roles and the interaction of gender, race, and class in literary representations of courtship and marriage, spirituality, nationalism, colonialism, and multiculturalism. (cross-listed with SPAN 471/571)

**FLET 476/576. German-Jewish Literature and Culture.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A survey of seminal texts by German-Jewish authors from the Enlightenment to the present day, including figures such as Marx, Kafka, Freud, Schnitzler and Arendt. Taught in English. (cross-listed with GER 476/576)

**FLET 495/595, 496/596. Topics in Foreign Literature in English Translation.** 1-3 credits each semester. Prerequisite: junior standing, completion of the literary perspective, or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described by academic advisors.

## Geography — GEOG

**GEOG 100S. Cultural Geography.** Lecture 3 hours; 3 credits. This course provides a basic topical introduction to human and cultural geography. It focuses on the diversity of human societies, their distribution, characteristics, and cultural impact on the landscape. Topics include the geography of population, migration, language, religion, economic development, urbanization, resources, and the political landscape.

**GEOG 101S. Environmental Geography.** Lecture 3 hours; 3 credits. This course is a geographical study of the diverse characteristics of the Earth's physical landscape, spatial distribution of environmental characteristics, the impacts of these on human populations and human populations' impact on the natural environment. Topics include climate and climate change, mass movements and natural hazards, biogeography and environmental problems such as desertification and deforestation, and the use and abuse of water resources.

**GEOG 126S. Honors: Cultural Geography.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of GEOG 100S.

**GEOG 250. World Regional Geography.** Lecture 3 hours; 3 credits. A study of the physical and cultural characteristics of the major geographical regions of the world. The course focuses upon significant problems within each of the world's major regions and examines the relevance of the geographical background to these problems.

**GEOG 300. Maps and Geographic Information.** Lecture 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. This course is an investigation of different representations of the Earth: physical and cognitive maps, atlases, spatial data bases, aerial photographs, and remote sensing imagery, with an emphasis on the use of geographic tools for communicating and analyzing information.

**GEOG 305. World Resources.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the distribution and accessibility of the world's resources including population, agricultural land, biodiversity, water, renewable and nonrenewable materials, and energy sources.

**GEOG 306T. Hazards: Natural and Technological.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and six credits in the social sciences or permission of the instructor. An exploration of human perceptions of and responses to extreme geophysical and technological threats, including nuclear bombs and accidents, hurricanes, tornadoes, earthquakes, and volcanoes.

**GEOG 308. Research Design.** Lecture 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. Covers the design and implementation of quantitative and qualitative methods of inquiry in social sciences.

**GEOG 310. Geography of the City.** Lecture and discussion 3 hours; 3 credits. Prerequisite: completion of General Education human behavior requirement. An analysis of the structure, growth, and development of cities. Topics include the use of urban land, location of public services, structure of the urban economy, social problems of urban populations, and decay and revitalization.

**GEOG 320. Political Geography.** Lecture and discussion 3 hours; 3 credits. Prerequisite: completion of General Education human behavior requirement. A study of the relationship between

geographical and political factors; the nation state and its subdivisions; interaction among states; and the political geography of everyday life.

**GEOG 321. World Economic Geography.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. An analysis of differences in spatial patterns on the economic landscape at national and international levels, and the processes which create such differences. Introduces basic concepts, theories, and models in economic geography at the global scale.

**GEOG 325. Ethnic Minorities.** Lecture and discussion 3 hours; 3 credits. Prerequisite: sophomore standing or permission of the instructor. A study of ethnic minorities worldwide with emphasis on geographical dimensions of ethnic identity and relationships between ethnicity and territory, regionalism, politics, and cultural expression.

**GEOG 330. Field Methods.** Lecture 2 hours; field project 1 hour; 3 credits. Prerequisite: sophomore standing or permission of the instructor. A review of selected techniques for generating data in a field situation. Lectures deal with the description and evaluation of techniques such as sampling methods, observation, interviewing, questionnaires, human relations skills and ethical considerations. The project component involves the definition of field problems and the application of appropriate techniques.

**GEOG 350. Geography of the United States and Canada.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and six credits in the social sciences, or permission of the instructor. The human and physical geography of the United States and Canada with special emphasis on the distribution of population and natural resources, migration patterns, location of major economic activities, and the variety of regional identities within the U.S. and Canada.

**GEOG 355. Topics in Regional Geography.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A study of selected regions or selected problems within a particular region of the world.

**GEOG 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place (qualifies as a CAP experience).

**GEOG 368. Internship in Geography.** 1-12 credits. Prerequisite: 12 hours in geography. Admission at the discretion of faculty advisor. Available for pass/fail grading only. Individualized practical experience in the area of applied geography. The credits will be commensurate with the level of the student's involvement (qualifies as a CAP experience).

**GEOG 395, 396. Topics in Geography.** 1-4 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

**GEOG 400W/500. Seminar in Geography.** Lecture and discussion 3 hours; 3 credits.

Prerequisite: GEOG 100S or 101S, or permission of the instructor. Advanced study of a specialized topic in geography. The choice of the topic may vary according to the availability of faculty expertise and student interest. (This is a writing intensive course.)

**GEOG 402/502. Geographic Information Systems.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the conceptual basis of GIS as a tool for manipulating spatial information. The course focuses on how geographic information can be input and organized within the framework of a GIS. Students will work on a computer-based GIS to gain a greater understanding of spatial database structures and analytical operations.

**GEOG 404/504. Digital Techniques for Remote Sensing.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Study of the theory and application of remote sensing, emphasizing environmental applications and aerial and satellite imagery. Covers the fundamentals of multispectral digital image processing, including sensors pre-processing, enhancement, classification, accuracy assessment, and GIS data integration.

**GEOG 405/505. Seminar in International Resource Management.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S; 305 recommended. Discussion of the ecological and management principles underlying international resource management and the goal of attaining a sustainable, ecologically balanced world.

**GEOG 408/508. Cartography.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 300 or 402 or CS 149. Computer-assisted methods and techniques employed in the design, construction, and use of maps and other graphics as tools for data analysis and communication.

**GEOG 410/510. Seminar in Urban Geography.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. Discussion of specific urban and metropolitan problems based on outside readings and individually selected research topics. (This is a writing intensive course.)

**GEOG 411/511. Urban and Regional Planning.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S, or permission of the instructor. A study of planning concepts and powers used to guide contemporary metropolitan growth and development. Emphasis is on the application of social science principles and methods to the planning process.

**GEOG 412/512. Cities of the World.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of cities of the world's major cultural realms with an emphasis on the urban landscape as it varies between developed and developing countries.

**GEOG 418. Quantitative Methods.** Lecture 3 hours; 3 credits. Pre- or corequisite: STAT 130M with a grade of C- or better. Prerequisites: GEOG 100S or 101S, GEOG 308 with a grade of C- or better. A survey of and practicum in the basic techniques of quantitative research, including the logic of empirical research, the identification of data sources, and the use of appropriate statistical techniques.

**GEOG 419/519. Spatial Analysis of Coastal Environments.** Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisite: OEAS 414. The course integrates remotely sensed and field techniques for scientific investigation and practical

management of coastal environmental systems. Spatial modeling of coastal processes and management tools using Geographic Information System (GIS).

**GEOG 420/520. Marine Geography.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and six credits in the social sciences, or permission of the instructor. An analysis of human-sea relationships with particular emphasis on resource management and political organization from global, regional, and national perspectives.

**GEOG 422W/522. Coastal Geography.** Lecture 3 hours; 3 credits. Prerequisites: GEOG 100S or 101S, or permission of the instructor. An examination of the physical and human geography of the coastal zone. Considers problems of managing coastal resources with an emphasis on North America. Lectures focus on coastal patterns, processes, and problems at the global, national, and local scales. Students investigate a section of the local coastline and write a report on the physical and human geography on the basis of field study, library, and internet research. (This is a writing intensive course.)

**GEOG 425/525. Internet Geographic Information Systems.** Lecture 3 hours; 3 credits. Prerequisite: GEOG 402/502. Theoretical and practical exploration of methods, standards, and policies related to the development and utilization of geographic information systems on the Internet. Students will create and utilize distributed geospatial data and analytical systems using the WWW and the Internet to address geographical problems.

**GEOG 432/532. Advanced GIS.** Lecture 3 hours; 3 credits. Prerequisite: GEOG 402/502. The study of a series of advanced topics in the field of geographic information systems/science. Focus is placed on the development of projects/models and a survey of several advanced techniques. Students will work on a computer based GIS to implement topics from lectures.

**GEOG 451/551. Europe.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Europe.

**GEOG 452/552. Africa.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Africa.

**GEOG 453/553. Asia.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Asia excluding the Middle East and the former USSR.

**GEOG 454W/554. Latin America.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in Latin America. (This is a writing intensive course.)

**GEOG 455/555. The Middle East.** Lecture and discussion 3 hours; 3 credits. Prerequisites: junior standing and GEOG 100S or 101S, or permission of the instructor. A geographical analysis of the interrelationships among physical, cultural, economic, and political factors in the Middle East.

**GEOG 456/556. Geography of Southeast Asia.** Lecture 3 hours; 3 credits. Prerequisite: GEOG 100S. Analysis of the physical, historical, cultural, economic, environmental, and political patterns and problems of Southeast Asia. The focus is on the diversity of the region and on the nature and impact of development.

**GEOG 458/558. Geography of Virginia.** Lecture and discussion 3 hours; 3 credits. Prerequisite: GEOG 100S or 101S. An analysis of Virginia's population, resources, and regional landscapes as they have been influenced by physical, cultural, historical, and economic factors.

**GEOG 480W. Senior Seminar in International Studies.** Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies. (This is a writing intensive course.)

**GEOG 490/590. Applied Cartography/GIS.** 1-3 credits. Prerequisite: junior standing or permission of the instructor. Practical experience in applying the principles of cartography and geographical information systems to the design and construction of maps and other graphics.

**GEOG 495/595, 496/596. Topics in Geography.** 1-4 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**GEOG 497/597. Independent Research in Geography.** 1-3 credits. Prerequisite: senior standing and approval of the director of geography and department chair. Independent reading and study on a topic to be selected under the direction of the instructor. Conferences and papers as appropriate.

**GEOG 499. Senior Thesis.** 3 credits. Prerequisites: GEOG 308 and senior standing in Geography. Completion of a research paper supervised by a faculty member from the Geography program. Research topic to be selected in concert with the faculty supervisor and a final written report required.

## Health — HLTH

The HLTH designation has been established to facilitate the offering of interdisciplinary courses in the College of Health Sciences. These courses are coordinated through the School of Medical Laboratory and Radiation Sciences.

**HLTH 101. Introduction to the Health Professions.** Lecture 1 hour; 1 credit. Explores careers in the health professions. Assists students in making informed choices regarding careers and programs of study and prepares students to apply for acceptance into health-related majors. Activities are included to help freshmen transition to college work.

**HLTH 102. Health Professions in the United States.** Lecture 1 hour; 1 credit. Prerequisite: HLTH 101 or permission of instructor. This course examines the health care system in the U.S. and identifies the role played by selected health professions in the delivery of care. Designed for students preparing themselves for entry into health related majors.

**HLTH 120G. Information Literacy for Health Professions.** Lecture 3 hours; 3 credits. This course focuses on building basic skills for conducting health research and includes guidance on locating, utilizing, and evaluating sources. The course examines the methods and tools of health analysis and explores the mechanics of research presentation and writing to help health-related majors prepare for successful completion of upper-division requirements. This class also provides a brief introduction to ethical issues related to health research and writing.

**HLTH 425. Leadership and Management for Health Professionals.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A review of the administration, management, policies, and practices governed by scopes of practice in a variety of health care settings. Topics covered include communication, planning and decision making, leadership and conflict management, and legal and ethical issues of concern to specific health professions.

**HLTH 490/491. Undergraduate Research Seminar.** Seminar 1-3 credits. Prerequisite: Admission to a health science major, pre-approval by the program director, cumulative GPA of 3.0 or higher, and an approved research course. Supervised research experience in a clinical health science discipline resulting in a research paper and oral presentation. Student and faculty supervisor develop and approve a contract of required research activities for the semester, such as attending research lab meetings, data collection, coding and/or analysis, and information search.

## Health, Physical Education and Recreation—See Human Movement Sciences

## History — HIST

**HIST 100H. Interpreting the World Past Since 1500.** Lecture 3 hours; 3 credits. This course offers students a critical approach to interpreting World history. A fast-paced survey of World history from the 1500s to the present, it focuses on the major intellectual, religious, social, cultural, political, environmental and scientific developments that have influenced the course of World history. It looks at cross-cultural relations in the form of economic exchange, technology transfer, war and conquest, and international organizations.

**HIST 101H. Interpreting the Asian Past.** Lecture 3 hours; 3 credits. A fast-paced survey of Asian civilization in global context from the emergence of Indian and Chinese civilizations to the events unfolding today. It follows the courses of political, social, cultural, religious, and economic development in East, South, and Southeast Asia.

**HIST 102H. Interpreting the European Past.** Lecture 3 hours; 3 credits. A fast-paced survey of European civilization. It focuses on the major intellectual, religious, social, cultural, political, environmental, and scientific developments that have influenced the course of European history.

**HIST 103H. Interpreting the Latin America Past.** Lecture 3 hours; 3 credits. This fast-paced survey covers the last 600 years in the political, social, economic, and cultural histories of Latin America. Special attention will be paid to the global context of this multi-ethnic and multi-lingual region.

**HIST 104H. Interpreting the American Past.** Lecture 3 hours; 3 credits. This course offers students a critical approach to interpreting the history of the United States. A fast-paced survey of American history from the era of colonization to the present, it focuses on the major intellectual, religious, social, cultural, political, environmental, and scientific developments that have influenced the development of the United States.

**HIST 105H. Interpreting the African Past.** Lecture 3 hours; 3 credits. This course offers students a critical approach to interpreting the history of Africa. A fast-paced survey of African history, it affords students a grounding in the major themes of African history. The course focuses on the major economic, social, and political institutions of Africa, past and present, and explores how historical developments assist comprehension of present-day Africa.

**HIST 126H. Honors: Interpreting the American Past.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of HIST 104H.

**HIST 127H. Honors: Interpreting the European Past.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of HIST 102H.

**HIST 201. Introduction to Historical Methods.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Required of all history and secondary education social studies majors. Recommended prior to upper-division course work. Examines methods of historical research and primary and secondary source analysis inclusive of Internet usage. Explores historiography and historical writing. Introduces students to issues in the philosophy of history.

**HIST 300T. The History of Sex and Sexual and Reproductive Technologies.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The course explores the many ways sex, gender, sexuality and sexual identities have been constructed in Western thought from 1250 to the present. The medicalization of sex and sexual practices will be examined. Sexual perversions such as prostitution, pornography, and sexual violence will be explored. The course will also focus on the technology of sexual enhancement and reproductive production technologies and the ethics involved in these areas.

**HIST 302. Perspectives in Teaching World History to 1500.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The course gives students a critical perspective on world civilizations from prehistory to 1500. It focuses on the major cultural, intellectual, scientific, geographic/environmental and religious developments of the world. The course emphasizes the critical assessment of primary documents and artifacts and the utilization of that material in the classroom.

**HIST 303. The City in Western Civilization.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. An examination of the city and humankind's changing relationship with the urban environment. Special attention will be given to individual cities in various eras from Ancient Greece to the 19th century.

**HIST 304T. History of Medicine, Disease, and Health Technology.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines the history of medicine and epidemiology from ancient times to the present. The development of medical

technologies and their impact are examined. Medicine and disease in the global context are emphasized.

**HIST 305. Ancient Greece.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of Greece from the Bronze Age to the Hellenistic era. Special attention will be paid to the Persian and Peloponnesian Wars, the Golden Age of Athens, and the life of Alexander the Great.

**HIST 306. Ancient Rome.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of Rome from its foundation in 753 B.C. down to its fall in 476 A.D. Special attention will be placed on constitutional developments in the Republican period, the career of Augustus, and the strengths and failings of the Empire.

**HIST 307. The Early Middle Ages.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines late Roman and barbarian Europe from the time of the Hunnic migrations through the Carolingian era. Primary emphasis will be on the social, cultural, economic, and political development of the various continental barbarian states.

**HIST 308. The High Middle Ages.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of continental Medieval Europe from the later Carolingians through Dante. Primary emphasis will be placed on the social, cultural, economic, and religious aspects of medieval society.

**HIST 310. Renaissance Europe.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. An examination of the Renaissance in both Italy and Northern Europe from the 14th to the 16th centuries emphasizing the new learning, humanism and the place of the individual as well as the political and artistic new achievements of the age.

**HIST 311. Early Modern Europe.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Covers the period between the late Middle Ages and the beginning of the modern era, roughly 1350-1715, exploring the Renaissance, the Reformation, and the Age of Exploration. Emphasis on the culture of the period as contemporaries coped with depression, plague, religious change, and cultural encounters outside Europe.

**HIST 316. Cold War in History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores changes in the international system which arose in the wake of World War II and focuses on conflict and cooperation in selected regions of the developed and developing world.

**HIST 322. History of England Through the Seventeenth Century.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. A survey of English history beginning at the time of Stonehenge, continuing through the Saxons, Normans, and Plantagenets, and concluding with the constitutional and religious developments under the Tudors and the Stuarts.

**HIST 323. History of Modern England.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. A survey of English history with emphasis on eighteenth-century political life and culture, the Industrial Revolution, the development of the modern constitutional monarchy, and the vicissitudes of empire.

**HIST 324. Europe in the Twentieth Century.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H (HIST 102H recommended). This course will explore the evolution and development of European states, institutions and cultures over the course of the twentieth century. Relations among European states—large and small— and their peoples will be explored.

**HIST 327. Russia: The Old Regime.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Survey of Russian history from the ninth to the end of the nineteenth century stressing the distinctiveness of Russian culture and institutions, the influence of the West, the multi-national character of the Empire, and the decline of the old regime.

**HIST 328. Russia and the Soviet Union: 20th Century.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Survey of the formation and development of the USSR in the twentieth century from the fall of the Russian monarchy and the revolutions of 1917 to the present.

**HIST 331. Colonialism and Nationalism in Southeast Asia.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of Southeast Asia between 1750 and 1950. The focus will be on Indonesia, Vietnam, the Philippines, Burma, Malaysia and Thailand. Topics examined will include major theoretical frameworks used to understand colonialism and nationalism, the differential impact of colonial rule, and the impact of religions and “western” ideologies on nationalist movements.

**HIST 332. South Asia Since Independence.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This is a comparative study of the main political, economic and social developments in the major countries of South Asia. Themes will include democratization, problems of economic development, the role of caste and religion, the causes of intrastate conflict and interstate conflict and the influence of global forces on the region. (cross listed with POLS 336 and ASIA 332).

**HIST 336. The Emergence of New China.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of China covering late Imperial China, the impact of Western imperialism, the Republican Period, and the establishment of the People’s Republic. (cross listed with ASIA 336)

**HIST 338. Japan’s Era of Transformation.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of Japan since 1800. The decline of the Tokugawa Shogunate, modern nation building in the Meiji period, domestic conflicts and war in the twentieth century, and the roots of Japan’s economic prominence today. (Cross listed with ASIA 337)

**HIST 345. Native American History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines the history and culture of Native American peoples from early contact with Europeans to present day. Particular focus on ways that cultural interactions affected and transformed native peoples - their beliefs, societies, and political structures.

**HIST 346. Colonial and Revolutionary America.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines social, cultural, economic and political developments in North

America from 1492 to the ratification of the Constitution of 1787. Course explores the role of class, gender, and race in the creation of an American culture.

**HIST 348. The Early Republic, 1787-1850.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores America’s transformation from a republic to a democracy by examining the political, economic, social and intellectual history of the United States’ first half century.

**HIST 349. American Naval History.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. This course will examine American naval history and American naval theory from the colonial period to the present day. It will analyze the importance of American naval conflicts, developments in naval technology, and the social and political changes that shaped the U.S. Navy.

**HIST 350. History of the Old South.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of the Old South civilization from the colonial era to the Civil War, with particular emphasis on the frontier, slavery, the cotton kingdom, and southern cultural contributions.

**HIST 351. The Civil War and Reconstruction.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of the origins of the idea of secession and of the war, of the military, political, and economic contest between the Confederate and Federal governments, and finally of the long-range effects of the war as revealed in the failure of Reconstruction.

**HIST 353. The Populist and Progressive Eras in United States History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This course will define the populist and progressive movements and explore how these movements affected American politics, economics, and cultures. Topics to be discussed include commercial agriculture, industrial capitalism, urbanization, labor unions, immigration, reform movements, racial segregation, and other topics relevant to United States history from 1877-1920.

**HIST 354. From the Jazz Age to the Atomic Age: US, 1920-1945.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The domestic and international history of the U.S. during the Roaring Twenties, The Great Depression, World War II.

**HIST 355. The United States, 1945-1991.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The history of the United States from the end of World War II to the end of the Cold War. The course focuses on domestic politics, social change, economic developments and international relations.

**HIST 356. Virginia History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. An examination of Virginia’s past from Jamestown to the present. The course emphasizes the colonial experience, Virginia’s role in the new nation, the post-Civil War era and Virginia in the twentieth century.

**HIST 357. The United States in the 1960s.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines the political, social and cultural revolutions which occurred in the United States from 1960 to 1974. Topics include the reforms of JFK and LBJ; the rise of conservatism; the impact of the baby boom generation; the civil rights, anti-

war, and women’s movements; the war in Indochina; and Watergate and the fall of Richard Nixon.

**HIST 359. American Maritime History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores the various maritime influences in American history. Topics discussed include ocean exploration, navies and maritime conflicts, shipping and shipbuilding, marine resource extraction, rivers and canal transportation, maritime migration, water use, and other issues in maritime history from exploration to the present.

**HIST 360. American Military History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of American military policy, 1763 to the present, in relation to its political, economic, and social implications.

**HIST 361. African-American History to 1865.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines African-American history from the African background through the Civil War. Emphasis is placed on an analysis of African-Americans’ role in the political, economic, social and cultural life of the United States.

**HIST 362. African-American History Since 1865.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines African-American history from Reconstruction to the present. Emphasis is placed on the analysis of African-Americans’ role in the political, economic, social and cultural life of the United States.

**HIST 363. Women in U.S. History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examines experiences of women in U.S. history from 1607 to the present, paying particular attention to influences of race, class, ethnicity and changing conceptions of gender.

**HIST 369. Practicum.** 1-3 credits. Prerequisite: permission of the department. (qualifies as a CAP experience)

**HIST 371. Modern Mexico.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This survey of Mexico’s history since independence highlights the social, cultural and economic changes that accompanied four turning points in the political history of Mexico: the independence movement, the wars of the reform, the Revolution of 1910, and the trend toward democratization that began in the 1980s. Attention will be paid to the changing scope of Mexico’s relations with the United States, and to comparisons of Mexico’s experience with that of other Latin American countries.

**HIST 372. Central America and the Caribbean Since 1800.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This course surveys socio-economic and political change after about 1800 in the Caribbean Basin (Central America and the insular Caribbean), a region whose diverse colonial, ethnic, labor and migratory experiences will provide rich opportunities for comparative study. Plantation slavery and its legacies, independence movements, export-led economic growth, nationalism, social movements, revolution and great-power rivalries will be the major themes.

**HIST 373. U.S.-Latin American Relations.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This survey of Latin America’s relations with the United States since the early nineteenth century



will seek to identify and account for changing patterns in what has been a highly asymmetrical power relationship. The emphasis will be on the outcomes of U.S. policy in the region, combining the study of broad trends (especially in economic and security policy since the 1890s) with a close analysis of three cases: Mexico, Cuba and Central America. The influence of the larger international environment on those relations will be considered.

**HIST 375. African Urban History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Exploration of the historical and social dynamics of city life in Africa from ancient Egypt to the present. Case studies will examine the forms and functions of pre-colonial urban centers and the dynamic transformations of colonial and post-colonial cities.

**HIST 376. Conflict and Violence in Modern Africa.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Exploration of the reasons behind both the level of warfare in Africa since the mid-20th century and our representations of that violence as well as themes of conflict resolution and prevention.

**HIST 386T. The Evolution of Modern Science.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Traces the development of modern science from the ancient Greeks to the 21<sup>st</sup> Century. (Cross-listed with SCI 302T)

**HIST 389T. Technology and Civilization.** Lecture 3 hours; 3 credits. Prerequisite: 3 hours of history. This course will examine the role of technology and relevant science. Students will examine the interaction between society and technology and investigate why technology is both a reflection of, and a shaping influence upon, "modern" culture and beyond.

**HIST 393. Studies in Jewish History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Studies in Jewish History will examine specific topics, eras, and themes of Jewish history. Specific titles will be listed in the on-line course schedule.

**HIST 396. Topics in History.** 1-3 credits each semester. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. A study of selected topics. These courses are open to both majors and nonmajors. History majors may take these courses to satisfy history concentration requirements. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**HIST 402W. Senior Seminar in History.** Seminar 3 hours; 3 credits. Prerequisite: HIST 201. Advanced study of selected topics leading to production of a research paper. Required of all history and secondary education social studies majors. (This is a writing intensive course.)

**HIST 405/505. History of International Relations: Nineteenth Century Systems.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics, diplomacy, and social, cultural, and economic structures between 1792 and 1914. Explores the relationship among the European powers and their relations with smaller states in Europe and spheres of influence around the world. Internationalist initiatives by various groups operating within the European states system are investigated.

**HIST 406. History of European International Relations: Twentieth Century.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics,

diplomacy, and social, cultural and economic structures in twentieth century Europe. Emphasis on shifting European alignments from 1890, the Paris Peace conference, Europe's fortunes through two World Wars, adaptation to the bi-polar structure, Revolutions of 1989, and modern European community are emphasized.

**HIST 408/508. War and American Society in the Twentieth Century.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. An exploration of the content and meaning of wartime experiences within American society between 1898 and 1975. Emphasis is on comparing the levels of national, institutional and personal experiences of war as they affected people at home and in battle, and on considering the relationships between warmaking and social development at particular times.

**HIST 409/509. History of US-Mexico Borderlands.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The course examines the history of the region straddling the US-Mexico border from the Spanish Conquest to the present day, focusing on issues of immigration, economic and political integration and the complicated nature of state-building in a transnational environment.

**HIST 414. Freedom, Rights, and Revolution: Evolution of the State System, 1648-1815.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. Social, cultural, political, legal, and diplomatic history of Old Regime Europe, the rise of the territorial state, and challenges to its authority. In addition to events and sources contemporary to that age, students will be introduced to the most important interpretive theories that have emerged in the past generation on the Continent as well as in Britain and America.

**HIST 415. Empire, Nations, and Industrialization: Evolution of the State System, 1815-1914.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics, diplomacy, and social, cultural and economic structures in the development of empires, nations and industrialization in the evolution of the modern state system from 1815 to 1914. Explores the relationship among European powers and their relations with smaller states in Europe and spheres of influence throughout the world.

**HIST 416. States, Territories and International Organization: Evolution of the State System Since 1914.** Lecture 3 hours; 3 credits. Prerequisites: HIST 100H, 101H, 102H, 103H, 104H or 105H. Focuses on the evolution of international politics, diplomacy, and social, cultural and economic structures in states, territories and international organizations since 1914. Emphasis on shifting European alignments since 1914, the two World Wars, the development of the bi-polar world and the development and evolution of international organizations.

**HIST 420/520. Fascism in Europe.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores the genesis and development of fascism in Europe between World Wars I and II. Particular emphasis on Fascism in Italy and National Socialism in Germany. Appeal of fascist movements to populations across the socio-economic spectrum, fluidities of ideology and practice, fascism's impact on political, economic, social, and cultural life in the interwar period are explored.

**HIST 439/539. Politics and Society in East Asia Since 1945.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Political and social developments in Japan, China, and Korea since the end of World War II.

**HIST 447. U.S. Foreign Relations, 1776-1914.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores the foreign relations of the United States from the revolutionary period to 1914 with particular emphasis on the ideological and domestic roots of American foreign policy.

**HIST 448. U.S. Foreign Relations Since 1914.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores the foreign relations of the United States from the First World War to the present, with particular emphasis on the ideological and domestic roots of American foreign policy.

**HIST 455/555. African-American Historiography.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Examination of the ways historians have addressed specific issues in African-American history.

**HIST 456/556. Research in Local History.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Explores the history of Hampton Roads through student use of research materials.

**HIST 470/570. Democracy and Development in Modern Latin America.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. This course analyzes, from a historical perspective, two core problems in Latin America's modern (since c. 1880) history: political authoritarianism and economic underdevelopment. The temporal and spatial dimensions of change will be highlighted in discussions of patron-client political systems, military autonomy and impunity, social movements and revolution, export-oriented economic growth, industrialization, and the roles of national, ethnic and gender identities.

**HIST 475/575. History of Modern Africa.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. The course is designed to enrich students' understanding of the intersections of political, economic, social and cultural forces that shaped Africa in the last 150 years and continue to affect the lives of peoples throughout the continent. It will focus on a series of major historical transitions that have shaped the development of modern Africa, including the end of the Atlantic slave trade, European imperial conquest and colonial rule, African resistance to European rule, social and cultural transformations, the end of colonial rule and post-colonial challenges.

**HIST 480W. Senior Seminar in International Studies.** Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. Interdisciplinary research and the preparation of a senior thesis in international studies. (This is a writing intensive course.)

**HIST 495/595. Topics in History.** 1-3 credits each semester. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Advanced study of selected topics designed for small groups of qualified students to work on subjects of mutual interest which may not be offered regularly. These courses appear in the course schedule, and will be more fully described in information distributed to academic advisors.

**HIST 497/597, 498/598. Tutorial Work in Special Topics in History.** 3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Histotechnology — HTEC

**HTEC 301. Histotechnician Microtechniques I.** Lecture 3 hours; 3 credits. Prerequisite: 12 hours of biology and/or chemistry or permission of the program director. Introductory principles of clinical histotechnology techniques. Students will acquire knowledge of the types of specimens and uses of these specimens for diagnosis and treatment. Ethical and professional conduct will be emphasized. Receiving, accessioning, and processing specimens will be discussed.

**HTEC 302. Histotechnician Microtechniques II.** Lecture 3 hours; 3 credits. Prerequisite: HTEC 301. Principles of basic histologic techniques. Students will acquire knowledge of the theory of fixation and processing of histologic specimens. Instruments and chemicals used in the histopathology laboratory will be introduced. Preventive maintenance, troubleshooting, and comparison of types of equipment will be discussed.

**HTEC 303. Histotechnician Microtechniques III.** Lecture 3 hours; 3 credits. Prerequisite: HTEC 302. Principles of embedding and processing of clinical histopathology specimens including routine H&E staining and elementary microscopy quality control methods and record keeping along with federal regulations and professional accreditation.

**HTEC 305. Applied Chemistry for Histotechnicians.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: HTEC 301 or permission of program director. In this course, students will study applications of basic chemistry and how they are applied to histotechnology. Staining techniques for routine and special stains for carbohydrates, lipids, nucleic acids, enzymes, amyloid, pigments, and minerals will be emphasized. Chemistry of solutions and solvents will also be covered.

**HTEC 306. Special Procedures in Histopathology.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: HTEC 305 or permission of program director. The theory underlying the principles and techniques of special stains as applied to microorganisms, connective tissue, muscle, lipids, protein elements, pigments and minerals. Hands-on experience will be obtained. The clinical significance of these stains in diagnoses will be discussed.

**HTEC 308. Advanced Procedures in Histopathology.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: HTEC 306 or permission of program director. This course continues with theory and practice with special stains and procedures with bone marrow and neurological specimens. The fundamentals of immunohistochemistry in theory and practical techniques in histopathology are introduced. The students acquire basic knowledge of how immunology is applied in the development of reagents and how the results are used in diagnoses and as prognostic indicators of clinical conditions. Cytopreparatory and molecular diagnostic techniques are presented. Troubleshooting and standardization of reagents and stains are emphasized.

**HTEC 367. Clinical Histopathology Internship I.** 4 credits. Prerequisite: HTEC 301 or permission of the program director. This course involves supervised beginning-level clinical practices in the gross room. The students will acquire knowledge as to the procedures involved with specimen selection and sectioning. Introduction to autopsy practices will be discussed. (qualifies as a CAP experience)

**HTEC 368. Clinical Histopathology Internship II.** 6 credits. Prerequisite: HTEC 302 or permission of program director. This course involves supervised clinical practice in selected areas of histopathology to include tissue processing, embedding, microtomy, and routine staining. (qualifies as a CAP experience)

**HTEC 369. Clinical Histopathology Internship III.** 6 credits. Prerequisite: HTEC 303 or permission of program director. This course involves supervised clinical practice in advanced areas of histopathology including special microtomy, special staining, immunohistochemical staining, microtissue arrays, and cytopreparatory techniques. (qualifies as a CAP experience)

**HTEC 390. Histopathology Seminar I.** Lecture 1 hour; 1 credit. Prerequisite: permission of the program director. This course employs guest speakers and technical representatives to present new information in the field of histotechnology and laboratory techniques. Presentations of journal articles will provide the student with experience in evaluating research methods and public speaking.

**HTEC 391. Histopathology Seminar II.** Lecture 1 hour; 1 credit. Prerequisite: permission of the program director. This course acts as a review for the histotechnician Board of Registry examination. Theory of laboratory procedures, staining techniques, immunohistochemistry, and processing specimens will be among the topics to be covered.

## Honors — HNRS

**HNRS 226. Undergraduate Research Apprenticeship.** Lecture 3 hours; 3 credits. Prerequisite: approval of Honors College Dean. The Research Apprenticeship offers students the opportunity to develop and acquire skills in research and information literacy through active involvement in ongoing research programs or in research projects under the supervision of a faculty mentor. Experiences may include but are not limited to gathering and analyzing information to develop proposals, survey construction, stakeholder identification, stimulus development, quantitative and qualitative data collection, statistical analysis, writing reports, and presenting results. Available research projects/programs will vary each semester. Interested students should consult with the Honors College Dean and visit the Honors College website for more information about research apprenticeship opportunities: <http://www.odu.edu/ao/honors>.

**HNRS 387. Honors Civic Learning Project.** 1 credit. Prerequisite: junior standing in the Honors College. Students volunteer for 45 hours of work, keep a work experience journal reflecting on their day-to-day experiences as a volunteer, and write a short paper detailing how the experience helped them to identify, revise and accomplish future learning and career goals.

**HNRS 487. Senior Honors Colloquium.** 3 credits. Prerequisite: senior standing in the Honors College or permission of the dean. Fulfills the Honors College capstone requirement. The

purpose of the course is to give students experience in working as a group of “consultants” who collaboratively undertake secondary and primary research and report preparation on behalf of a “client.”

**HNRS 497/498. Honors Independent Study.** 1-3 credits. Offered upon request each semester. Prerequisite: open to juniors and seniors in the Honors College. This course is an opportunity for students to engage in directed readings and/or research in a topic with which they are familiar.

**HNRS 499. Senior Honors Thesis.** 3 credits. Prerequisites: permission of the Honors College Dean, 3.25 cumulative GPA. Each student will undertake a research experience under the supervision of a faculty member. A research proposal and research report are required.

## Human Movement Sciences

All 100-level courses are designated for activity credit.

### Lifetime Sports Program +I. Aquatic Activities — PE

**PE 101. Swim Conditioning.** Three classes per week; 7 1/2 weeks; 1 credit. Students will discuss and learn the training process including advantages and benefits of swimming, principles of training, training procedures, evaluation and motivation, and minor annoyances. Stroke mechanics and improvement and information for triathletes.

**PE 102. Beginning Swimming.** Three classes per week; 7 1/2 weeks; 1 credit. Development of the basic water safety skills and knowledge to make one reasonably safe in the water.

**PE 103. Intermediate Swimming.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: must be comfortable in deep water. Instruction in all strokes will be covered.

**PE 104. Lifeguard Training.** Three classes per week; 16 weeks; 2 credits. Development of the skills and knowledge designed to save the life of another in the event of an emergency in the water. Red Cross certification.

**PE 105. Water Safety Instructor.** 3 credits. Prerequisite: must be at least 17, in sound physical condition, and have the ability to perform skills in the level VI ARC swim course. This course is designed to provide the student with knowledge and skills in water safety and teaching techniques for certification to teach swimming, lifesaving, rescue and water safety courses. Red Cross Water Safety Instructor Certificate upon successful completion.

**PE 107. Beginning SCUBA.** Three classes per week; 7 1/2 weeks; 1 credit. Development of the basic skills and knowledges of skin and SCUBA diving. NAUI certification issued upon completion of PE 107+ and 108+. Students must furnish their own equipment and pay for air used.

**PE 108. Intermediate SCUBA.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: completion of any beginning SCUBA course. Development of intermediate SCUBA skills. NAUI certification issued upon completion of PE 108+. Several open-water dives are required. Students must furnish their own equipment and pay for air used.

**PE 113. Scuba Assistant Instruction.** 2 credits. Prerequisite: certification as an advanced scuba diver or documented equivalent experience. This course is the initial leadership-level certification for scuba divers. The course is designed to prepare individuals to pass the tests in fundamental water skills and basic diving

instruction necessary to authorize them to assist scuba instructors in the conduct of diving training.

**PE 114. Beginning Sailing.** Three classes per week; 7 1/2 weeks; 1 credit. Development of basic seamanship and sailing techniques. Additional fees are required. Swimming competency required.

**PE 226. Advanced SCUBA.** Three classes per week; 2 credits. Prerequisites: PE 107+ and 108+ or permission of the instructor. NAUI Advanced Diver certification issued. Development of advanced SCUBA skills. Open water training with the emphasis on leadership training necessary for assisting the instruction of group dives. Students must furnish their own equipment and air.

**PE 419. SCUBA Instructor.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: NAUI assistant instructor or equivalent; one year and 24 hours of open water time after basic SCUBA course certification, and permission of the instructor. NAUI instructor certification issued. Practice teaching of beginning SCUBA class required. Students must furnish their own equipment and air.

#### **+II. Individual Activities — PE**

**PE 112. Yoga.** 2 credits. This course provides a foundation for the understanding and practice of Hatha yoga in its complete form. Course covers yoga postures, breathing exercises, philosophy, and meditation.

**PE 117. Disabled and Fit.** 1 credit; 3 hours per week for 7 1/2 weeks. 2 credits; 3 hours per week for 15 weeks. Developed for students with a physical disability who wish to participate in an individually designed fitness program.

**PE 118. Weight Training.** Three classes per week; 7 1/2 weeks; 1 credit. Designed to allow students an individualized weight training program. The program will include use of free weights, universal, and other appropriate tools for the variety of weight training differences.

**PE 124. Intermediate Badminton.** Three classes per week; 7 1/2 weeks; 1 credit. Development of all the strokes to enable an individual to play a good game of badminton. Emphasis is placed on the strategy of the game of singles and doubles.

**PE 125. Beginning Tennis.** Three classes per week; 7 1/2 weeks; 1 credit. Development of sufficient skills in the basic strokes and knowledge to give the individual an enjoyment of the game. The student is responsible for furnishing one can of new and approved USTA balls.

**PE 126. Intermediate Tennis.** Three classes per week; 7 1/2 weeks; 1 credit. Development of strokes to enable an individual to play a good game of tennis. Emphasis is placed on the strategy of the game of singles and doubles. The student is responsible for furnishing one can of new and approved USTA balls.

**PE 134. Beginning Golf.** Three classes per week; 7 1/2 weeks; 1 credit. The fundamentals of golf, stance, grip, swing, rules, and etiquette are presented. Driving range and golf course may be used. Students pay all fees.

**PE 139. Volleyball.** Three classes per week; 7 1/2 weeks; 1 credit. Development of fundamental skills of soccer. Rules and strategies are stressed.

**PE 167. Beginning Judo.** Three classes per week; 7 1/2 weeks; 1 credit. An introduction to Judo including the techniques of throws, holdings, lockings, and pinnings. Philosophy and cultural aspects of Sport Judo are also covered.

**PE 168. Intermediate Judo.** Three classes per week; 7 1/2 weeks; 1 credit. An intermediate

course in Sport Judo covering intermediate skills and strategies.

**PE 171. Physical Conditioning.** Three hours per week; 7 1/2 weeks; 1 credit. This course addresses the basic principles of progressive weight training. Objectives of the course include knowledge of various weight-training systems, proper use of weight-training equipment, and effective record-keeping to monitor individual progress.

**PE 174. Aerobics I.** Three classes per week; 2 credits. This course is designed to introduce the student to a complete physical fitness program that strengthens the heart and lungs, and tones up the muscles.

**PE 180. Beginning Aikido.** Three classes per week; 7 1/2 weeks; 1 credit. Course is designed to introduce the fundamental dynamics of Aikido principle. It contains the fundamental skills in body dynamics, body movements, safety landing, defensive pattern drills, and overall understanding of Aikido as a classical art form. Course provides comprehensive information on the philosophical and aesthetic aspects of Aikido.

**PE 181. Kobudo.** Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to introduce the fundamentals of classical weaponry arts in Bo (long oak stick), Kama (sickle), Jo (short oak stick), Sai (speared iron sword), and Bokuto (wooden sword).

**PE 182. Kendo.** Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to introduce the fundamental Japanese classical swordsmanship in skill components as well as its philosophical foundation. Bokuto (wooden sword), Shinai (bamboo sword) and a full armor are used for the skill training.

**PE 184. Intermediate Aikido.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 180+. Course is designed to introduce the intermediate level of Aikido dynamics. It contains the basics of fundamental skills in body dynamics, body movements, safety landing, intermediate level of defensive pattern drills, and overall understanding of Aikido as a classical art form.

**PE 185. Advanced Aikido.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 184+. Course is designed to introduce the advanced level of Aikido dynamics. It contains training in advanced skills in body dynamics, body movements, defensive pattern drills, and overall understanding of Aikido theory and application as a classical art form.

**PE 186. Beginning Karate.** Three classes per week; 7 1/2 weeks; 1 credit. This course is designed to give the traditional Karate training ("Art of Empty Hand") to the beginning student. It emphasizes the traditional mode of training with mental and physical discipline. Formal Kata, defensive skills, punches, kicks, and blocking techniques are introduced.

**PE 187. Intermediate Karate.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 186+. This course is designed to give the student further instruction and practice in traditional Karate.

**PE 188. Beginning Self-Defense.** Three classes per week; 7 1/2 weeks; 1 credit. The student is introduced to the various practical skills and methods of self-defense. Judo, Aikido, Jujutsu, and Karate are combined to explore the most effective means to defend oneself.

**PE 189. Intermediate Self-Defense.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 188+. This course is designed to give the student further instruction and practice in

the various practical skills and methods of self-defense.

**PE 190. Advanced Karate.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 187+. This course is designed to introduce further instruction and practice in traditional martial art aspects of Karate-doh. Philosophical understanding and high level of skill proficiency are emphasized.

**PE 191. Iaido (Art of Sword Harmony).** Three classes per week; 7 1/2 weeks; 1 credit. Pre- or corequisite: PE 185+. Prerequisites: PE 182+, PE 180+ or 186+, PE 184+. This course is designed to introduce the classical art form of sword drawing skills and its philosophic principle. This course focuses on the skills dynamics of traditional and ceremonial art forms.

**PE 194. Intermediate Kendo.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 182+ or equivalent proficiency. This course is designed to provide the intermediate level of Kendo skills beyond a basic skill level. The course emphasizes the correct mental attitude and physical discipline.

**PE 195. Theory of Advanced Aikido.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisites: PE 180+, 184+, 185+ or equivalent proficiency level. This course is designed to provide the theoretical framework of Aikido that embodies the mental and physical dynamics of the martial arts discipline of Aikido.

**PE 197. Theory of Advanced Karatedo.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisites: PE 186+, 187+, 190+ and/or equivalent proficiency level. This course is designed to provide the theoretical framework of Karatedo that embodies the higher principle of physical and mental dynamics and aims to achieve the advanced skills in Karatedo.

**PE 198. Intermediate Self-Defense.** Three classes per week; 7 1/2 weeks; 1 credit. Prerequisite: PE 188+ or equivalent skills. This course is designed to provide the intermediate level of self-defense skills beyond the basic skill. The course stresses both the application of basic techniques and proper physical and mental discipline.

#### **III. For Nonphysical Education Majors**

**PE 196. Topics in Health and Physical Education.** 7 1/2 weeks; variable credit. A variety of new and innovative courses in lifetime physical activities are offered such as advanced theory class in martial arts, advanced Iaido, self defense seminar, yoga, cross country skiing, yacht racing, racquetball, nautilus, swim conditioning, water safety instructor, scuba and aerobic dance.

#### **IV. Physical Education — PE**

**Students enrolling in 200-level and above PE courses must be health and physical education majors or have permission of the instructor.**

**PE 200. Foundations of Education, Physical Education and Health.** Three classes per week; 3 credits. This is an introductory course for physical education majors that includes principles, philosophy, and history of education, physical education and health. Current issues and practices will be presented. The professional teaching portfolio is introduced.

**PE 217. Fundamental Movement Skills and Dance.** Lecture 2 hours; 2 credits. This course is designed to introduce the fundamental components of dance and rhythms. Techniques in rhythmic movements and basic fundamental skills of folk dance, square dance, and contemporary dance;

stresses dance positions for motions and sequencing of movements. Through participation, individuals will develop skills in a variety of dance styles and build a range of rhythmic activities to be taught in the physical education classroom.

**PE 218. Aquatics and Outdoor Education.** Lecture 2 hours; 2 credits. Prerequisite: PE 102+ will be required for any student who is unable to swim in deep water. This course introduces the principles and practices of swimming and outdoor education for the school setting. Activities will include orienteering, bicycling, cooperative games, and aquatics. Effective instructional strategies, basic skills, and assessment for the teaching of these physical activities will be included.

**PE 220. Teaching of Team Sports I.** Lecture 1 hour; laboratory 3 hours; 2 credits. This course will introduce the sports of soccer, flag football, field hockey, speedball, team handball, and ultimate frisbee. Effective instructional strategies, game tactics, and assessment techniques for the teaching of these team sports will be included.

**PE 221. Teaching of Team Sports II.** Lecture 1 hour; laboratory 3 hours; 2 credits. This course will introduce the sports of basketball, volleyball, and softball. Effective instructional strategies, game tactics, and assessment techniques for the teaching of these team sports will be included.

**PE 222. Teaching of Individual Sports.** Lecture 1 hour; laboratory 3 hours; 2 credits. This course will introduce a variety of individual and dual sports for the enhancement of life-span involvement in physical activity. Instructional strategies, game tactics, and assessment techniques for the teaching of these individual and dual sports will be included.

**PE 224. Teaching Elementary Physical Education.** Lecture 3 hours; 3 credits. Designed for the preparation in teaching all elementary age children developmentally appropriate physical activities in educational games, educational gymnastics and motor skill development. Skill proficiency levels, learning styles, and effective assessment are studied through a conceptual-skills theme approach.

**PE 295. Topics in Physical Education.** 1-3 credits. Prerequisite: sophomore standing and approval of program advisor. This course provides an opportunity for in-depth study of selected topics in physical education.

**PE 300. Management Skills for Teaching Health and Physical Education.** Lecture 3 hours; 3 credits. Prerequisites: passing scores on Praxis I math, VCLA and junior standing. Foundations in psychological, sociological, and academic needs of students, with specific focus on management skills in open classroom and sport settings. Specialized safety concerns and environmental considerations are also addressed. Lesson planning, goal setting, and movement formations unique to HPER activities are included.

**PE 301W. Teaching Physical Education in the Secondary Schools.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Acquaints the students with current theories, principles, styles and best practices utilized in teaching physical education to students at the secondary school level. (This is a writing intensive course.)

**PE 308. Driver Education Foundations of Traffic Safety.** Three classes per week; 3 credits. Prerequisite: permission of the instructor. The intent of the course is to develop a thorough understanding of the highway transportation systems, the complexity of the driving task, and factors contributing to performance of highway users (e.g. attitudes and skills) necessary to

develop competent drivers for prospective teachers to have the essential knowledge and skills to effectively deliver course content as an endorsed driver education trainer.

**PE 309. Principles and Methodologies of Classroom and In-Car Instruction.** Three classes per week; 3 credits. Prerequisite: PE 308. This course provides teacher candidates with an overview of teaching methods and effective practices for driver education instruction with a focus on teaching skills. An emphasis is placed on program organization, administration, classroom instruction, single car instruction, multiple-car range instruction, simulation and evaluation. A minimum of 20 hours behind-the-wheel supervised teaching experiences.

**PE 318. Motor Learning.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Designed to provide the student with experiences in the practical application of theory related to motor learning. Feedback, transfer learning, practice, and motor control principles and concepts are addressed.

**PE 319. Physical Growth and Motor Development.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. An examination of the physical growth and motor development of the human being over the life span. Emphasis is on the assessment of physical and cognitive development, particularly in the K-13 ages. Theory and technique for research are discussed and the use of research findings is incorporated into the assessment materials. Attention is directed toward acquisition of basic skills, perceptual-motor development, and age-related changes.

**PE 404/504. Adapted Physical Education.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisites: PE 300 and 319. Students will be acquainted with and research the different disabilities, learning modes of the exceptional child, IDEA-the law that advocates free and appropriate education, and working with the child with disabilities within an ecosystem. A vital component of the course will be the practical application of theory.

**PE 497/597, 498. Topics in Health and Physical Education.** 1-3 credits. Prerequisite: junior standing and approval of program advisor. This course provides an opportunity for in-depth study of selected topics in health and physical education.

## V. Health Education — HE

**HE 224. Advanced First Aid and Emergency Care.** Three classes per week; 3 credits. This course presents the knowledge and skills essential for proper care in most emergency situations. Aspects of emergency first aid are developed, including CPR instruction. Upon satisfactory completion of the course, each student will have the option of receiving certification in CPR and/or First Aid upon payment of a certificate fee if required by the American Red Cross or National Safety Council.

**HE 230. Personal and Community Health.** Three classes per week; 3 credits. This course is designed to develop knowledge, understanding, attitudes, and desirable practices related to personal and community health.

**HE 402/502. Methods and Materials in Health Education.** Three classes per week; 3 credits. Prerequisite: junior standing. Instruction in methods of teaching, organization of classes, evaluation of outcomes, and selection of content for health and safety education. Collection, evaluation, and application of health and safety

education materials are emphasized. This course is to be completed prior to student teaching. Field experience is required.

**HE 497/597, 498/598. Topics in Health Education.** Three classes per week; variable credit. Prerequisite: junior standing. This course provides an opportunity for in-depth study of selected topics in the variety of areas constituting health education.

## VI. Health and Physical Education — HPE

**HPE 230. Field Experience in Physical Education and Health.** 2 credits. Teacher candidates gain insight into the techniques, methodology, and philosophy of field-based health and physical education teachers. Teacher candidates will be expected to observe and participate in the teaching of simple lessons.

**HPE 327. Teaching of Health and Physical Education, PreK-8.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to prepare classroom teachers in PreK-8 licensure programs for the teaching of health and physical education. Appropriate content, instructional strategies, and safety issues and requirements will be presented.

**HPE 369. Practicum in Physical Education and Health.** 3 credits. Prerequisites: HPE 230, passing scores on PRAXIS I math, VCLA or State Board of Education-approved SAT or ACT scores and admission into teacher education. A clinical experience that allows the teaching candidate to teach and observe professionals in a field-based setting. Reflective assessment of teaching, and student assessment techniques will be emphasized.

**HPE 406/506. Tests and Measurement in Physical Education and Health.** Three classes per week; 3 credits. Prerequisite: junior standing. This course is designed to acquaint the student with tests and measurement in the fields of health and physical education, test construction, scoring, and methods of using results.

**HPE 430/530. Teaching Wellness and Health-Related Fitness.** Lecture 3 hours; 3 credits. Prerequisite: PE 300 for HPE 430. The study of techniques for the teaching of wellness and health-related fitness. Content to be covered includes drug education, nutrition, wellness, mental health, and various aspects of fitness training appropriate for the teaching of PreK-12 physical education and health.

**HPE 485. Teacher Candidate Internship.** Five days per week; full semester; 12 credits. Prerequisites: acceptance into teacher education, completion of approved program, passing scores on the appropriate PRAXIS II content examination, and an approved application for Teacher Candidate Internship. A culminating experience that provides a field-based application of effective techniques in behavior, management, instructional strategies, and the development of professional attributes in K-12 school setting. (qualifies as a CAP experience)

**HPE 487/587. Teacher Candidate Seminar.** One hour; 1 credit. Prerequisites: acceptance into teacher education and approval of the program advisor. Study and group discussion of problems growing out of the student teaching (teacher candidate internship) experience. Students must pass Praxis II to complete this course.

## VII. Recreation and Tourism Studies — RTS

**RTS 200. Backpacking.** Lecture 2 hours; 2 credits. Students will finish this course with the ability to demonstrate competency in and teach fundamental camping skills, including backpacking, cooking, travel techniques, Leave No

Trace skills, and associated safety skills. Additionally, students will demonstrate an increased understanding of issues related to the administration of federally-managed public lands, such as those used in this class, as they relate to recreation and other uses. An overnight field trip is required.

**RTS 201. Recreation Programming and Leadership.** Lecture and participation 3 hours; 3 credits. Prerequisite: sophomore standing. This course is designed to help students understand and develop their activity leadership and programming skills. Theories and techniques in relation to community, therapeutic, commercial, and outdoor recreation leisure service provision are explored. The course will examine the basic principles of recreation programming and leadership including needs assessment, public relations, and evaluation.

**RTS 211. Foundations of Recreation and Leisure.** Lecture 3 hours; 3 credits. An examination of the historical and philosophical bases of the recreation movement in the U.S. To include a review of theories of play and an assessment of the social, economic and cultural determinants of nonwork-time behavioral patterns. The relationship of leisure to education and the involvement of the government at federal, state and local levels will be considered.

**RTS 261. Introduction to Therapeutic Recreation.** Lecture 3 hours; 3 credits. This course is designed to present an overview of therapeutic recreation as a profession. Philosophy, historical development and standards of practice will be discussed. Students will develop an understanding of professional training, credentialing, and the recreation profession's responsibility to provide recreational opportunities for all individuals. Implementation of therapeutic recreation services for a wide variety of special populations will be explored.

**RTS 271. Introduction to Recreation and Tourism Studies.** Lecture and participation 3 hours; 3 credits. This course is designed to present an overview and examination of commercial recreation and the tourism industry. Emphasis is placed on historical development, the different components of the industry, and career opportunities in commercial recreation and tourism.

**RTS 301. Youth Development through Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This class will use the Benefits-Based Programming (BBP) to construct an experience that targets the social-emotional needs of youth. Through this service-learning based class, students will explore research, theory, practice, and techniques of structuring recreation experiences for youth. This course includes the examination of theories of youth development, behavioral management, motivation, and social skills as they relate to the recreation experience.

**RTS 302. Facilitating the Recreation Experience.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course examines research, theory, practice, and technique of structuring recreation experiences to facilitate predetermined outcomes. This course includes the examination of theories of learning, motivation, emotion, socialization, human development, and group dynamics as related to the facilitation of recreation experiences.

**RTS 332. Personnel and Financial Management in Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This class is a review of the

principles and practices of personnel and financial management in public, private, nonprofit and commercial recreation delivery settings. It discusses organizational structure as it relates to personnel and financial management.

**RTS 366. Internship Seminar.** Lecture and discussion 1 hour; 1 credit. Prerequisite: all emphasis core courses and junior standing. Agency field placement is required of all students in Recreation and Tourism Studies. Seminar will include resume and cover letter writing skills, internship requirements, agency placement referrals, and interviewing techniques. (cross-listed with SMGT 366) (qualifies as a CAP experience)

**RTS 368. Internship.** 12 credits. Prerequisites: completion of all recreation emphasis and core courses plus senior standing. Supervised agency placement is required of all students in the Recreation and Tourism Studies program. Placement must fulfill all professionally appropriate certification standards. Minimum of 400 clock hours. (qualifies as a CAP experience)

**RTS 369. Practicum in Recreation and Tourism Studies.** 3-6 credits. Prerequisite: junior standing. Selected field-based experiences in a recreation and tourism service setting. Minimum of 200 clock hours. (qualifies as a CAP experience)

**RTS 405. Recreation and Natural Resources.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of the impact of leisure and recreation on the environment. In-depth review of government involvement at federal, state and local levels. Consideration of legislation and the environmental movement, and the resource management philosophy of public and private agencies.

**RTS 410/510. Clinical Aspects of Therapeutic Recreation.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. The course is designed to provide students with an understanding of treatment centered therapeutic recreation program design. The role of the recreation therapist will be explored. Topics will include patient assessment, activity analysis, documentation, treatment plans and program development.

**RTS 420. Intervention Techniques in Therapeutic Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. Course is designed to introduce students to various disabling conditions that receive therapeutic recreation services. Therapeutic recreation intervention techniques used while implementing a program will be discussed. Emphasis will be given to the rehabilitative and habilitative goals of intervention techniques.

**RTS 425. Facility Management and Design.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An examination of the principles and practices of facility management in recreation. Focus is geared toward the planning and design of indoor and outdoor recreation facilities as well as how to review and develop effective maintenance and risk management programs. (cross-listed with SMGT 425)

**RTS 430. Assessment and Documentation in Therapeutic Recreation.** Lecture 3 hours; 3 credits. Prerequisites: RTS 261, junior standing or permission of instructor. This course will provide students with a detailed examination of assessment and documentation procedures used in therapeutic recreation. Course focus includes the assessment

and documentation process, including instrument design, selection, and implementation. Use of assessment data in treatment planning and evaluation will also be examined.

**RTS 433. Community Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to the various facets of municipal and county parks and recreation service provision. It will include the broad scope of parks and recreation services and the impact on a community.

**RTS 441/541. Service and Operations Strategies in Tourism/Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to introduce students to theories and concepts related to successful service-oriented tourism and commercial recreation businesses. The course provides a solid foundation in the important aspects of hospitality and tourism organization operations including human resources, guest services, psychographics, demographics, marketing, and the assessment of industry trends.

**RTS 450. Disabilities and Aging in Therapeutic Recreation.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to introduce students to a variety of disabilities and the aging process. The course will examine disabilities with a specific emphasis placed on determining the treatment and recreational needs of mature adults. Projected trends and issues related to disabilities and aging will be discussed.

**RTS 461/561. Tourism and the Hospitality Industry.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course explores tourism from a social perspective. The focus of the course will be on economic and social dimensions of tourism, tourism development strategies, and current research in hospitality from national and international case studies.

**RTS 475/575. Tourism and Cultural Heritage Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course examines the principles and practices of planning, marketing, and managing cultural tourism. Assessment, development, and maintenance of cultural tourism products are explored.

**RTS 482W. Program Evaluation in Recreation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. In this course, students will learn how behavioral research is directly related to the field of parks, recreation, and tourism. The course is designed to teach students basic research skills that include technical writing, thesis development, literature review, instrument development, and critical analysis. Additionally, the student is exposed to basic literacy skills including database research, writing a critical essay, thesis development, and grammar sensitivity. (This is a writing intensive course.)

**RTS 485. The Philosophy of Play.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. The course is designed to examine the role of play and its impact on health and wellness. Emphasis is placed on play behavior and healthy lifestyle. The course will also explore the conceptual perceptions of play, recreation and leisure.

**RTS 490. Convention and Meeting Services in Recreation and Tourism.** Lecture 3 hours; 3 credits. Prerequisite: RTS 271. The course will introduce students to convention and meeting

service management. Content includes both convention sales and convention services. Main topics include: planning, organization, and implementation of a meeting, convention or tradeshow. Students can earn a certificate through the American Hotel and Lodging Association Education Institute after completion of the course.

**RTS 491. Festival and Event Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course will introduce students to the growing profession of events management. Specific focus will be on knowledge that encompasses the management of public assembly for the purpose of celebration, education, marketing and reunions.

**RTS 495/595. Topics.** 1-3 credits. Prerequisite: junior standing. This course provides an opportunity for in-depth study of selected topics in the variety of areas comprising recreation and tourism studies.

**RTS 497. Independent Study.** 3 credits. Prerequisite: junior standing or permission of the instructor. Individualized instruction to include research, specialized studies, or other scholarly writing.

## VIII. Exercise Science — EXSC

**EXSC 225. Introduction to Exercise Science.** Lecture 3 hours; 3 credits. Broad overview of exercise science including the history of the discipline and introduction to the following: Healthy People 2010 goals and objectives related to physical activity and nutrition; basic principles of nutrition, body composition, applied physiology, functional anatomy, and exercise prescription/programming for healthy individuals and those who are high risk/diseased; career opportunities in various allied-health fields such as physical therapy, physician assistant, personal training, community/corporate/hospital-based wellness programs, cardiac rehabilitation; and research areas in exercise science.

**EXSC 233. Exercise Science Recitation.** Lecture 1 hour. Corequisite: EXSC 225. Dedicated Monarch Advantage Program (MAP) section for exercise science majors - freshmen only.

**EXSC 250. Strength and Conditioning Leadership.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: BIOL 250 with a minimum grade of C. This course will provide the student with skills in exercise leadership. The student will learn how to lead resistance training, flexibility training, cardiovascular training involving a variety of exercise modes, and group exercise, such as step aerobics.

**EXSC 322. Anatomical Kinesiology and Human Anatomy.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: BIOL 250 with a minimum grade of C. Kinesiological, anatomical and mechanical analysis of human musculoskeletal function as they relate to the sport environment, including computer assisted analysis of human motion.

**EXSC 340. Prevention and Care of Injuries Related to Physical Activity.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 250 with a minimum grade of C or permission of the instructor. Practice in the skills of injury recognition and evaluation and training in cardiopulmonary resuscitation. Principles and uses of therapeutic modalities are also discussed.

**EXSC 368. Internship.** Hours to be arranged: 12 credits. Prerequisites: senior standing, permission of the instructor, and completion of all

required courses in appropriate emphasis areas. Final field placement required for all students with an emphasis in exercise science. Students will be placed in an agency to gain experience in methodologies, administration techniques, and programs specific to their area of emphasis. Minimum of 400 clock hours. (qualifies as a CAP experience)

**EXSC 369. Practicum in Exercise Science.** 3-6 credits. Prerequisite: EXSC 225. Field-based experience in a fitness or allied-health setting. Minimum of 200 clock hours. (qualifies as a CAP experience)

**EXSC 397. Independent Study.** 1-3 credits. Prerequisite: junior standing or permission of the instructor.

**EXSC 403. Lifetime Fitness and Wellness.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The focus of this course is on a positive healthy lifestyle designed to enhance the current and future quality of life. Topics include: proper exercise programs, healthful nutrition, stress management techniques, and avoidance of high-risk health behaviors in order to reduce disease risk and promote healthful aging. Various laboratory assessments are used to identify health status and recommend remedial approaches.

**EXSC 408/508. Nutrition for Fitness and Sport.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 250 with a minimum grade of C or equivalent. Emphasizes the role of nutrition as a means to enhance health and performance in sport. Topics covered include energy metabolism and nutrients, regulation of metabolism by vitamins and minerals, and weight control.

**EXSC 409/509. Physiology of Exercise.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250 with a minimum grade of C. An investigation into the physiological adjustments of the human organism to exercise including systematic as well as biochemical molecular changes. Major areas of concern include neuromuscular, metabolic, and cardiorespiratory changes during exercise and the influence of such variables as nutrition, drugs, environment, age, sex, training, and body weight.

**EXSC 415/515. Exercise Testing for Normal and Special Populations.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: EXSC 409 or 426. The application of different methodologies in the measurement of physiologic responses to exercise. Emphasis is placed on understanding American College of Sports Medicine guidelines, appropriate experimental techniques, and equipment necessary to evaluate changes in body composition and various metabolic, cardiovascular, and respiratory adjustments during exercise.

**EXSC 417W/517. Advanced Kinesiology and Biomechanics.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: EXSC 322. Advanced study and application of anatomical kinesiology in the study of human movement and biomechanics through various motion analysis techniques. (This is a writing intensive course.)

**EXSC 420. Research Methods in Exercise Science.** Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or permission of instructor. Introduction to the scientific method applied to exercise science research including bioethics, review of the literature, research design, data collection, appropriate statistical analysis, research writing, and peer review.

**EXSC 426/526. Exercise Physiology I.** Lecture 3 hours; 3 credits. Prerequisite: BIOL 250 with a minimum grade of C. An investigation into the metabolic adaptations, neuromuscular,

endocrinological, and respiratory responses to acute and chronic exercise endeavors. Implications for enhanced health and physical performance are integrated.

**EXSC 427/527. Exercise Physiology II.** Lecture 3 hours; 3 credits. Prerequisites: EXSC 426/526 and BIOL 250 with a minimum grade of C. A continuation of Exercise Physiology I. Focuses on cardiovascular responses to exercise and applied exercise physiology, specifically the effects of different training modes, environmental factors, aging, disease states, nutrition, and ergogenic aids.

**EXSC 428/528. Exercise Prescription for Chronic Disease.** Lecture 3 hours; 3 credits. Prerequisite: EXSC 409 or 426. A study of pathophysiology of common diseases with concentration in the design, implementation and administration of exercise prescription for a variety of chronic diseases.

**EXSC 431/531. Wellness Programming and Administration.** Lecture 3 hours; 3 credits. Prerequisite: EXSC 409 or 426. An introduction to the principles of administration and implementation of fitness and wellness programs to individuals, groups, centers and corporate settings.

## IX. Sport Management — SMGT

**SMGT 214. Introduction to Sport Management.** Lecture 3 hours; 3 credits. Course will introduce students to the sports industry, the wide range of career opportunities involving sport, and the economical impact of sports in America.

**SMGT 235. Sport Management Recitation.** 1 credit. Corequisites: SMGT 214 and HIST 104H. Dedicated Monarch Advantage Program (MAP) section for sport management majors - freshmen only.

**SMGT 305. Sport Administrative Theory.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214 or permission of the instructor. Principles of organization and administration as they apply to managing sport organizations. Issues related to working with and through individuals to achieve organizational goals and objectives are discussed.

**SMGT 312. Sport Sales.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214 or permission of the instructor. This course will teach students to learn and navigate the sport sales process. The financial strength of a sport entity is determined by its sales ability, and through lecture, guest speakers, and applied "real world" exercises, students will have the opportunity to obtain knowledge, skills, and experiences in sport sales that are essential for entry level positions.

**SMGT 315. Sport Media and Public Relations.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214 or permission of the instructor. An introduction to sport media and public relations. Special emphasis will be placed on the communications process in sport and the various mediums that can be used to convey messages. The internal and external publics involved in sport public relations will be examined along with the steps involved in the process. Additional emphasis will be placed on studying the roles of community relations, customer relations, and employee relations in sport organizations.

**SMGT 331. Fiscal Planning and Management in Sport and Recreation.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214 or permission of the instructor. This course is designed to examine the principles and practices of financial management in diverse recreation and

sport service settings. Course will explore the basic concepts of financial planning and analysis to effectively manage a successful operation.

**SMGT 366. Internship Seminar.** Lecture and discussion 1 hour; 1 credit. Prerequisite: all emphasis core courses and junior standing. Agency field placement is required of all students in Sport Management. Seminar will include resume and cover letter writing skills, internship requirements, agency placement referrals, and interviewing techniques. (cross-listed with RTS 366) (qualifies as a CAP experience)

**SMGT 368. Internship.** Hours to be arranged: 12 credits. Prerequisites: SMGT 214, senior standing, permission of the instructor, and completion of all required courses in appropriate emphasis areas. Final field placement required for all students with an emphasis in sport management. Students will be placed in an agency to gain experience in methodologies, administration techniques, and programs specific to their area of emphasis. Minimum of 400 clock hours. (qualifies as a CAP experience)

**SMGT 369. Practicum in Physical Education, Recreation, and Athletics.** 2-6 credits. Prerequisites: SMGT 214, permission of the instructor, junior standing. Selected off-campus experiences in physical education, leisure activities, and athletics that will enable students to become more actively involved with field-based professionals engaged in skills within their respective discipline. (cross-listed with PE 369) (qualifies as a CAP experience)

**SMGT 414. Sport Marketing.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of the instructor. Course will examine competitive market strategies as they apply to the sport industry. Emphasis will be placed on the relationship between sport products and sport markets, the communication mix, market research, and the role of strategic planning for business sponsorship.

**SMGT 415. Principles of Coaching Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to provide students with a basic knowledge of the coaching profession. Special emphasis will be placed on establishing a sound coaching philosophy, selecting a coaching style, desirable qualities of a coach, ethics and the coach, roles of the head coach, planning and organizing for games and practices, coaching pedagogy, off-season planning, final preparations for the season, and issues and problems related to coaching and recruiting athletes.

**SMGT 421. Legal Aspects in Recreation and Sport Management.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of the instructor. This course presents an overview of the increasing effect the law is having on amateur athletics, professional sports and recreation programs.

**SMGT 425. Facility Management and Design.** Lecture 3 hours; 3 credits. Prerequisite: RTS 211 or permission of the instructor. An examination of the principles and practices of facility management in recreation. Focus is geared toward the planning and design of indoor and outdoor recreation facilities as well as how to review and develop effective maintenance and risk management programs. (cross-listed with RTS 425)

**SMGT 432. Sport Facility and Event Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course provides an examination of

the principles and practices of sport facility and event management. Special emphasis will be placed on management functions related to facility planning and supervision, financing, site design, public relations, security, operations, maintenance, programming, box office operations and concessions. This course is designed to introduce students to principles and practices of planning, budgeting, operating, scheduling, managing, and evaluating events in the sport industry. The students will acquire an in depth knowledge about the specialized field of event management and become familiar with management techniques and strategies required for successful promotion, implementation and evaluation of special events within a sport context.

**SMGT 450W. Ethics and Morality in Sport.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of instructor. This course offers an introduction to ethics and morality within the sporting context. Students will examine the values of sport and the basis for ethical decision making in sport. Students will also explore moral significance of sport through readings, case studies and class discussion. This course is intended to help develop and foster critical thinking skills, to learn and understand the philosophical and ethical background of sport, and to improve written and verbal communication skills. Topics will include personal ethics and values, rights and responsibilities, professional ethics and social responsibility, models and codes of ethics, ethical dilemmas, and ethical considerations of managing human resources and technology in sport. (This is a writing intensive course.)

**SMGT 452. Sport Facility Management.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of the instructor. An examination of the principles and practices of sport facility management. Special emphasis will be placed on management functions related to facility supervision, financing, marketing, public relations, risk management, security, operations, maintenance, programming, scheduling, event planning, box office operations and concessions.

**SMGT 453. Event Management and Sport Sponsorship.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of instructor. This course is designed to introduce students to principles and practices of planning, funding, operating, managing, and evaluating events in the sport industry. Topics covered include event creation and implementation, the sponsorship process, expected rights with sponsorship, and sponsorship valuation. We will examine perspectives from both the sport property and the corporate sponsor. A component of this course is involvement with actual events, which will require hours outside of class. Students are expected to attend planning meetings, fulfill all assigned duties, and be present on the day of the event.

**SMGT 455. Sport in Contemporary Society.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior standing or permission of instructor. Discusses the phenomenon of sport as it represents one of the most pervasive social institutions today. The major theme of this course is to demonstrate how sport reflects and enforces the beliefs, values, and ideologies of society. Emphasis is placed on changing attitudes and current trends in the world of sport. The course will be taught from sociological and philosophical perspectives.

**SMGT 456/556. Sport Psychology.** Lecture 3 hours; 3 credits. Prerequisite: SMGT 214, junior

standing or permission of the instructor for 456; graduate standing for 556. Study of the psychological bases of coaching strategies and methodologies. Emphasis is placed on applying knowledge in field settings.

**SMGT 495. Topics in Sport Management.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course provides an opportunity for in-depth study of selected topics in sport management.

**SMGT 497/597. Independent Study in Sport Management.** 3 credits. Prerequisite: permission of the instructor. Individualized instruction to include research, specialized studies, or other scholarly writing.

## Human Services — HMSV

**HMSV 339. Interpersonal Relations.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 211C. Students will learn concepts and theories of interpersonal relationships. Development of skills necessary for effective communication will be stressed. A grade of C or better is required.

**HMSV 341W. Introduction to Human Services.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 211C or 221C or 231C. Students will learn about human services, the helping process, and the role and function of the human service worker. Students will be exposed to local and state human services facilities. A grade of C or better is required. (This is a writing intensive course.)

**HMSV 343. Human Services Methods.** Lecture 3 hours; 3 credits. Corequisite: HMSV 341W. Prerequisite: ENGL 211C. Presents theories and techniques used by human services workers in a variety of settings. A grade of C or better is required.

**HMSV 344. Career Development and Appraisal.** Lecture 3 hours; 3 credits. Corequisite: HMSV 341W. Prerequisite: ENGL 211C. Focuses on career development throughout the life span with emphasis on vocational theories, interventions, assessments, and socio-economic factors.

**HMSV 346. Diversity Issues in Human Services.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 211C, 221C, or 231C. Corequisite: HMSV 341W. This course serves as an introduction to multicultural helping. The influence of socio-identities (e.g., race, ethnicity, religion, gender, socioeconomic status, sexual orientation) on individuals' functioning, concerns and the helping process will be explored. A grade of C or better is required.

**HMSV 368. Field Observation in Human Services.** Lecture 3 hours; 3 credits. Prerequisites: HMSV 339, 341W, 343 and 346. Students will visit and examine human services systems such as mental health, substance abuse, criminal justice, education, rehabilitation, and professional associations to facilitate decision-making in selecting an internship and to gain a complex understanding of the roles of the human services professional. A grade of C or better is required.

**HMSV 440W/540. Program Development, Implementation, and Funding.** Lecture 3 hours; 3 credits. Prerequisites: HMSV 339, 341W, 343, 344, and 346. This course represents models and practices of developing, implementing, and evaluating human services programs. The course includes an introduction to grant writing and fund raising. (This is a writing intensive course.)

**HMSV 441/541. Non-Profit Fund-Raising in Human Services.** Lecture 3 hours; 3 credits.

Prerequisites: HMSV 341W and 440W/540. This course is designed to expose human service students to the art of ethical fund-raising in human services, including annual and capital campaigns, telemarketing, special events, direct mail marketing, face-to-face solicitation, e-fund-raising, and grant writing.

**HMSV 444/544. Psycho-educational Groups.** Lecture 3 hours; 3 credits. Prerequisite: HMSV 343. This course combines lectures and experiential learning about psycho-educational groups. Principles and practices for developing and leading psycho-educational groups are emphasized.

**HMSV 447/547. Addictions: Theory and Intervention.** Lecture and discussion 3 hours; 3 credits. Prerequisites: HMSV 341W and 12 hours in human services. This course examines the etiology, risk factors and treatment of alcoholism and other addictions.

**HMSV 448. Interventions and Advocacy with Children.** Lecture 3 hours; 3 credits. Prerequisites: HMSV 341W and 12 hours in human services. This course provides an overview of how human service workers assist children in a variety of settings. Emphasis will be placed upon advocacy, supportive work, and short term crisis intervention.

**HMSV 449. Theory and Practice of Prevention in Human Services.** Lecture 3 hours; 3 credits. Prerequisites: HMSV 341W and 12 credit hours in HMSV. Students will learn theories and strategies for the practice of prevention services aimed at promoting the health and well-being of children, adolescents, and adults. Existing prevention programs, policies, and necessary resources will be examined. Students will develop beginning skills in the use of prevention strategies with individuals and groups.

**HMSV 456/556. Diversity Experience in Ireland.** 3 credits. Prerequisite: HMSV 341W or permission of instructor. This course is an in-depth, cross-disciplinary study of cultural similarities and differences in approaches to social conflict and other social problems in the United States and in Ireland. A two-week study abroad period will bring students into intensive contact with educators, scholars, and community activists in Ireland. This course will also serve as an introduction to multicultural helping. The influence of socio-identities (e.g. race, ethnicity, religion, gender, socioeconomic status, sexual orientation) on individuals' functioning, concerns, and the helping process will be explored.

**HMSV 468. Internship in Human Services.** 12 credits. Prerequisites: a minimum cumulative grade point average of 2.00 overall and in the major and minor; completion of all General Education courses, core courses, major courses, and minor courses; a grade of C (2.00) or better in HMSV 339, 341W, 343, 346, and 368. This course involves field placement in a human services setting. Approximately 400 hours are devoted to field placement, group seminars and individual supervision. A grade of "C" or better must be earned in HMSV 468 to complete the human services major. (qualifies as a CAP experience)

**HMSV 491. Family Guidance.** Lecture 3 hours; 3 credits. Prerequisites: HMSV 341W and ENGL 211C. This course provides a study of the family as a system and an introduction to a variety of issues confronting the family, including child abuse, spouse abuse, and others that produce more than usual stress in the family. Available community resources for helping families will be examined.

**HMSV 495/595. Topics in Human Services.** 1-6 credits. Prerequisite: senior standing or permission of the instructor. The study of selected topics in human services.

## Information Technology/Decision Sciences

### Decision Sciences — DSCI

**DSCI 206. Probability, Decision Analysis and Business Statistics.** Lecture 3 hours; 3 credits. Prerequisite: MATH 162M with a grade of C or better or placement into a higher level math course. An introduction to methods of probability assessment and statistical inference. Topics include descriptive statistics, normal and binomial distributions, decision making under uncertainty and under risk, decision analysis incorporating sample information, sampling distributions and Central Limit Theorem, interval estimation, and hypothesis testing. Business and economic applications are emphasized. Computer software, as a tool for problem solving, is utilized where appropriate.

**DSCI 306. Statistical Data Analysis and Management Science.** Lecture 3 hours; 3 credits. Prerequisites: MATH 200, DSCI 206, and a declared major in the university or permission of the Dean's Office of the CBPA. Quantitative methods for solving business problems. Topics include advanced hypothesis testing, analysis of frequency data, correlation analysis, simple and multiple regression, time series forecasting, linear programming formulation and managerial analysis, distribution models, and PERT/CPM models. Computer software, as a tool for problem solving, is utilized throughout the course. Emphasis is on the interpretation of the varied aspects of quantitative solutions.

**DSCI 367. Cooperative Education.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. (qualifies as a CAP experience)

**DSCI 368. Student Internship.** 1-3 credits. Prerequisites: DSCI 306, and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. (qualifies as a CAP experience)

**DSCI 369. Practicum.** 1-3 credits. Prerequisites: DSCI 206 and DSCI 306, and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department CAP adviser and the Career Management Center in the semester prior to enrollment. Student participation in a professional work experience. (Qualifies as a CAP experience)

**DSCI 406. Spreadsheet Modeling and Analysis for Business Decisions.** Lecture 3 hours; 3 credits. Prerequisite: DSCI 306 and a declared major in the university or permission of the Dean's Office of the CBPA. This course introduces students to the use of spreadsheet modeling to analyze and make business decisions. Course topics include spreadsheet design, data analysis for modeling, and Monte Carlo simulation. Students will improve their proficiency in using spreadsheet applications and advanced spreadsheet features through the use of software such as Excel.

**DSCI 407/507. Management Science.** Lecture and discussion 3 hours; 3 credits. Prerequisites: DSCI 306, and a declared major in the university or permission of the Dean's Office of the CBPA, for DSCI 407 and OPMT 611 for DSCI 507 or permission of the instructor. Formulation and solution of mathematical models and their uses and limitations in business. Topics include linear, integer, and goal programming, network models, queuing, utility theory, and Markov analysis. Cases and computer solution of topics introduced in this class, as well as topics from DSCI 206 and 306, are incorporated.

**DSCI 432/532. Forecasting and Quality Management Systems.** Lecture and discussion 3 hours; 3 credits. Prerequisites: OPMT 303 and DSCI 306 and a declared major in the university or permission of the Dean's Office of the CBPA for DSCI 432 and OPMT 611 for 532. Forecasting systems for both service and manufacturing organizations. Study of technological issues in designing, planning, and operating quality control systems. Computer software will be utilized throughout the course.

**DSCI 441. Supply Chain Management and Logistics.** Lecture 3 hours; 3 credits. Prerequisites: OPMT 303, DSCI 306, and a declared major in the university or permission of the Dean's Office of the CBPA. Supply chain management integrates all activities associated with the flow of materials and information from product start to customers. Examples include order processing, warehousing, inventory management, transportation and logistics, and the costs and information systems supporting these activities. Particular application is made to global logistics systems supporting port and maritime activities. Supply chain relationships can be improved through effective integration of management and via such technologies as the World Wide Web, electronic data exchange, and enterprise resource planning (ERP). (cross-listed with MSCM 441)

**DSCI 476/576. Simulation Modeling and Analysis for Business Systems.** Lecture 3 hours; 3 credits. Prerequisites: OPMT 303, DSCI 306, senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Methods and techniques of digital computer simulation of business systems utilizing knowledge of data processing, statistics, probability theory and operations research. Areas of application include systems that experience waiting problems. Topics include the methodology for the construction of computer simulation models, model verification, validation, and analysis of results. This course also includes a CAP experience. (qualifies as a CAP experience)

**DSCI 495. Selected Topics in Decision Sciences.** 3 credits. Prerequisites: senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Selected advanced topics in decision sciences. Taught on an occasional basis. See the course schedule for the particular topic being taught each semester.

**DSCI 497. Independent Study in Decision Sciences.** 1-3 credits. Prerequisite: permission of department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

### Information Technology — IT

**IT 150G. Basic Information Literacy and Research.** Lecture 3 hours; 3 credits. This course is designed to provide students with the basic skills necessary to identify, to access and to utilize task



appropriate information. Students will learn to evaluate information sources and to apply good research strategies. The course will address qualitative, quantitative, visual and auditory data sources along with the ethical use of data and respect for intellectual property. Focus will be given to research topics in various fields including business, humanities, social science and technology.

**IT 201. Introduction to Information Systems.** Lecture and discussion 3 hours; 3 credits. An introduction to the major hardware/software components of computer-based information systems. Additional topics include databases, networks, and telecommunications. Intended as an introductory course for Information Systems majors.

**IT 210. Business Applications with C++.** Lecture and discussion 3 hours; 3 credits. An introductory course on programming using C++ that emphasizes top down design and documentation representative of business needs and requirements. Topics include simple data types, input/output streams, control structures and logical expressions, functions, arrays, records, and pointers.

**IT 310. GUI Programming with C++.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 210 or CS 150 with a C or better (grade requirement may be waived by the department) and a declared major in the university or permission of the Dean's Office of the CBPA. An advanced C++ programming course focusing on object-oriented design/methodologies and the development of Graphic User Interfaces (GUI) for business applications. Special topics include: dynamic variables, linked lists, abstract data types, classes, inheritance, composition, exception handling, templates, and overloading.

**IT 317. Principles of Technology Architecture.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 201 with a C or better (grade requirement may be waived by the department), MATH 162M and a declared major in the university or permission of the Dean's Office of the CBPA. A comprehensive treatment of information theory, computer architecture, processor implementation and data communications.

**IT 325. Web Site and Web Page Design.** Lecture and discussion 3 hours; 3 credits. Prerequisites: completion of general education information literacy requirement and a declared major in the university or permission of the Dean's Office of the CBPA. Advanced design and implementation strategies are utilized to create dynamic e-commerce applications. Key concepts include: web page design, graphic composition, scripting languages, animation and Internet security.

**IT 360T. Principles of Information Technology.** Lecture and discussion 3 hours; 3 credits. Prerequisite: completion of general education information literacy and research requirement and junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. A survey of computer hardware, software, procedures, applications, and management information concepts. Provides an understanding of the application of the computer to the support of managerial decision making. Information Systems majors may not use this course for credit toward the B.S.B.A. degree.

**IT 361. Systems Analysis.** Lecture and discussion 3 hours; 3 credits. Prerequisites: ACCT 201, IT 201 and 210, each with a C or better (grade

requirement may be waived by the department) and a declared major in the university or permission of the Dean's Office of the CBPA. Introduction to the Systems Development Life Cycle (SCLC) from an information systems project perspective. Emphasis is placed on the planning and analysis functions performed during information systems project work. The student will be introduced to tools and techniques utilized in development of system models representing modern business activities. Computer-Aided Systems Engineering (CASE) tools will be employed to create process and data-driven versions of these models.

**IT 367. Cooperative Education.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**IT 368. Student Internship.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**IT 369. Practicum.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department and Career Management in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**IT 372. COBOL and Applications.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 310 and a declared major in the university or permission of the Dean's Office of the CBPA. Introduction to the COBOL programming language and its application in industry and government.

**IT 410. Computer-Based Decision Models with SAS.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 210 or CS 150, DSCI 206, DSCI 306, and a declared major in the university or permission of the Dean's Office of the CBPA. Computer applications, probability, decision theory, inventory control, and statistical analysis.

**IT 415. Business Telecommunications and Networks.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310, 361, and a declared major in the university or permission of the Dean's Office of the CBPA. Telecommunications, hardware, software, transmission facilities and methods, industry general structure of network design, implementation, and management. Emphasis on state-of-art technology and current business environments.

**IT 416. Network Server Configuration and Administration.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 415 and a declared major in the university or permission of the Dean's Office of the CBPA. Advanced course on configuration and management of network servers. Topics include: user and storage management, ACLs, group policy, configuring security, backups and disaster recovery, and server management.

**IT 417. Management of Information Security.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 415 and a declared major in the university or permission of the Dean's Office of the CBPA. This course emphasizes the need for

management and technology to successfully implement an information security program in an organization. Threats, attacks, legal and ethical issues, risk assessment and control strategies; planning, development, and maintenance of security policies; contingency planning; firewalls, intrusion detection systems and security tools; and management of information security are some of the topics covered in this course.

**IT 420. Object-Oriented Application Development Using Visual Basic.Net.** Lecture and discussion 3 hours; 3 credits. Prerequisites: CS 250 or IT 310 and a declared major in the university or permission of the Dean's Office of the CBPA. Advanced design and implementation strategies are utilized to create dynamic client/server applications. Key concepts include: abstractions, encapsulation, inheritance, polymorphism, persistence, and dynamic binding.

**IT 425. Information Systems for International Business.** Lecture and discussion 3 hours; 3 credits. Prerequisites: The general education impact of technology requirement, a declared major in the university, or permission of the department. The international business organization and its relationship to information systems architecture with emphasis on the role of connectivity technology as a driver of globalization. An introduction to the economics and structure of the international information technology marketplace.

**IT 430/530. Object-Oriented Programming with JAVA.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 310 or CS 250, and a declared major in the university or permission of the Dean's Office of the CBPA. An introduction to JAVA as an object-oriented language used to write JAVA applets and applications. Business examples incorporating multimedia, multithreading, networking, and advanced graphical interfaces are used to reinforce the object-oriented concepts of abstraction, encapsulation, inheritance, polymorphism, persistence, and dynamic binding.

**IT 450. Database Concepts.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310 and 361 and a declared major in the university or permission of the Dean's Office of the CBPA. Introduction to database concepts. Historical development, data models, database analysis, design and implementation, query languages, data security, and introduction to business transaction systems.

**IT 451. Database Administration.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 450 and a declared major in the university or permission of the Dean's Office of the CBPA. Provides the conceptual framework for database architecture and database administration. Topics include: physical database structure, object management, and control of user access.

**IT 453. Database Deployment and Performance Tuning.** Lecture and discussion 3 hours; 3 credits. Prerequisite: IT 451 and a declared major in the university or permission of the Dean's Office of the CBPA. Examines techniques and methodologies that are used to insure the deployment of efficient, secure, and high-performance database applications.

**IT 461. Implementing Internet Applications.** Lecture and discussion 3 hours; 3 credits. Prerequisite: CS 250 or IT 310, and a declared major in the university or permission of the Dean's Office of the CBPA. Advanced design and implementation strategies are utilized to create dynamic e-commerce applications. Key concepts

include: Internet architecture, structured data languages, scripting languages, programming languages, database connectivity, and Internet security.

**IT 464. Project Management in Information Systems.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310 and 361, and a declared major in the university or permission of the Dean's Office of the CBPA. This course focuses on project management techniques and methodologies that can be adopted to Information Technology software and systems projects.

**IT 473. Systems Design and Implementation.** Lecture and discussion 3 hours; 3 credits. Prerequisites: IT 317 with a C or better; IT 310 and 361 and a declared major in the university or permission of the Dean's Office of the CBPA. A case-study-based presentation of system life cycle phases subsequent to systems analysis. The student will utilize Computer-Aided Systems Engineering (CASE) tools to design logical and physical models to define business requirements. Factors relevant to the creation of business information systems through development and implementation will be examined in detail. Topical issues examined include: CASE-based methodologies, project management, feasibility analysis, database design, on-line system design, prototyping, development/testing strategies, and implementation/training strategies. Students, potentially working in teams, are expected to apply these design strategies to industry case studies, resulting in new and comprehensive system designs, the results of which will be delivered in formal presentation fashion in a classroom setting. (qualifies as a CAP experience)

**IT 474. Strategic IT Administration.** Lecture 3 hours; 3 credits. Prerequisite: IT 361 and a declared major in the university or permission of the Dean's Office of the CBPA. Focuses on improving business use of existing IT and achieving competitive advantage. All students gain a strategic perspective on an important organizational resource – information. Plus, it will prepare IT students for managerial positions and effective communication with executives.

**IT 495. Selected Topics in Information Systems.** 3 credits. Prerequisite: permission of the department. Taught on an occasional basis. See the course schedule for the particular topic being taught each semester.

**IT 497. Independent Study in Information Systems.** 1-3 credits. Prerequisite: permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

#### **Operations Management — OPMT**

**OPMT 303. Operations Management.** Lecture 3 hours; 3 credits. Prerequisites: DSCI 206 or STAT 130M, and a declared major in the university or permission of the Dean's Office of the CBPA. Examines strategic, tactical and operational issues in the planning and control of manufacturing and service delivery systems. This course examines such topics as process design, capacity and materials planning and control, inventory management, facility layout, quality and work management.

**OPMT 367. Cooperative Education.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits is determined by the department and Career Management in the

semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**OPMT 368. Student Internship.** 1-3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits is determined by the department and Career Management in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**OPMT 369. Practicum.** 1-3 credits. Prerequisites: OPMT 303, junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits are determined by the department CAP adviser and the Career Management Center in the semester prior to enrollment. Student participation in a professional work experience. Available for pass/fail grading only. (qualifies as a CAP experience)

**OPMT 495. Selected Topics in Operations Management.** 3 credits. Prerequisite: senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Selected advanced topics in operations management. Taught on an occasional basis. See the course schedule for the particular topic being taught each semester.

**OPMT 497. Independent Study in Operations Management.** 1-3 credits. Prerequisite: permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

#### **Instructional Design and Technology — IDT**

**IDT 475/575. Web Development for Educators.** Lecture 3 hours; 3 credits. Prerequisite: senior standing/graduate standing. Provides both a conceptual framework and hands-on experience in the design and development of online web resources for educators. The course introduces the student to the various uses and features of online tools and technologies, investigates online learning strategies, and explores best practices in the use of the web to enhance learning. Topics include fundamentals of web authoring; screen design, use of web page creation tools, and functional use of HTML and derivatives.

#### **Interdisciplinary Studies — IDS**

**IDS 300W. Interdisciplinary Theory and Concepts.** Lecture and discussion 3 hours; 3 credits. Corequisites: ENGL 211C, 221C or 231C. Prerequisite: ENGL 110C. An examination of the history, concepts and application of interdisciplinary study. This course includes an analysis of similarities and differences in academic disciplines and the application of interdisciplinary approaches to a specific topic of study. (This is a writing intensive course.)

**IDS 368. Internship in Interdisciplinary Studies.** 1-3 credits. Prerequisite: junior standing and permission of Individualized Interdisciplinary Studies program coordinator. An opportunity to integrate service and applied learning experience with interdisciplinary perspectives.

**IDS 493. IDS Electronic Portfolio Project.** 3 credits. Prerequisites: IDS 300W and senior standing. The preparation of an electronic portfolio integrating the student's academic study, work experiences, skill identification and work

products. Alternative formats are used for varying uses of the portfolio.

**IDS 495. Topics in Integrative Studies.** Lecture 3 hours; 3 credits. Prerequisite: IDS 300W. Focused study of selected topics linking perspectives, research and applications from a variety of disciplines. Emphasis is on disciplinary synthesis.

**IDS 497. IDS Individualized Senior Project.** A total of 3 or 6 credits over one or two semesters. Prerequisites: IDS 300W, permission of the instructor and an approved IDS curriculum plan. This course is a vehicle for the execution of the senior project requirement of the Interdisciplinary Studies Program.

#### **International Business — INBU**

**INBU 367. Cooperative Education.** 1-3 credits. May be repeated for credit. Prerequisites: permission of international business coordinator and Career Management Center, and a declared major in the university or permission of the Dean's Office of the CBPA. Supervised experience in the international business work place requiring written statement of objectives and evaluation of experience. Pass/fail grading only. (qualifies as a CAP experience)

**INBU 368. Internship in International Business.** 1-3 credits. Prerequisites: permission of international business coordinator and Career Management Center, and a declared major in the university or permission of the Dean's Office of the CBPA. Supervised experience in the international business work place requiring written statement of objectives and evaluation of experience. Pass/fail grading only. (qualifies as a CAP experience)

**INBU 431. Doing Business in Europe.** Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. A survey course to provide an overview of the contemporary business environment in Europe, with a focus on the European Union. Topics will include an examination of the social, political, and economic forces which affect business in Europe.

**INBU 432. Doing Business in Latin America.** Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. A survey to provide an overview of the contemporary business environment in Latin America. Topics will include an examination of the social, political and economic forces which affect business in Latin America.

**INBU 433. Doing Business in Asia.** Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, FIN 323, and MKTG 311 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. An analysis of business practices in Asia. Emphasis will be on business, government relations, business strategy, structure, organizational processes, and human resource management.

**INBU 434. International Trade Field Study.** Lecture 3 hours; 3 credits. Prerequisites: ECON 450, MKTG 411, FIN 435 or MGMT 361, or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. An applied field research study to develop an export trade plan which involves market analysis, risk analysis, financing

and distribution decisions in overseas markets. (qualifies as a CAP experience)

**INBU 450. International Business Operations.** Lecture 3 hours; 3 credits. Prerequisites: ECON 450, MKTG 411, FIN 435 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA. Lecture, discussion and case studies. A capstone course to integrate and apply the theories and concepts learned in required international business courses to the operations of international business organizations.

**INBU 463. International Business Seminar Abroad.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. A study tour abroad arranged in cooperation with a foreign university, including lectures on international business topics and visits to international firms and economic/business organizations. Written work required.

**INBU 495, 496. Topics in International Business.** Lecture and discussion 3 hours; 1-3 credits. Prerequisite: permission of the international business coordinator and a declared major in the university or permission of the Dean's Office of the CBPA. A study of selected topics, the title of which will appear in the course schedule.

**INBU 497. Independent Study in International Business.** 1-3 credit hours. Prerequisite: permission of the department. Affords students the opportunity to undertake independent study under the direction of a faculty member.

## Jewish Studies — JST

**JST 497. Research Project in Jewish Studies.** 3 credits. Prerequisite: junior standing, 6 hours of course work in Jewish studies (to include PHIL 350), and approval of the director of Jewish Studies. Independent reading and study of a topic to be selected in consultation with the director. Research proposal conference, research meetings and research project are required.

## Management — MGMT

**MGMT 325. Contemporary Organizations and Management.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. The fundamentals of the managerial process (planning, organizing, leading and controlling) are considered in the context of 21<sup>st</sup> century organizations. Topics are almost evenly split between macro and micro perspectives

**MGMT 340. Human Resources Management.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. A study of the functional duties associated with personnel/human resource administration. Topics include human resource planning, selection, performance appraisal, training, discipline, wage and salary, occupational safety and health, equal employment opportunity, and labor relations.

**MGMT 350. Employee Relations Problems and Practices.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Examines personnel topics such as absenteeism, substance

abuse, theft, gambling and counseling problem employees. Policies and practices used by organizations to anticipate and resolve these problems are explored and evaluated.

**MGMT 360. Labor Management Relations.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MGMT 340 and a declared major in the university or permission of the Dean's Office of the CBPA. A contextual study of the trade union movement—its development, structure and processes. Emphasizes the impact of union organization on management practice and effectiveness in both private and public sector organizations.

**MGMT 361. International Business Operations.** Lecture and discussion 3 hours; 3 credits. Prerequisites: FIN 323, MKTG 311 and MGMT 325, and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of the environment of multinational business, foreign trade, and the operation of multinational enterprises. Management, marketing, accounting, and financial problems unique to enterprises operating in varying economic, cultural, and political legal environments are investigated. This course includes a CAP experience. International business majors may not take MGMT 361 for credit. (qualifies as a CAP experience)

**MGMT 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisites: MGMT 325 and approval by the department and Career Management, in accordance with the policy for granting credit for cooperative education programs, and a declared major in the university or permission of the Dean's Office of the CBPA. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**MGMT 368. Management Internship.** 1-3 credits. Prerequisite: MGMT 325 and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credits is determined by the department and the Career Management Center in the semester prior to enrollment. Available for pass/fail grading only. (qualifies as a CAP experience)

**MGMT 369. Management Practicum.** 1-3 credits. Prerequisite: MGMT 325 and a declared major in the university or permission of the Dean's Office of the CBPA; transfer students must have completed one semester at Old Dominion University. Approval for enrollment is determined by the Management CAP advisor and the Career Management Center in the semester prior to enrollment. Student will participate in a relevant work setting. (qualifies as a CAP experience)

**MGMT 413/513. Compensation Management.** Lecture and discussion 3 hours; 3 credits. Prerequisite: senior standing and MGMT 340 or 602 and a declared major in the university or permission of the Dean's Office of the CBPA. A study of wage theory, practice and problems. Topics include compensation theory, job analysis, job evaluation, wage surveys, incentive plans, benefit programs and special features of compensation for sales, managerial, professional, and public employees.

**MGMT 417/517. Employment Law.** Lecture and discussion 3 hours; 3 credits. Prerequisite: MGMT 325 or 602 and a declared major in the university or permission of the Dean's Office of

the CBPA. An analysis of how the federal and state governments may regulate the employer-employee relationship. Topics include labor relations law, equal employment opportunity law, other current statutory employment law and common law employment issues.

**MGMT 418. Advanced Human Resources Management: Contemporary Issues.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MGMT 325 and 340 and a declared major in the university or permission of the Dean's Office of the CBPA. An in-depth analysis of current issues and concerns within human resources management. The course will focus on specific issues and problems associated with the law and equal employment opportunity, employee selection, training and development, performance management/appraisal, and compensation. Methods of instruction include cases, exercises and PC applications.

**MGMT 426. Entrepreneurship: New Ventures Creation.** Lecture 3 hours; 3 credits. Prerequisites: MGMT 325, MKTG 311, and ACCT 201, and a declared major in the university or permission of the Dean's Office of the CBPA. A study of the essential elements leading to entrepreneurial and intrapreneurial success with emphasis on the creation, structure and management of new ventures. A recommended elective for business students.

**MGMT 427. Business and Society.** Lecture 3 hours; 3 credits. Prerequisites: 3 hours of ACCT and 3 hours of ECON, and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of the relationship between business (usually the individual firm, but occasionally a group of firms in an industry or a set of headline-makers in different industries) and society (an individual, group of people, the general public, or government entity representing the interests of this individual or group or the public). Emphasizes stakeholders and ethics. The course material is both philosophical and practical for executives and informative and practical for citizens.

**MGMT 451. Organizational Behavior.** Lecture and discussion 3 hours; 3 credits. Prerequisites: senior standing and MGMT 325 and a declared major in the university or permission of the Dean's Office of the CBPA. An interdisciplinary approach to the study of interpersonal relationships and problems encountered in managing employees. Topics include motivation, conflict, group behavior, and leadership.

**MGMT 452/552. Organization Development.** Lecture and discussion 3 hours; 3 credits. Prerequisites: MGMT 325 and 451 or 602 senior standing and a declared major in the university or permission of the Dean's Office of the CBPA. Applications of organizational development theory and processes. Topics include OD Theory, role of change agent, intervention processes, the consulting process, and design and implementation of OD change programs.

**MGMT 462. Comparative International Management.** Lecture and discussion 3 hours; 3 credits. Prerequisites: senior standing and MGMT 325 and a declared major in the university or permission of the Dean's Office of the CBPA. The course examines organizational structure and functioning from cross-cultural and cross-national perspectives. Compares how management practices differ from one society to another. Comparisons are made between the U.S., Western

Europe, Japan, the USSR, China, and the Third World nations.

**MGMT 463/563. Management Seminar Abroad.** Lecture and discussion 3 hours; 3 credits. Prerequisite: permission of the chief departmental advisor and a declared major in the university or permission of the Dean's Office of the CBPA. A study tour abroad under the direction of a faculty member including on-site visits and management lectures designed to provide insight into differences in management practices in foreign countries. Offered summers only and when available.

**MGMT 485W. Business Policy and Strategy.** Lecture and discussion 3 hours; 3 credits. Corequisite: OPMT 303. Prerequisites: senior standing, FIN 323, MGMT 325, MKTG 311, and a declared major in the university or permission of the Dean's Office of the CBPA. Strategic management addresses the concerns of the high level executive or general manager who must use a perspective that is qualitatively different from that of the lower-level functional manager or operations manager. Strategic decisions cut across functional lines. Whereas other courses focus on competency at a functional level (Are we doing things right?), this course deals with the overall effectiveness of the total organization (Are we doing the right things?). (This is a writing intensive course.)

**MGMT 495. Selected Topics in Management.** 3 credits. Prerequisite: permission of the chief departmental advisor/graduate program director. Designed to provide advanced students in management an opportunity to study administration in highly specialized areas under the guidance of a faculty member.

**MGMT 497. Independent Study in Management.** 3 credits. Prerequisite: permission of the chief departmental advisor, and a declared major in the university or permission of the Dean's Office of the CBPA. Designed to provide advanced students in management an opportunity for independent study of selected areas under the guidance of a faculty member.

## Maritime and Supply Chain Management — MSCM

**MSCM 368. Maritime and Supply Chain Internship.** 1-3 credits. Prerequisites: MSCM 370 and 441, and a declared major in the university or permission of the Dean's Office of the CBPA. Approval for enrollment and allowable credit is determined by the Decision Sciences CAP advisor and the Career Management Center in the semester prior to enrollment. (qualifies as a CAP experience)

**MSCM 370. International Shipping.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The course examines international freight transportation and terms for movement of international trade. It discusses processes and concepts involved in international ocean and intermodal transportation. It shows how shipping companies enter into foreign markets and participate in international trade. It also covers operational issues such as payment, commercial documents, insurance; customs and clearance; shipping organizations and societies, and shipping law.

**MSCM 430/530. Strategic Sourcing and Purchasing Management.** Lecture 3 hours; 3 credits. Prerequisites: ACCT 202, DSCI 206, OPMT 303 and a declared major in the university or permission of the Dean's Office of the CBPA

for 430 and ACCT 601 and OPMT 611 for 530. An overview of the strategic sourcing of materials and services in the organization and its role in the supply chain. Topics include sourcing decisions, price/cost analysis, quality issues, purchasing, supplier selection, legal and ethical issues, third party logistics, freight forwarding, and acquisition of services and capital assets.

**MSCM 441. Supply Chain Management and Logistics.** Lecture 3 hours; 3 credits. Prerequisites: DSCI 306, OPMT 303, and a declared major in the university or permission of the Dean's Office of the CBPA. Supply chain management integrates all activities associated with the flow of materials and information from product start to customers. Examples include order processing, warehousing, inventory management, transportation and logistics, and the costs and information systems supporting these activities. Particular application is made to global logistics systems supporting port and maritime activities. Supply chain relationships can be improved through effective integration of management and via such technologies as the World Wide Web, electronic data exchange, and enterprise resource planning (ERP). (cross-listed with DSCI 441)

**MSCM 471. Shipping Management.** Lecture 3 hours; 3 credits. Prerequisite: MSCM 370 and a declared major in the university or permission of the Dean's Office of the CBPA. Examines the management of freight shipping organizations involved in the transport of cargo by ship. Key topics are managing ships and ship space; shipping markets, operations, costs, investment, insurance, claims, and regulation; and ship types, cargoes, safety, flagging, pollution, and chartering and purchase.

**MSCM 472. Port Management.** Lecture 3 hours; 3 credits. Prerequisite: MSCM 370 and a declared major in the university or permission of the Dean's Office of the CBPA. Examines the management of seaports in the movement of cargo throughput. It presents concepts related to design, organization, administration, and operation of ports. It discusses issues involved in planning, investment, communication systems, congestion, pollution, safety, security; intermodal transportation; water and land accessibility; and port competition and cooperation to improve customer service.

**MSCM 495/595. Topics in Maritime and Supply Chain Management.** 3 credits. Prerequisite: permission of the instructor and a declared major in the university or permission of the Dean's Office of the CBPA. A study of selected topics within maritime and supply chain management designed to provide an in-depth exploration of current issues.

**MSCM 497. Independent Study.** 3 credits. Prerequisite: permission of the department and a declared major in the university or permission of the Dean's Office of the CBPA. Affords students the opportunity to undertake independent study under the direction of a faculty member.

## Marketing — MKTG

**MKTG 311. Marketing Principles and Problems.** Lecture and discussion 3 hours; 3 credits. Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. The design, distribution, pricing, and promotion of goods, services, people, places, and causes. Course examines both national and international markets

and includes an introduction to the legal and ethical constraints on marketing.

**MKTG 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisites: C or better in MKTG 311 (or equivalent) and approval by the instructor and Career Management Center in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**MKTG 368. Marketing Internship.** 3 credits. Prerequisites: C or better in MKTG 311 (or equivalent) and approval of instructor. Student completes a relevant marketing experience in the marketplace after submitting a job description, learning objectives, and task accomplishments. (qualifies as a CAP experience)

**MKTG 369. Practicum.** 1-3 credits. Prerequisites: C or better in MKTG 311 (or equivalent) and approval of instructor. (qualifies as a CAP experience)

**MKTG 402. Consumer Behavior.** Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. The effects of personality, motivation, perception, learning, attitudes, cultural and social influence and lifestyle on buying situations and how knowledge of these factors enables the marketer to better meet the needs of the marketplace.

**MKTG 403. Advertising Strategy.** Lecture, discussion, cases, individual and group projects 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of those advertising and promotional strategies directed toward the consumers of goods and services with emphasis on planning and executing an effective campaign to achieve meaningful goals.

**MKTG 404. Sales Management.** Lecture, discussion, individual and group projects 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. Material focuses on quantitative and qualitative goal setting; management, control and evaluation of the sales program; selecting, training, motivating, and evaluating the sales force.

**MKTG 406. Public Relations.** Lecture and discussion 3 hours; 3 credits. For nonbusiness as well as business majors. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. Development and application of a philosophy of business expressed in governmental, corporate, social or educational institutions in furthering their public image.

**MKTG 407. Marketing Research.** Lecture, discussion, and projects 3 hours; 3 credits. Prerequisites: C or better in MKTG 311 and MKTG 402, DSCI 306 and a declared major in the university or permission of the Dean's Office of the CBPA. Emphasis is given to the development of a strong theoretical base in the systematic selection, collection, and interpretation of marketing information leading to sound policies and strategies. Students are required to carry out a group project involving a marketing problem (or opportunity) for a company or involving a real

market situation. The project will satisfy the practicum experience requirement of the College (CAP). (qualifies as a CAP experience)

**MKTG 411. Multi-National Marketing.** Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of the operational and cross-cultural aspects of international marketing, including the nature of competition, developmental marketing structures and channels, price and credit policies, promotional methods, trade barriers, and international arrangements.

**MKTG 412. Retail Marketing.** Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. This course will introduce students to a broad range of topics within the field of retailing: retailing strategy, targeting of customers, gathering of information, identifying and understanding customers, choosing a store location, managing a retail business, merchandise management and planning, and communication with the customer. The approach will combine both theory and practical application.

**MKTG 414. Ethics and Social Issues in Administration.** Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. An examination of the ethical and social problems confronting administrators and personnel in dealing with discrimination in employment practices, credit and financing, advertising, warranties and guarantees, packaging and labeling, and environmental problems.

**MKTG 416. Professional Selling and Negotiations.** Lecture, discussion, and cases 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. Examines the role of the professional salesperson in a market-oriented organization. Presentation skills are studied in the context of interpersonal negotiations.

**MKTG 428. Marketing of Services.** Lecture and discussion 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 (or equivalent) and a declared major in the university or permission of the Dean's Office of the CBPA. This course examines the applications of the conceptual framework of marketing within the service business context. The course will focus on the characteristics of the service environment as well as important considerations in the service marketing mix.

**MKTG 450. Marketing on the Internet.** Lecture, discussion, and cases 3 hours; 3 credits. Prerequisite: C or better in MKTG 311 and a declared major in the university or permission of the Dean's Office of the CBPA. This course examines the use of the Internet as a unique channel for marketing to consumers and businesses. It focuses on Internet marketing strategies, online strategic implementation, and the integration between companies' online and offline marketing efforts.

**MKTG 490. Marketing Policy and Strategy.** Lecture, discussion, and cases 3 hours; 3 credits. Prerequisites: marketing major, senior standing, MKTG 402, 407, plus two additional marketing courses. A capstone course covering the marketing function and its relationship to the total business organization and its environment. Emphasis is

placed upon the design of total marketing systems, strategies, and the design and production of new products and services.

**MKTG 496. Selected Topics in Marketing.** 3 credits. Prerequisites: marketing major, senior standing or permission of instructor. Designed to provide advanced students in marketing an opportunity to study, independently or in small groups, selected areas of marketing under the guidance of a faculty member.

## Mathematics and Statistics

### Mathematics — MATH

**MATH 101M. An Introduction to Mathematics for Critical Thinking.** Lecture 3 hours; 3 credits. Prerequisite: This course fulfills the math general education requirement for some majors in the College of Arts and Letters and the College of Education. It can also be used as a preparation for STAT 130M. An introduction to the ways in which modern mathematics can be used to analyze the modern world and make logical decisions. Topics include problem solving, sets, logic, consumer mathematics (loans, mortgages, annuities), and elementary statistics.

**MATH 102M. College Algebra.** Lecture 3 hours; 3 credits. Prerequisite: This course fulfills the math general education requirement and can be used as a preparation for MATH 162M. MATH 101M is not a prerequisite for MATH 102M. Not open to students with credit for MATH 162M. A basic course in algebra which emphasizes applications and problem-solving skills. Topics include solution and graphing of equations and inequalities, the algebra of rational expressions, and systems of linear equations.

**MATH 162M. Precalculus I.** Lecture 3 hours; 3 credits. Prerequisite: qualifying score on SAT or ACT, or qualifying score on a placement test administered by the University Testing Center or a grade of C or better in MATH 102M. The first course in a two-course sequence designed to provide a strong preparation for calculus. Topics include algebraic operations, equations and inequalities, graphs and functions, polynomial functions, theory of equations, systems of equations, exponential functions, and logarithmic functions.

**MATH 163. Precalculus II.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: A grade of C or better in MATH 162M. The second course in a two-course sequence designed to provide strong preparation for calculus. Topics include exponential and logarithmic functions/equations, trigonometric functions/equations, trigonometric identities, laws of sines and cosines, vectors, polar representation of complex numbers, binomial theorem, and conic sections.

**MATH 166. Precalculus I and II.** Lecture 4 hours; 4 credits. Prerequisites: A grade of C or better in MATH 102M. A one-semester precalculus course covering the topics of MATH 162M and MATH 163 at an accelerated pace. Not available to students with credit in MATH 163.

**MATH 200. Calculus for Business and Economics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 162M. The derivative and optimization, exponential functions and growth, and integration with applications to future value and consumer's and producer's surplus.

**MATH 211. Calculus I.** Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisites: A grade of C or better in MATH 163 or MATH 166. A first

course in calculus and analytic geometry. Topics include differentiation and integration of algebraic and transcendental functions of one variable and applications.

**MATH 212. Calculus II.** Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisite: A grade of C or better in MATH 211. A second course in calculus and analytic geometry. Topics include techniques of integration, polar coordinates, infinite series, solid geometry, vectors, lines and planes.

**MATH 226. Honors: Calculus I.** Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisites: A grade of C or better in MATH 163 or 166. Open only to students in the Honors College. A special honors version of MATH 211.

**MATH 280. Transfer Credit for Ordinary Differential Equations.** 3 credits. This course is a VCCS transfer credit vehicle. Students who have earned transferable credit in MATH 279 or 291 at any member institution of the VCCS will be granted credit for MATH 280. The course will not be offered for credit by Old Dominion University. Cannot be used to substitute for MATH 307 for MATH majors or minors.

**MATH 285. Transfer Credit for Calculus III.** 4 credits. This course is a VCCS transfer credit vehicle. Students who have earned transferable credit for MATH 275 or 277 at any member institution of the VCCS will be granted credit for MATH 285. The course will not be offered for credit by Old Dominion University. Cannot be used to substitute for MATH 312 for MATH majors or minors.

**MATH 295. Topics in Mathematics.** 1-5 credits. Prerequisite: departmental permission.

**MATH 300. Number Systems.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 102M or 162M. Sets and systems of numbers, prime, integer, rational, irrational, real, complex and their properties. Representation of numbers. Divisibility, congruence, modular arithmetic, elementary number theory and symbolic logic. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

**MATH 302. Geometry.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 102M or 162M. Elementary plane and solid Euclidean geometry with proofs and applications. Topics include angles, triangles, congruence, quadrilaterals, circles, similarity, perimeter, area, volume, polygons, plane and solid constructions. Geometer's Sketchpad software used to discover geometric properties. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

**MATH 305. Discrete Math.** Lecture 3 hours; 3 credits. Prerequisite: MATH 102M or 162M. Topics: Vectors and matrices, linear programming, operations on sets, combinatorics, permutations, combinations, elementary probability, logic, relations and functions, induction, graphs and trees, applications. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

**MATH 307. Ordinary Differential Equations.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 212. Topics include first order differential equations and systems, second and higher order linear equations, solution by series and Laplace transform, and applications.

**MATH 311W. Abstract Algebra.** Lecture 3 hours; 3 credits. Prerequisite: MATH 212 or departmental permission. Topics include introduction to logic and methods of proof; sets,

relations, and functions; elementary group and ring theory. (This is a writing intensive course.)

**MATH 312. Calculus III.** Lecture 4 hours; laboratory 1 hour; 4 credits. Prerequisite: A grade of C or better in MATH 212. A third course in calculus and analytic geometry. Topics include vector functions, partial derivatives, multiple integrals and an introduction to vector analysis.

**MATH 316. Introductory Linear Algebra.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 212. An introduction to linear algebra. Topics include matrices, vectors, vector spaces, linear transformations, eigenvalues and eigenvectors.

**MATH 317. Calculus IV: Introductory Analysis.** Lecture 3 hours; recitation 1 hour; 3 credits. Prerequisite: A grade of C or better in MATH 212. An introduction to real analysis. Topics covered include completeness and topological properties of real line, theory of sequences, limits of functions, continuity, differentiability, Fundamental Theorem of calculus, Leibniz's rule.

**MATH 335. Number Systems and Discrete Mathematics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 102M or 162M. Estimation and other applications to real world problems, using elementary principles of algebra, geometry, number theory, number systems, and discrete mathematics. (May not be used to satisfy the upper-division elective requirement of the math majors program.)

**MATH 367. Cooperative Education.** 1-3 credits ( may be repeated for credit). Prerequisite: approval by the department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**MATH 369. Practicum.** 1-3 credits. (qualifies as a CAP experience)

**MATH 395. Topics in Mathematics.** 1-3 credits. Prerequisite: departmental permission.

**MATH 399. Putnam Exam Problems and Related Topics.** Lecture 1 hour; 1 credit. Prerequisite: A grade of C or better in MATH 212. This course is designed to help students prepare for the Putnam Exam - an annual national mathematical competition. Problems from previous Putnam Exams and materials related to the solution of such problems will be considered.

**MATH 400/500. History of Mathematics.** Lecture 3 hours; 3 credits. Prerequisite: MATH 311W or 316 or 317. This course considers some of the major events in the development of mathematics from ancient times through the seventeenth century, including the discovery of incommensurability, the origins of the axiomatic method, trigonometry, solution of equations, calculation of areas and volumes, analytic geometry, probability, and calculus. Students will be graded on tests which consist mostly of problems typical of the periods considered.

**MATH 401/501. Partial Differential Equations.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in MATH 307 and 312. Not available to students with credit in MATH 691. Separation of variable techniques, Sturm-Liouville systems, generalized Fourier series, orthogonal functions of the trigonometric,

Legendre and Bessel type boundary value problems associated with the wave equation and the heat conduction equation in various coordinate systems, applications to physics and engineering.

**MATH 404/504. Fundamental Concepts of Geometry.** Lecture 3 hours; 3 credits. Prerequisite: MATH 311W. The fundamentals of projective, Euclidean and non-Euclidean geometry are explored by the synthetic method and the algebraic method.

**MATH 406/506. Number Theory and Discrete Mathematics.** Lecture 3 hours; 3 credits. Prerequisites: MATH 311W and 316. A survey course. Topics include the prime number theorem, congruences, Diophantine equations, continued fractions, quadratic reciprocity, combinatorics, logic, graphics, trees, algorithms, coding and linear programming.

**MATH 408/508. Applied Numerical Methods I.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in MATH 316. CS 150 or equivalent programming ability also required. An introduction to the numerical methods commonly used by scientists and engineers. Topics include solutions of equations of one variable, direct methods for solving linear systems, matrix factorization, stability analysis, iterative techniques, polynomial interpolation, numerical differentiation and integration, approximation theory, and initial and boundary value problems for ordinary differential equations.

**MATH 409/509. Applied Numerical Methods II.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in MATH 408/508. Topics include least squares problems, the QR factorization, the conjugate gradient method, Householder transformation and the QR method for approximating eigenvalues and singular values of a matrix. For applications, the finite difference method and the finite element method for solving partial differential equations, trigonometric interpolation and FFT as well as introductory study of optimization are discussed.

**MATH 417/517, 418/518. Intermediate Real Analysis I and II.** Lecture 3 hours; 3 credits each semester. Prerequisite: A grade of C or better in MATH 317. 417/517 is prerequisite to 418/518. A rigorous course in classical real analysis. Topics include the topology of Euclidean  $n$ -space, properties of vector valued functions of several variables such as limits, continuity, differentiability and integrability, pointwise and uniform convergence of sequences and series of functions; Fourier series.

**MATH 420/520. Applied Mathematics I: Biomathematics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 307. An introduction to current developments in the mathematical investigation of biological problems. Topics include scaling systems of differential equations, stability, perturbation methods, bifurcation phenomena and wave propagation. Applications are chosen from interacting populations, transport and reaction diffusion kinetics, transmission of nerve impulses, and cardiovascular modeling.

**MATH 421/521. Applied Mathematics II: Mathematical Modeling.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in MATH 307, 312, 316, and 317. A one semester course in formulating, evaluating and validating mathematical models of physical phenomena. Models of traffic flow, mechanical vibrations, combustion, quantum mechanics, wave propagation or other fields of applied mathematics will be examined. Techniques learned in previous

courses are used to simplify, analyze and solve these models. New methods introduced include phase-plane analysis, characteristics, calculus of variations and perturbation methods.

**MATH 422/522. Applied Complex Variables.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 312. Not available to students with credit in MATH 692. Topics include complex numbers, analytical functions and their properties, derivatives, integrals, series representations, residues and conformal mappings. Applications of the calculus of residues and mapping techniques to the solution of boundary value problems in physics and engineering.

**MATH 427/527. Applied Mathematics III: Elasticity.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in MATH 307 and 312. An introduction to the mathematical theory of linear and non-linear elastic continua. Topics include vectors, tensors, deformation, stress, nonlinear constitutive theory, exact solutions, infinitesimal theory, antiplane strain, plane strain, plane stress, extension, torsion, bending and elastic wave propagation.

**MATH 428/528. Applied Mathematics IV: Fluid Mechanics.** Lecture 3 hours; 3 credits. Corequisite: MATH 401/501. Prerequisites: A grade of C or better in MATH 307 and 312. A mathematical investigation of the differential equations governing fluid flow with an emphasis on steady state incompressible flows. The Navier-Stokes equations are derived and some exact solutions are presented including the potential flow solutions. Topics therefore include classical ideal fluid flow and its complex variable representation, various approximations to the Navier-Stokes equations, boundary layer theory, and also surface and internal gravity wave motion, aspects of hydrodynamic stability theory and convection. Other topics may be introduced by the instructor.

**MATH 457/557. Mathematics in Nature.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 307. A calculus and differential equations based description of many patterns observable in the natural world including wave motion in the air, oceans, rivers, and puddles; rainbows, halos and other meteorological phenomena; arrangement of leaves, petals and branches; height of trees; river meanders; animal and insect markings; mudcracks; spider webs; and others. Partial differential equations will be discussed as needed but a knowledge of ordinary differential equations will be assumed.

**MATH 496/596. Topics in Mathematics.** 1-3 credits. Prerequisite: permission of the instructor.

**MATH 498/598. Tutorial Work in Special Topics in Mathematics.** 1-3 credits. Prerequisite: permission of the instructor. Independent study under the direction of an instructor including library research and reports.

## Statistics - STAT

**STAT 130M. Elementary Statistics.** Lecture 3 hours; 3 credits. Prerequisite: qualifying score on a placement test administered by the University Testing Center, qualifying SAT or ACT score, a C or better in MATH 101M, or a higher level math course. Topics include: data description, elementary probability, binomial and normal distributions, interval estimation, hypothesis testing, and correlation. The role of probability in inference is emphasized.

**STAT 306. Introductory Statistics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 102M or 162M. A general

probability and statistics course designed specifically to accommodate the needs of school teachers and health professionals. Topics include: descriptive statistics, basic probability, discrete random variables, continuous random variables, interval estimation, regression and correlation, hypothesis testing, and applications. (May not be used to satisfy the upper-division elective requirement of the math major program.)

**STAT 310. Introductory Data Analysis.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 130M or MATH 211. Topics include measures of location, dispersion, and strength of relationship; parametric and nonparametric tests of location; one-way analysis of variance; complete block designs; simple and multiple regression; correlation; measures of association for categorical data. Microsoft EXCEL will be used extensively as an aid in data analysis. Written interpretation of results will be a routine component of daily assignments.

**STAT 330. An Introduction to Probability and Statistics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 211. Topics include: descriptive statistics, probability theory and probability distributions, mathematical expectation and its role in decision making, hypothesis testing, point and interval estimation, numerous applications. (Not open to students with credit in STAT 331.)

**STAT 331. Theory of Probability.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in MATH 211. An introduction to probability theory including probability functions, continuous and discrete random variables, combinatorics, special probability distributions, moment generating functions, and limit laws.

**STAT 405/505. Introduction to Data Handling.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 130M or equivalent, and a grade of C or better in MATH 316 or equivalent, or permission of the instructor. Use of SAS and R to handle data sets. Topics for SAS include data input, creating permanent data sets, merging data sets, creating new variables, sorting, printing, charting, formatting, IML programming, macro programming, and an overview of proc SQL and other statistical procedures. Topics for R include data structure, control structure, writing functions, and graphics.

**STAT 431/531. Theory of Statistics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 331 or departmental permission. Topics include point and interval estimation, tests of hypotheses, introduction to linear models, likelihood techniques, and regression and correlation analysis.

**STAT 432/532. Sampling Theory.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 431/531. Sampling from finite populations is discussed. Topics such as simple random sampling, stratified random sampling and ratio and regression estimation are included. Also discussed are aspects of systematic sampling, cluster sampling, and multi-stage sampling.

**STAT 435/535. Design and Analysis of Experiments.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 330 or 310-331 or 431/531. Suggested corequisite: STAT 405/505. Topics include experiments with a single factor, multiple comparisons, randomized blocks, Latin squares, incomplete block designs, multifactor factorial experiments, fractional replications, nested designs, experiments to study variance: random and mixed effects, and split plot designs.

**STAT 437/537. Applied Regression Analysis.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 330 or 310 or 431/531. Suggested corequisite: STAT 405/505. Topics include theory of least squares, simple linear regression, multiple regression (including its matrix formulation), applications of these techniques to real life data, residual analysis, selection of variables, multicollinearity issues, regression on dummy variables, and analysis of covariance.

**STAT 440/540. Clinical Trials.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 431/531. An introduction to statistical methods used in the design, conduct, and analysis of clinical trials. Topics include: study designs, treatment allocation, sample size and power, clinical life tables, log rank test, cross-over designs, and sequential methods of monitoring clinical trials.

**STAT 442/542. Environmental Statistics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 310 or 431 or permission of the instructor. Although not a prerequisite, the preferred background is STAT 437/537. Topics include nonlinear and generalized linear models, quantitative risk assessment, analysis of stimulus-response and spatially correlated data, methods of combining data from several independent studies. Regression settings are emphasized where one or more predictor variables are used to make inferences on an outcome variable of interest. Applications include modeling growth inhibition of organisms exposed to environmental toxins, spatial associations of like species, risk estimation, and spatial prediction. SAS is used extensively in the course.

**STAT 447/547. Analysis of Longitudinal Data.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 431/531. Suggested corequisite: STAT 405/505. Topics include general linear models, weighted least squares (WLS), maximum likelihood (ML), restricted maximum likelihood (REML) methods of estimation, analysis of continuous response repeated measures data, parametric models for covariance structure, generalized estimating equations (GEE) and quasi least squares (QLS), models for discrete longitudinal data: marginal, random effects, and transition models. Limitations of existing approaches will be discussed. Emphasis will be on the application of these tools to data related to the biological and health sciences. Methods will be implemented using statistical software.

**STAT 449/549. Nonparametric Statistics.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 330 or 331 or departmental permission. Topics include the theory and applications of binomial tests and rank tests, including the tests of McNemar, Mann-Whitney, Friedman, Kruskal-Wallis, and Smirnov.

**STAT 450/550. Categorical Data Analysis.** Lecture 3 hours; 3 credits. Prerequisite: A grade of C or better in STAT 431/531. Suggested corequisite: STAT 405/505. Topics include relative risk and odds ratio measures for  $2 \times 2$  tables, the chi-square and Mantel-Haenszel tests, Fisher's exact test, analysis of sets of  $2 \times 2$  tables using Cochran-Mantel-Haenszel methodology, analysis of  $I \times J$  and sets of  $I \times J$  tables for both nominal and ordinal data, logistic regression including the logit and probit models, and building and applying loglinear models. Emphasis will be on the application of these statistical tools to data

related to the health and social sciences. Interpretation of computer output will be stressed.

**STAT 460/560. Statistical Simulation/Programming Using Statistical Software Packages.** Lecture 3 hours; 3 credits. Prerequisites: A grade of C or better in STAT 405/505 and two of STAT 435/535, 437/537, 447/547 and 450/550. This course is a data-based tour of advanced statistical techniques using software packages, exploring a catalog of data sets (simulated or otherwise) spanning a variety of fields and applications, including data suitable for regression, ANOVA, time series modeling, longitudinal data analysis and multivariate techniques. Approaches will include parametric, nonparametric, simulation, and bootstrapping. SAS and R (S-plus) will be used extensively, with some other specialized products. For writing actual (not packaged) code, PROC IML and R will be used. This is a finishing course for applied statisticians, highly recommended for students planning a career in statistical programming and simulation.

**STAT 497/597. Topics in Statistics.** 1-3 credits. Prerequisite: permission of the instructor.

## Mechanical and Aerospace Engineering — MAE

**MAE 111. Information Literacy and Research.** Lecture 2 hours; 2 credits. Corequisite: MATH 163. Prerequisite: ENGN 110. This course will introduce students to the needs, access, evaluation, use, impact and ethical/legal aspects of information, and to the application of information literacy and research in the fields of mechanical and aerospace engineering.

**MAE 201. Materials Science.** Lecture 3 hours; 3 credits. Prerequisite: MATH 211. Principles of materials science with emphasis on the relationship between structure and properties and their control through composition and processing. Metals, polymers, ceramics, and composite materials are considered.

**MAE 203. Mechanical Engineering Laboratory I - Materials Science.** Laboratory 2 hours; 1 credit. Corequisites: MAE 201 and CS 150. This laboratory involves experiments demonstrating lecture material covered in the ME 201 course.

**MAE 204. Engineering Mechanics I - Statics.** Lecture 3 hours; 3 credits. Corequisite: PHYS 231N. Prerequisite: a grade of C or better in MATH 211. Introduction to mechanical engineering problems and their solutions through the study of statics of particles and rigid bodies. Emphasis will be placed on the relationship of the static loads with the mechanical properties of the materials being considered. Introduction to the concepts of stress and strain and internal forces as applied to static bodies.

**MAE 205. Dynamics.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MAE 204 or CEE 204. Corequisite: MATH 212. Introduction to engineering problems and their solutions through a study of the dynamics of particles and rigid bodies. General force systems are studied including friction.

**MAE 220. Engineering Mechanics II - Solid Mechanics.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MAE 204 or CEE 204. Introduction to concepts of stress, strain and their relation to each other. Stress and strain in axially loaded members and circular rods and tubes subjected to torsion. Normal and shear stress in beams under bending loads. Additional topics

include bending deflection, transformation of stress and strain, Mohr's circles, statically indeterminate problems, combined stress and thin walled pressure vessels.

**MAE 225. Mechanical Engineering Laboratory II - Solid Mechanics.** Laboratory 2 hours; 1 credit. Prerequisite: CS 150. Corequisite: MAE 220. Experimental study of the mechanical behavior of materials under axial, bending and torsional loads. Measurements of elastic properties and strengths. Statistical treatment of data. Use of strain gauges. Experiments with composite materials and piezoelectric transducers. Use of data acquisition system. Experiments parallel lectures in MAE 220.

**MAE 303. Mechanics of Fluids.** Lecture 3 hours; 3 credits. Prerequisites: MATH 307, 312, a grade of C or better in MAE 205. Corequisites: MAE 305 and 311. Fundamental concepts, fluid statics, basic equations in integral form, open-channel flow, Bernoulli's equation, dimensional analysis and similitude, incompressible viscous flow, pipe friction, boundary layers, introduction to differential analysis.

**MAE 305. Mechanical Engineering Laboratory III - Thermo/Fluids.** Laboratory 2 hours; 1 credit. Corequisites: MAE 303 and 311. An introduction to thermo-fluid experimentation and measurement; basic flow phenomena demonstrated; measurement techniques for flow temperature, pressure and properties; report writing and data reduction methods, including statistical treatment of data; formal oral reports.

**MAE 311. Thermodynamics I.** Lecture 3 hours; 3 credits. Prerequisite: MATH 312. Corequisites: MAE 303, 305. Essential definitions of thermodynamics, first law, physical properties, ideal and real gases, second law, reversibility, irreversibility and consequences of thermodynamic cycles.

**MAE 312. Thermodynamics II.** Lecture 3 hours; 3 credits. Prerequisites: MATH 307, a grade of C or better in MAE 303, and a grade of C or better in MAE 311. Concepts and principles dealing with thermodynamic cycles, relations and generalized charts, mixtures of fluids, chemical reactions, chemical and phase equilibrium, thermodynamic aspects of fluid flow; introduction to compressible flow, isentropic and normal shock wave relations.

**MAE 315. Heat and Mass Transfer.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 303 and a grade of C or better in MAE 311. Fundamental laws of heat transfer by conduction, convection, and radiation; boundary-layer concepts; simultaneous heat, mass, and momentum transfer.

**MAE 332. Mechanical Engineering Design I.** Lecture 3 hours; 3 credits. Prerequisites: MAE 201, a grade of C or better in MAE 205, and a grade of C or better in MAE 220; and MET 120. Corequisite: MAE 225. Introduction to machine design including review of stress and deflection analysis. Statistical considerations in design, strength of mechanical elements with emphasis on theories of failure and fatigue design, design of mechanical elements such as screws, fasteners, connections, welded joints, and flexible mechanical elements.

**MAE 340. Computational Methods in Mechanical Engineering.** Lecture 3 hours; 3 credits. Prerequisites: CS 150, MATH 307 and 312. A survey of modern computing techniques for mechanical engineers. Numerical algorithms are presented to solve practical problems in

mechanical engineering as found in solid mechanics, fluid mechanics, dynamics, and heat transfer. Emphasis is on providing computational experience in applied numerical methods using computers. Topics include roots of equations, simultaneous equations, differentiation, integration, regression analysis, interpolation and differential equations. Analysis, understanding, and quantification of computational errors are included in all topics and applications.

**MAE 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**MAE 368. Internship.** 1-3 credits (may be repeated for credit). Prerequisite: approval by department and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**MAE 369. Practicum.** 1-3 credits. Prerequisite: approval by department and Career Management. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students an opportunity to gain short duration career-related experience. (qualifies as a CAP experience)

**MAE 403/503. Flight Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: MAE 406 and 436. Aircraft concepts including performance prediction and optimization, flight and maneuver envelopes, and steady flight performance. Additional topics: longitudinal static stability and trim; aircraft dynamics; development, separation and solution of aircraft equations of motion; natural modes; dynamic stability; sensors and actuators; and design of stability augmentation and autopilot systems.

**MAE 404/504. Vibrations.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 205, and a grade of C or better in MAE 220; MAE 340 and MATH 312. Free and forced vibrations of undamped and damped, single-degree of freedom, multi-degree of freedom, and continuous systems. Exact and approximate methods to find natural frequencies.

**MAE 406/506. Flight Vehicle Aerodynamics.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 303; MAE 312 and MAE 340. Inviscid flow concepts including: Euler equations, stream function, velocity potential, singularities, vorticity and circulation laws. Viscous flow topics including boundary layers, separation, and turbulent flow. In addition, external flows, lift and drag, thin airfoil theory, finite wing theory and airfoil design will be discussed.

**MAE 407/507. Ground Vehicle Aerodynamics.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in MAE 303 or MET 330 or CEE 330. Review of basic fluid mechanics principles pertaining to the incompressible flow of air. Introduction to bluff body aerodynamics, production and performance (race car) automotive aerodynamics, as well as truck and bus aerodynamics. Discussion of experimental and computational methods for

evaluating vehicle aerodynamic performance. Discussion of the optimization of high performance vehicle design for low drag and/or high downforce and the facilities and techniques required. Introduction to the aerodynamics of other surface vehicles such as sailboats and trains. Lecture and wind tunnel experiments.

**MAE 411/511. Mechanical Engineering Power Systems Theory and Design.** Lecture 3 hours; 3 credits. Prerequisites: MAE 312 and 315. Thermodynamic properties of gases and vapors relating to power generating devices, work-energy relations, combustion, and heat exchangers. Performance analyses and design concepts of gas turbines, internal combustion engines, steam power plants and heat exchanger equipment from theoretical and applied viewpoints.

**MAE 412/512. Environmental Control.** Lecture 3 hours; 3 credits. Prerequisites: MAE 312 and 315. Engineering principles as applied to the analysis and design of systems for automatically controlling man or machine environments. Course encompasses fundamentals of heating, ventilating, air conditioning, refrigeration, cryogenics, and design of building energy systems.

**MAE 413/513. Energy Conversion.** Lecture 3 hours; 3 credits. Prerequisite: MAE 312. Introduction of relevant kinetic theory, solid state, and thermodynamic principles; operation and analysis of thermoelectric, photovoltaic, thermionic, magnetohydrodynamic devices, fuel cell, isotopic, and solar power generators. Course seeks to define engineering limits of converter efficiency and other performance criteria.

**MAE 414/514. Introduction to Gas Dynamics.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 303 and a grade of C or better in MAE 311. One-dimensional compressible flow considering isentropic flow, normal shocks, flow in constant area ducts with friction, flow in ducts with heating and cooling, oblique shocks, Prandtl-Meyer expansions, shock-expansion theory, flow around diamond shaped airfoils, and wind tunnel mechanics.

**MAE 417/517. Propulsion Systems.** Lecture 3 hours; 3 credits. Prerequisite: MAE 312 or 414. Basic principles of design, operation and performance of propulsion systems - including turbojet, turboprop, turbofan, and ramjet engines. Introduction to chemical rockets, ion and plasma thrusters.

**MAE 420/520. Aerospace Structures.** Lecture 3 hours; 3 credits. Prerequisite: MAE 332. Analysis of aircraft and space vehicle structural components. Effects of bending, torsion and shear on typical aerospace structural components, statically indeterminate beams, shear center and shear flow. Introduction to typical aerospace structures. Introduction to composite structures.

**MAE 422/522. Modern Engineering Materials.** Lecture 3 hours; 3 credits. Prerequisites: MAE 201, 203, a grade of C or better in MAE 220; MAE 332. Limitations of conventional materials; inter-relationship among materials, design and processing, material selection criteria and procedures; strengthening mechanisms in metals; superelasticity; shape memory effect, amorphous metals; structure-property relationship in polymers; polymers crystallinity; thermoplastic and thermosets; high-temperature restraint polymers; ceramics; toughening mechanisms in ceramics.

**MAE 430. Solar Thermal Engineering.** Lecture 3 hours; 3 credits. Prerequisites: MAE



312 and 315. Basic solar radiation processes on earth are followed by engineering analysis of collectors, energy storage methods, space heating and cooling application, systems design and dynamic simulation.

**MAE 431/531. Mechanisms Analysis and Design.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 205; MAE 332 and MATH 312. Basic relations necessary for analysis of plane motion mechanisms, numerical and analytical solutions for some of the basic mechanisms, methods of calculating rolling and sliding velocities and accelerations of contacting bodies, cams, and gears.

**MAE 433. Mechanical Engineering Design II.** Lecture 3 hours; 3 credits. Prerequisites: MAE 332 and senior standing. Kinematic analysis, force analysis, and design of spur, helical, worm, and bevel gears. Antifriction bearings, lubrication and journal bearings, shaft design, mechanical spring design, design of clutches, brakes and couplings.

**MAE 434. Project Design and Management I.** Lecture 3 hours; 3 credits. Prerequisite: ME 332. This course prepares students to complete their design projects in MAE 435W. Lecture topics include engineering economics; project planning; costing and risk analysis; and product realization techniques. Course involves written and oral presentations for students to improve communication and teamwork skills. (qualifies as a CAP experience) (This is a writing intensive course.)

**MAE 435W. Project Design and Management II.** Lecture 3 hours; 3 credits. Prerequisite: MAE 434. Conceptual design ideas are expanded into detailed design ideas. Product realization is applied to complete hardware. Course covers Gantt charts, preliminary design, evaluation and trading matrices, detailed design and analysis, oral and technical reporting including cost analysis. Ethics and patent issues are also included. (qualifies as a CAP experience)

**MAE 436. Dynamic Systems and Control.** Lecture 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 205; MATH 307 and 312. Analysis and synthesis of feedback systems; functional description of dynamic systems; basic controllers; sensitivity, stability and error analysis; transient and steady-state response using computational techniques, root locus and frequency response methods; state-space analysis of control systems.

**MAE 438/538. Applied Analog and Digital Control.** Lecture 3 hours; 3 credits. Prerequisite: MAE 436, ECE 461 or equivalent. Computer-aided analysis and design of practical control systems. Introduction to state-space, digital signal processing, and digital control. Laboratory sessions on aliasing, analog control, system identification, and real-time control.

**MAE 440/540. Introduction to Finite Element Analysis.** Lecture 3 hours; 3 credits. Prerequisites: MAE 315, 332, and 340. Basic concepts of finite-element method, method of weighted residuals, interpolation functions, numerical implementation of finite-element method, applications to engineering problems such as beam deflection, heat conduction, and plane elastic problems.

**MAE 441. Computer-Aided Design of Mechanical Systems.** Lecture 1.5 hours; laboratory 3 hours; 3 credits. Corequisite: MAE 332. Prerequisites: CS 150, a grade of C or better in MAE 220; MATH 312. Case studies are used to introduce students to CAD software; design processes involving modeling, analysis and design,

and verification. Typical case studies are beam and plate designs, turbine blade design, and pipe networks. Advanced topics include: thermal stress analysis and plates and shells.

**MAE 450/550. Principles of Naval Architecture.** Lecture 3 hours; 3 credits. Prerequisite: MATH 212. Basic principles of naval architecture related to ship geometry, stability, strength, resistance, propulsion, vibration and motions in waves and controllability.

**MAE 457/557. Motorsports Vehicle Dynamics.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: a grade of C or better in MAE 205; MATH 307. Basic mechanics governing vehicle dynamic performance. Analytical methods in vehicle dynamics. Laboratory consists of various vehicle dynamics tests on model vehicles and full-size racecars.

**MAE 460/560. Introduction to Space Systems Engineering.** Lecture 3 hours; 3 credits. Prerequisites: MATH 307 and PHYS 232N. Introduction to spacecraft systems starting from mission design and space environment considerations and proceeding through propulsion, attitude control, spacecraft structural design, thermal control, power and communications for spacecraft.

**MAE 467/567. Racecar Performance.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: MAE 407/507 and 457/557. On-track performance of typical racecars (Legends and Baby Grand) to demonstrate and evaluate the interplay between vehicle aerodynamics, suspension system geometry adjustments, tire selection and operating pressure on overall racecar performance and handling. Laboratory testing via on-board instrumentation during skid pad and road course evaluation; computer simulation to investigate various car set-ups.

**MAE 472/572. Statistical Foundations for Experimenters.** Lecture 3 hours; 3 credits. Prerequisite: MATH 311. Introduction to applied statistics for engineers and experimenters. Descriptive statistics for data analysis, introduction to probability, frequency distributions and sampling. Hypothesis testing and confidence intervals of one and two sample problems. ANOVA, one-factor experimental designs, fixed and random effects, multiple comparisons, correlation and regression analysis, control charts. Application to aerospace testing.

**MAE 477/577. High Performance Piston Engines.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites MAE 312, 315 or MET 300, 350. A study of the fundamental principles and performance characteristics of spark ignition and diesel internal combustion engines. Overview of engine types and their operation, engine design and operating parameters; ideal and semi-empirical models of engine cycles; combustion, fluid flow and thermal considerations in engine design and performance. Laboratory evaluation of engine performance using flow and dynamometer systems. (cross-listed with MET 480)

**MAE 483. Bio-micro/Nanofluidics.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisite: junior standing. This course is intended for biology and engineering students interested in learning the basics of micro/nanofluidics technology and its application to problems in biology research. Students will learn fundamentals of DNA manipulation, including polymerase chain reaction, and will then learn how to fabricate "lab-on-a-chip" devices to perform these techniques. (cross-listed with BIOL 483)

**MAE 495/595. Topics in Mechanical and Aerospace Engineering.** 1-3 credits. Prerequisite: senior standing; permission of the chair is required. Special topics with emphasis placed on recent developments in mechanical and aerospace engineering or engineering mechanics.

**MAE 497/597. Independent Study in Mechanical and Aerospace Engineering.** 1-3 credits. Prerequisite: senior standing; permission of the chair is required. Individual analytical, computational, and/or experimental study in an area selected by student. Supervised and approved by the advisor.

## Mechanical Engineering Technology — See Engineering Technology

## Medical Laboratory and Radiation Sciences—MLRS

**MLRS 400/500. Principles of Molecular Pathology and Clinical Diagnostics.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250, 251; CHEM 211, 212 or permission of instructor. Basic concepts of molecular pathology & clinical diagnostics including nucleic acids, DNA replication, transcription, proteins, mutations & chromosome changes that underlie inherited & acquired/infectious disease, inheritance patterns & genetics as applied to oncology, cardiac disease & organ transplants. Covers emerging molecular/cytologic/histologic methods (amplification, hybridization & microarrays) to detect disease markers, monitor therapy & assess identity; pharmacogenomics & legal/ethical issues of genetic testing.

## Medical Technology — MEDT

**MEDT 210. Orientation to Medical Technology.** Lecture 1 hour; 1 credit. An introduction to the profession of medical technology. Professional, ethical and operational issues will be discussed.

**MEDT 307. Clinical Methods in Microbiology.** Laboratory 4 hours; 2 credits. Corequisite: MEDT 308. Laboratory techniques in the diagnosis of clinically relevant microorganisms.

**MEDT 308. Clinical Microbiology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, 116N; CHEM 211 is recommended or permission of the instructor. A fundamental course in microbiology which includes bacterial growth, synthesis, differentiation, microbial nutrition and metabolism.

**MEDT 309. Medical Bacteriology.** Lecture 3 hours; 3 credits. Prerequisites: MEDT 307, 308. A comprehensive survey of bacteria, including colonial morphology, cultural characteristics, biochemical identification, pathogenicity, epidemiology, and treatment.

**MEDT 310. Urinalysis and Body Fluids.** Laboratory 3 hours; 1 credit. Prerequisites: BIOL 250, 251 or permission of the instructor. Corequisite: MEDT 313. A study of the chemical, physical and microscopic analysis of human urine and other body fluids, with abnormal results interpreted and correlated to disease processes.

**MEDT 311. Hematology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250, 251 or permission of the instructor. The study of the principles of the formation and development of blood, including the interpretation of normal and

abnormal blood morphology and diagnostic procedures in the investigation of hematological disorders.

**MEDT 312. Hematology Laboratory.** Laboratory 3 hours; 1 credit. Corequisite: MEDT 311. Laboratory methods utilizing procedures in the diagnosis and investigation of hematological disorders.

**MEDT 313. Diagnostic Methods in Urinalysis.** Laboratory 3 hours; 1 credit. Prerequisite: BIOL 250 or equivalent. Corequisite: MEDT 310. Laboratory experience in the chemical, physical, and microscopic examination of the urine with emphasis on quality control, osmometry, and disease correlates.

**MEDT 315. Clinical Laboratory Diagnosis.** Lecture 3 hours; 3 credits. Prerequisite: students must be graduates of a clinical laboratory training program. An introduction to clinical diagnostic principles utilized in immunology, serology, and hemostasis.

**MEDT 319. Medical Bacteriology Methods.** Laboratory 4 hours; 2 credits. Corequisite: MEDT 309. Laboratory methods emphasizing isolation, identification and media requirements for pathogenic microorganisms.

**MEDT 320. Blood Collection Techniques.** Lecture 1 hour; laboratory 3 hours; 2 credits. Prerequisite: BIOL 250 or equivalent or permission of the instructor. Laboratory methods in the procurement of blood by capillary, venipuncture and arterial draws, analytical variables, special phlebotomy tests, isolation techniques, safety, forensic, molecular, legal and ethical implications, pediatric, geriatric, and compromised patient concerns. All students must submit to venipuncture by fellow students.

**MEDT 322. Phlebotomy Internship.** 2 credits. Prerequisite: MEDT 320. A 120-hour clinical internship for non-majors desiring to qualify for the ASCP certification exam.

**MEDT 324. Clinical Instrumentation and Electronics.** Lecture 3 hours; 3 credits. Prerequisites: CHEM 211 or 321, MATH 102M or permission of the instructor. Corequisite: MEDT 325. A course covering the theory, operation, selection, maintenance and quality control of instruments in the clinical laboratory. Some instruments discussed include spectrophotometers, flame photometry, atomic absorption, fluorometry, gas and liquid chromatography, mass spectroscopy, chemiluminescence, immunochemical and nephelometric methods, electrophoresis, radiation detection and dosimetry, osmometry, electrochemistry and applications to molecular diagnostic testing. Statistical applications of data analysis of both instrument and method comparisons, trouble shooting and quality control in the clinical lab.

**MEDT 325. Clinical Instrumentation Methods.** Laboratory 3 hours; 1 credit. Prerequisites: MATH 102M, CHEM 121N, 122N, 123N, 124N, 211. Corequisite: MEDT 324. A laboratory course designed for students entering the clinical laboratory field. The course includes the instrumental and data processing techniques required for the clinical analysis of body fluids as well as applied statistical techniques to the interpretation of laboratory data. Lab to include molecular diagnostic testing, comparison studies, quality control, calibration, maintenance, and trouble shooting of clinical chemistry analytes.

**MEDT 326. Immunohematology.** Lecture 3 hours; 3 credits. Prerequisites: MEDT 311, 330, 331, BIOL 250, 251 or permission of the instructor. The study of the identification of blood

group antigens and antibodies, standard testing procedures, decision criteria for component selection, and regulations of blood banks and transfusion services.

**MEDT 327. Hemostasis.** Lecture 1 hour; laboratory 2 hours; 1 credit. Prerequisites: MEDT 311, 312 or permission of the instructor. The study of the fundamentals of hemostasis, emphasizing principles, evaluation techniques, and diagnostic applications. Class meets the first 7 weeks of the semester.

**MEDT 328. Medical Parasitology, Mycology, and Virology.** Lecture 1 hour; 1 credit. Prerequisites: MEDT 307, 308 or permission of the instructor. A study of the medically important parasites, fungi and viruses and their medical significance.

**MEDT 330. Clinical Immunology/Serology.** Lecture 2 hours; 2 credits. Prerequisites: BIOL 115N and 250-251 or permission of the instructor. The study of the body's immune response, its cellular and non-cellular components, in-vitro manifestations, diagnostic techniques and interpretations related to the investigation and diagnosis of disease states.

**MEDT 331. Clinical Immunology/Serology Laboratory.** Laboratory 2 hours; 1 credit. Corequisite: MEDT 330. Laboratory methods emphasizing in-vitro antigen and antibody reactions used to identify infectious and non-infectious disorders.

**MEDT 336. Immunohematology Laboratory.** Laboratory 3 hours; 1 credit. Corequisite: MEDT 326. Laboratory methods emphasizing procedures identifying blood group antigens and antibodies needed in making transfusion-related decisions.

**MEDT 337. Advanced Hematology.** Lecture 1 hour; laboratory 2 hours; 1 credit. Prerequisites: MEDT 311, 312 or permission of the instructor. The study of blood cells in blood and body fluids, morphologic identification and correlation of laboratory data in order to identify specific disease states. Class meets the second 7 weeks of the semester.

**MEDT 339. Parasitology, Mycology Laboratory.** Laboratory 2 hours; 1 credit. Corequisite: MEDT 328 or 340. Laboratory methods emphasizing the identification of medically relevant parasites and fungi.

**MEDT 340. Medical Parasitology, Mycology, Virology.** 1 credit. Prerequisites: MEDT 307, 308 or permission of the instructor. A study of the medically important parasites, fungi, and viruses, and their medical significance.

**MEDT 350. Urinalysis.** 1 credit. Prerequisites: BIOL 250, 251 or permission of the instructor. A study of the chemical, physical and microscopic analysis of human urine, with abnormal results interpreted and correlated to disease processes. Restricted to distance education program students.

**MEDT 351. Clinical Biochemistry.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250, 251, CHEM 211-212, or permission of the instructor. An introduction to the applications of biochemistry and clinical testing in the diagnosis of human disease. Practice given in the interpretation of laboratory data in the areas of carbohydrate, protein, lipid, genetic disorders, liver, renal, pancreatic, G.I., enzymatic, and cardiac testing, also enzyme kinetics, electrolytes, acid base physiology, tumor markers, endocrinology, pharmacokinetics, therapeutic drug monitoring, and molecular diagnostics. Special emphasis on

specimen collecting pre- and post-analytical variables and case studies.

**MEDT 401. General Pathology.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 250 and 251 or equivalent. This course is an overview of general disease processes and causes in the human. All body systems will be covered including respiratory, gastrointestinal, circulatory, nervous, reproductive, and urinary. Aging, dietary, and stress factors will be discussed in the disease process. Bacteria, fungi, and viruses will be discussed in general and for each body system. Neoplasms will be covered for each body site. This course will be of benefit to anyone interested in diseases of the human body or entering the medical field. (cross listed with CYTO 404)

**MEDT 403W/503. Management in the Clinical Setting.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course concerned with organization and management in the clinical setting including personnel supervision, planning, equipment justification, quality assurance, data processing, budgeting, fiscal techniques, marketing, regulatory agencies, educational methodologies, current issues, as well as legal and ethical considerations. (This is a writing intensive course.)

**MEDT 404. Clinical Hematology Practicum.** 4 credits. Prerequisites: MEDT 311, 312, 327, 337, and permission of the program director. Direct clinical experience offered in automated and manual hematology procedures used in distinguishing blood dyscrasias and coagulation abnormalities. (qualifies as a CAP experience)

**MEDT 406. Clinical Microbiology Practicum.** 5 credits. Prerequisites: MEDT 308, 309, and permission of the program director. Direct clinical experience offered in isolating and identifying human pathogens such as bacteria, fungi, and parasites from various clinical specimens. (qualifies as a CAP experience)

**MEDT 440/540. Statistical Applications and Data Analysis in the Clinical Laboratory.** Lecture 3 hours; 3 credits. Prerequisite: STAT 130M. Topics include review of basic statistics used in the laboratory; use of statistics for quality control, reference range determination, method comparisons, test utility assessment, techniques for searching the literature and assessing quality and applicability of published studies; and data organization and retrieval via queries. Students will perform projects, preferably using actual laboratory data, that relate to lecture topics.

**MEDT 441. Clinical Hematology Competencies.** 1 credit. Prerequisites: MEDT 311, 315. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of hematology.

**MEDT 442. Clinical Microbiology Competencies.** 1 credit. Prerequisite: MEDT 309. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of clinical microbiology.

**MEDT 443. Clinical Chemistry Competencies.** 1 credit. Prerequisites: MEDT 324, 351. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of clinical chemistry.

**MEDT 444. Clinical Blood Bank Competencies.** 1 credit. Prerequisites: MEDT 315, 326. Demonstration of stated clinical laboratory competencies in an approved laboratory setting within the discipline of blood banking.

**MEDT 445. Advanced Clinical Practicum.** 3 credits. Prerequisite: MEDT 440 or approved research methods course; or permission of

instructor. A project-based advanced clinical experience for laboratory practitioners emphasizing enhancement of basic procedures and techniques and development of management, research, computer and educational skills, resulting in a written paper and oral presentation. (qualifies as a CAP experience)

**MEDT 452. Clinical Biochemistry Practicum.** 5 credits. Prerequisites: MEDT 324, 325, 351, and permission of the program director. Direct clinical experience offered in automated and manual clinical chemistry determinations with emphasis on the principles, instrumentation, interpretation, and diagnostic significance. (qualifies as a CAP experience)

**MEDT 454. Clinical Blood Bank Practicum.** 4 credits. Prerequisites: MEDT 311, 312, 326, 336, and permission of the program director. Direct clinical experience offered in the theories and principles of blood banking with emphasis on the instruction of technical procedures used in an AABB approved blood bank. (qualifies as a CAP experience)

**MEDT 457. Medical Technology Seminar.** 1 credit. Prerequisite: permission of the program director. Independent study in all the areas of the clinical laboratory, culminating in a comprehensive final exam in all areas of medical technology. Excellent review for certification exams.

**MEDT 458. Clinical Elective Practicum.** 1 credit. Prerequisite: permission of the program director. Directed internship in any clinical area of interest approved by the clinical instructor and program director. (qualifies as a CAP experience)

**MEDT 495. Special Topics in Medical Technology.** 1-3 credits. Prerequisite: permission of the program director. The advanced study of selected topics within the medical field.

**MEDT 497. Directed Study in Medical Technology.** 1-3 credits. Prerequisite: permission of the program director. Supervised experience in medical technology specialties, allowing students to pursue areas of interest under faculty direction.

**MEDT 498. Clinical Research Methods.** Lecture 3 hours; 3 credits. Prerequisite: STAT 130M or permission of the instructor. An introduction to clinical research methods to include sampling techniques, data collection and analysis, inferential statistics, multivariate analysis, hypothesis testing and research design. The student will be expected to develop a research proposal based upon a critical review of the literature.

## Middle Eastern Studies—MIDE

**MIDE 300. Perspectives on the Middle East.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course explores the Middle East from interdisciplinary perspectives.

**MIDE 395/495. Topics in Middle Eastern Studies.** 3 credits. Prerequisite: junior standing or permission of instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on topics of mutual interest which, due to their specialized nature, may not be offered regularly.

**MIDE 405. Communication and Culture in the Middle East.** Lecture 3 hours; 3 credits. Prerequisite: three hours of lower level social science. The course examines the tensions between modernity and tradition in the context of Middle East culture. Cultural variables to be studied include myths, religion, family structures, and the

use of science and technology. (cross-listed with COMM 405)

## Military Science and Leadership—MSL

Courses followed by a plus sign are designated for activity credit.

**MSL 101+. Introduction to ROTC.** Lecture/Lab 3 hours; 1 credit. Learn fundamental concepts of leadership in a profession in both classroom and outdoor laboratory environments. Examines organization, customs and courtesies of the Army and ROTC with emphasis on career opportunities for ROTC graduates. Studies the military profession, lifestyle, and historical growth development of the Army. Increase self-confidence through team study and activities in basic drill, physical fitness, rappelling, leadership reaction course, first aid, making presentations and basic marksmanship. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

**MSL 102+. Introduction to Leadership.** Lecture/Lab 3 hours; 1 credit. Prerequisite: MSL 101+ or 195, or departmental approval. Learn/apply principles of effective leadership. Reinforce self-confidence through participation in physically and mentally challenging exercises with upper-division ROTC students. Develop communication skills to improve individual performance and group interaction. Relate organizational ethical values to the effectiveness of a leader. Introduction to development of military tactical knowledge and technical skills. Students will gain a basic knowledge of land navigation, military geography and the use of maps and aerial photographs. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

**MSL 195/196. Independent Study of Selected Military Topics.** Lecture 1 hour; 1 credit. Prerequisite: departmental approval. A study of selected topics within military science designed to accommodate special cadet's educational and commissioning requirements. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

**MSL 201+. Leadership Skills II.** Lecture/Lab 3 hours; 1 credit. Prerequisite: MSL 101+/102+ or 195/196, or departmental approval. Course is designed to refine and continue to develop knowledge of basic military skills. Learn/apply ethics-based leadership skills that develop individual abilities and contribute to the building of effective teams of people. Develop skills in oral presentations, writing concisely, planning of events, coordination of group efforts, advanced first aid, land navigation and basic military tactics. Learn fundamentals of ROTC's Leadership Development Program. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

**MSL 202+. Foundations of the Military Profession.** Lecture/Lab 3 hours; 1 credit. Prerequisite: MSL 201+ or 295, or departmental approval. Continued development of leadership ability through active participation as junior leaders at the small unit level. Students are given increased leadership opportunities, which sharpen interpersonal communication skills and expand

capabilities for future advancement in a military career. Introduction to individual and team aspects of military tactics in small unit operations. Practical exercises with upper division ROTC students. Instruction will build on fundamentals of land navigation, individual soldier skill and rifle marksmanship. Participation in physical fitness program highly encouraged. Participation in one overnight adventure training exercise is highly encouraged.

**MSL 250+. Alternate Summer Training Program: Leaders Training Course (LTC).** 6 credits. Prerequisite: departmental approval. Course consists of five weeks of intensive and challenging military training at Fort Knox, Kentucky. Permits students to satisfy all requirements for entry into Advanced Course. Students are paid approximately \$650 (food, lodging, transportation provided).

**MSL 251+. Optional Summer Training Program: Airborne School.** 2 credits. Prerequisite: departmental approval. A three-week course conducted at Fort Benning, Georgia, which focuses on parachute operations, individual and group parachute jumps, equipment orientation, and physical training. Award of the Army Airborne Badge upon course completion. Travel, lodging and most meal costs are defrayed by the U.S. Army.

**MSL 252+. Optional Summer Training Program: Air Assault School.** 2 credits. Prerequisite: departmental approval. A two-week course conducted at various locations. Training in the techniques, skills and procedures used in air assault operations, including basic and advanced rappelling, helicopter rappelling, troop leader procedures, pathfinder techniques, and rigging and slingloading skills. Award of the Army Assault Badge upon course completion. Travel, lodging and most meal costs are defrayed by the U.S. Army.

**MSL 253+. Optional Summer Training Program: Northern Warfare Training.** 2 credits. Prerequisite: departmental approval. A junior leaders' course which emphasizes summer operations in northern areas. General subjects include glacier movement, military mountaineering, and inland waterway navigation. Travel, lodging and most meal costs are defrayed by the U.S. Army.

**MSL 295/296. Independent Study of Selected Military Topics.** Lecture/Lab 2 hours; 1 credit. Prerequisite: departmental approval. A study of selected topics within military science designed to accommodate special successful progression through military cadet educational and commissioning requirements. Participation in physical fitness program required. Participation in one overnight adventure training exercise is required.

**MSL 301. Advanced Leadership Skills.** Lecture 3 hours; 3 credits. Prerequisites: MSL 201+/202+, or 295/296, or 250+ or departmental approval. Corequisite: MSL 311+. Course teaches decision making and problem solving skills. Students learn to plan, direct and coordinate individual and group efforts toward task accomplishment. Field exercises afford practical opportunities for the students to apply instruction. Cadets are evaluated against 16 leadership dimensions, including decisiveness, delegation, influence, problem analysis, planning, technical competence, and communication.

**MSL 302. Applied Leadership.** Lecture 3 hours; 3 credits. Prerequisite: MSL 301 or 395. Corequisite: MSL 312+. Course presents increasingly intense and complex situations in

which students apply military skills and leadership to solve tactical problems. Students develop leadership proficiencies in all basic military technical and tactical skills, including basic rifle marksmanship, day and night land navigation, physical training, and small/large unit tactics. Field training exercises afford opportunities to apply military leadership and management skills. Cadets are evaluated using 16 leadership dimensions.

**MSL 311/+312+. Advanced Leadership Laboratory.** 1 credit. Corequisite: MSL 301/302. Practical application of individual and leadership skills in simulated tactical environments of increasing complexity and intensity. Includes weekend training in basic rifle marksmanship, day and night land navigation, and small unit tactics. Affords students opportunities to apply leadership skills to plan, direct, and coordinate the activities of others to accomplish a mission. Mandatory physical fitness training 3 times a week to build stamina and physical condition to lead from the front. Participation in one overnight adventure training exercise per semester is required.

**MSL 315+. Summer Training Program - Leader Development and Assessment Course (LDAC).** 6 credits. Prerequisites: MSL 301/302 or 395/396. A five-week summer camp conducted at Fort Lewis, Washington. The student will receive pay. Travel, lodging and most meal costs are defrayed by the U.S. Army. The camp environment is highly structured and demanding, stressing leadership at the small unit level under varying, challenging conditions. The leadership and skills evaluations at the camp weigh heavily in the subsequent selection process that determines the type of commission and job opportunities given to the student upon graduation from ROTC and the University.

**MSL 316+. ROTC Nurse Summer Training Program (NSTP).** 3 credits. Prerequisites: MSL 301/302 or 395/396. Consists of three weeks serving as a nurse in a U.S. Army medical treatment facility. Attended in conjunction with the Leader Development and Assessment Course. Travel, lodging and most meals are defrayed by the U.S. Army. Clinical environments are demanding, stressing leadership at small unit levels under varying conditions. Provides ROTC nursing students with progressive leadership experiences in a clinical nurse setting. Exposes student to responsibilities and expectations of an Army Nurse Corps Officer. An Active Duty Army Nurse Corps officer serves as the student's teacher, mentor, advisor and evaluator throughout the training program.

**MSL +317. Cadet Troop Leadership Training Program (CTLT).** 3 credit hours. Prerequisite: departmental approval. A two to four week training program designed to introduce junior officers to responsibilities of commissioned lieutenants. Stateside or overseas programs are available. Travel, lodging and most meals are defrayed by the U.S. Army.

**MSL 395, 396. Independent Study.** Lecture 3 hours; 3 credit hours. Prerequisite: departmental approval. A study of selected topics within military science designed to accommodate special cadet educational and commissioning requirements. Participation in a one-hour physical fitness session is mandatory.

**MSL 401. Military Leadership and Management.** Lecture 3 hours; 3 credits. Prerequisites: MSL 301/302, 395/396, or departmental approval. Corequisite: MSL 411+. Class teaches the Army's training management system, leadership theories, staff planning and coordination, and counseling skills.

Simultaneously, students in the course will assume leadership responsibilities in the ROTC battalion, affording practical opportunities to apply skills learned in the classroom. At the end of the semester, students will possess the fundamental skills, attributes, and abilities to operate as competent leaders in the cadet battalion and confidently shoulder the responsibilities entrusted to them.

**MSL 402. Officership.** Lecture 3 hours; 3 credits. Prerequisite: MSL 401 or departmental approval. Corequisite: MSL 412+. Final preparation for commissioning as a Lieutenant. Course emphasizes effective communications skills gained through individual presentations and by leading and influencing groups within the Cadet Battalion. Students also examine topics in military law and explore practical and ethical challenges of military leadership as they relate to personnel management, logistics, training, and operations. Students are the primary instructors and leaders within the Cadet Battalion.

**MSL 411/+412+. Senior Leadership Laboratory.** 1 credit. Corequisite: MSL 401/402. Practical application of individual and leadership skills in simulated tactical environments of increasing complexity and intensity. Includes weekend training in basic rifle marksmanship, day and night land navigation, and small unit tactics. Affords students opportunities to apply leadership skills to plan, direct, and coordinate the activities of others to accomplish a mission. Mandatory physical fitness training 3 times a week to build stamina and physical condition to lead from the front. Participation in one overnight adventure training exercise per semester is required.

**MSL 495/496. Independent Study.** Lecture 3 hours; 3 credits. Prerequisite: departmental approval. A study of selected topics within the military science program designed to accommodate special cadet education and commissioning requirements. Participation in a one-hour physical fitness session is mandatory.

## Modeling and Simulation — MSIM

**MSIM 111. Information Literacy and Research for Modeling and Simulation Engineers.** Lecture 2 hours; 2 credits. Prerequisite: ENGN 110. An introduction to methods and standards for locating and using information requirements; searching for, locating and evaluating information sources related to modeling and simulation; tools for managing, sharing, and presenting information; and ethical issues in the use of information. Students will complete exercises and research on topics involving information of interest to modeling and simulation engineers.

**MSIM 201. Introduction to Modeling and Simulation.** Lecture 3 hours; 3 credits. Prerequisites or corequisites: CS 150 and MATH 211. First course for Modeling and Simulation Engineering (M&SE) students. M&SE discipline surveyed at an overview level of detail. Topics include basic definitions, M&S paradigms and methodologies, applications, design processes, and human factors. Information literacy and research methods are addressed. Papers and oral presentations are required and allow the student to investigate different aspects of the discipline. The course provides a general conceptual framework for further M&SE studies.

**MSIM 205. Discrete Event Simulation.** Lecture 3 hours; 3 credits. Prerequisite: MSIM

201. Corequisites: STAT 330 and MSIM 281. An introduction to the fundamentals of modeling and simulation discrete-state, event-driven systems. Topics include basic simulation concepts and terms, queuing models for discrete event systems, structure of discrete event simulations, problem formulation specification, input data representation, output data analysis, verification and validation, and the design of simulation experiments.

**MSIM 281. Discrete Event Simulation Laboratory.** Laboratory 2 hours; 1 credit. Corequisite: MSIM 205. A laboratory course designed to provide a hands-on introduction to the development and application of discrete event simulation. Topics include an introduction to one or more discrete event simulation tools, common modeling constructs, data gathering and input data modeling, design of simulation experiments, output data analysis, and verification and validation. The design and implementation of a series of increasingly complex simulations of various discrete event systems are conducted. The laboratory is designed to accompany MSIM 205. Student written reports are required.

**MSIM 310. Systems Modeling.** Lecture 3 hours; 3 credits. Pre- or corequisite: MSIM 320. Prerequisites: CS 330 and MSIM 205. Students learn the skills necessary to develop models of systems in preparation for simulation. They are introduced to different modeling perspectives and how they affect the ability to simulate and to observe system behavior. Numerous modeling techniques and formalisms are introduced supporting both discrete and continuous systems. Modeling is also discussed as a language to communicate with subject matter experts to capture a system's behavior prior to simulation development.

**MSIM 320. Continuous Simulation.** Lecture 3 hours; 3 credits. Pre- or corequisite: PHYS 232N or PHYS 227N (honors version) Corequisite: MSIM 382. Prerequisites: MATH 307 (or MATH 280) and MSIM 201. An introduction to the fundamentals of modeling and simulating continuous-state, time-driven systems. Topics include differential equation representation of systems, formulation of state variable equations, numerical integration, and techniques for numerical solution of differential equations including the Taylor algorithm and the methods of Runge-Kutta. Application domains considered include physical and biological systems.

**MSIM 331. Simulation Software Design.** Lecture 3 hours; 3 credits. Corequisite: MSIM 383. Prerequisites: CS 330, CS 381 and MSIM 205. Introduction to data structures, algorithms, and programming methodologies in support of computer simulation. Topics include lists, queues, sets, trees, searching, sorting, reusable code, and order of complexity. Simulation structures developed include event lists, time management, and queuing models. Software models are implemented and tested.

**MSIM 351. Analysis for Modeling and Simulation.** Lecture 3 hours; 3 credits. Prerequisites: MSIM 205 and STAT 330. An introduction to analysis techniques appropriate to the conduct of modeling and simulation studies. Topics include input modeling, random number generation, measures of effectiveness, output analysis, variance reduction techniques, and experimental design. In addition, techniques for verification, validation and accreditation are introduced. Course concepts are applied to real systems and data.

**MSIM 382. Continuous Simulation Laboratory.** Laboratory 2 hours; 1 credit. Corequisite: MSIM 320. A laboratory course designed to provide a hands-on introduction to the development and application of continuous simulation. Topics include an introduction to one or more continuous simulation tools, modeling of various physics-based systems, and numerical solution of differential equations. The design and implementation of a series of increasingly complex simulations of various continuous systems are conducted. Written communication skills are stressed; weekly writing assignments are required. The laboratory is designed to accompany MSIM 320. Student written reports are required.

**MSIM 383. Simulation Software Design Laboratory.** Laboratory 2 hours; 1 credit. Corequisite: MSIM 331. A laboratory course designed to provide a hands-on introduction to the development of simulation software. Topics include data structures, algorithms, and simulation executives. Students will conclude with the development of a basic simulation executive capable of managing discrete event simulations. Written communication skills are stressed; weekly writing assignments are required. The laboratory is designed to accompany MSIM 331. Student written reports are required.

**MSIM 405/505. Introduction to Discrete Event Simulation.** Lecture 3 hours; 3 credits. Prerequisites: undergraduate course in probability and statistics; computer literacy. An introduction to the fundamentals of discrete event simulation (DES). Topics include discrete event simulation methodology, development of simulation models, simulation verification and validation, and the design of simulation experiments. Important statistical concepts, including selection of input probability distribution and output data analysis are developed and applied. A DES tool will be used to create, simulate and analyze self-defined projects. (cross listed with ECE 405/505)

**MSIM 487W. Capstone Design I.** Lecture 2 hours; laboratory 4 hours; 4 credits. Prerequisites: MSIM 310, 331, and 351. Part one of the senior capstone design experience for modeling and simulation engineering majors. Lectures focus on providing professional orientation and exploration of the M&S design process. Written communication, oral communication and information literacy skills are stressed. Individual and group design projects focus on the conduct of a complete M&S project. Industry-sponsored projects are an option. Individual and team reports and oral presentation are required.

## Music

### I. Music — MUSC

<sup>1</sup>For these courses the student is charged \$75 per semester.

**MUSC 101-102. Beginning Piano Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. 101 is prerequisite to 102. Introduction, practical training, and development of basic piano skills, including the playing of scales, arpeggios, chords, and simple songs; sight reading, transposition, harmonization of melodies, and improvisation. (For music majors only)

**MUSC 103-104. Intermediate Piano Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. Prerequisite: MUSC 102 or permission of the instructor. MUSC 103 is a prerequisite to 104.

Continued practical training and development of basic piano skills. (For music majors only)

**MUSC 105-106. Advanced Piano Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. Prerequisite: MUSC 104 or permission of the instructor. MUSC 105 is a prerequisite to MUSC 106. Practical training and further development of basic piano skills, including the playing of scales, arpeggios, chords, and simple songs; sight reading, transposition, harmonization of melodies, and improvisation. (For music majors only)

**MUSC 107-108. Beginning Voice Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in this course prior to pursuing Applied Music 141 for credit.

**MUSC 109-110. Intermediate Voice Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. Prerequisite: MUSC 108 or permission of the instructor. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in this course prior to pursuing Applied Music 141 for credit.

**MUSC 111-112. Advanced Voice Class.<sup>1</sup>** Two meetings per week; 1 credit each semester. Prerequisite: MUSC 110 or permission of the instructor. Introduction, practical training, and development of basic singing skills. Students scoring below the Applied Music 141 level in the voice placement test may enroll in and repeat this course prior to pursuing Applied Music 141 for credit.

**MUSC 115. Introduction to Pro Tools.** Lecture 3 hours; 3 credits. This course is designed to introduce students to the most widely used digital audio workstation in the professional audio industry. Topics include basic of digital audio theory, system configuration, file structure and organization, recording and editing audio and MIDI data as well as post-production video.

**MUSC 116. Essentials of Pro Tools.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 115. Expanding of the skills learned in MUSC 115, this course focuses on the core concepts and skills required to successfully operate Pro Tools LE systems. Students will explore various I/O setups, controller options, session management techniques, recording and editing approaches as well as automation and mixing methods.

**MUSC 120. Rudiments of Music.** Lecture 3 hours; 3 credits. This course is designed specifically for non-music majors and will cover music basics only.

**MUSC 121. Basic Musicianship.** Lecture 3 hours; 3 credits. Provides the knowledge of and skills in music theory fundamentals necessary for music majors and minors to prepare for upper levels of music theory.

**MUSC 126A. Honors: Music in History and Culture.** Lecture 3 hours; 3 credits. A survey of major composers and their works in the historical context of different style periods, including a discussion of the central philosophical and cultural issues of each period. Students will be required to attend at least three musical events and turn in written critiques. Open to Honors College students only.

**MUSC 215. ProTools Production.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 116. This course concentrates on building the basic skills required to successfully operate ProTools HD systems in a professional environment. Students will explore various components of an HD system,

session management techniques, selection and editing procedures as well as automation and mixing processes.

**MUSC 216. Music Production Techniques.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 215. This is the final course in a four-part sequence and prepares the student for Pro Tools Operator certification in music. Students will investigate various workflows, tracking and overdubbing techniques, virtual instruments, professional editing techniques as well as advanced automation and mixing processes.

**MUSC 221-222. Music Theory.** 221 is prerequisite to 222. Lecture 3 hours; 3 credits each semester. Prerequisite: music major or permission of the instructor. Written and keyboard harmony. An elementary course dealing with the fundamentals of pitch and time and the use of triads.

**MUSC 223-224. Ear Training, Sight Singing, and Dictation.** 223 is prerequisite to 224. Lecture 1 hour; drill section 1 hour; 1 credit each semester. Prerequisite or corequisite: MUSC 221. Melodic, rhythmic, and harmonic dictation; singing, recognition, and writing of various intervals and triads.

**MUSC 225. Live Audio Engineering.** Lecture 3 hours; 3 credits. This course covers fundamentals of live audio engineering, rudimentary acoustics, auditory perception and psychoacoustical concepts. Students will learn to assemble sound reinforcement systems for small and large ensembles and examine how sound is perceived by the human ear. Topics such as signal flow, cabling, mixing, busing and monitoring will be addressed.

**MUSC 261, 262. Music Literature Survey.** Lecture 1 hour; 1 credit each semester. Required for music majors. Available to qualified nonmajors. A technical study of music from the Middle Ages through the twentieth century. Listening to recordings and attending live concerts are required.

**MUSC 264A. Music in History and Culture.** Lecture and listening sessions 3 hours; 3 credits. This course is designed to be an introduction to the appreciation and understanding of music through music listening activities and a survey of music history. Basic principles and elements of music are discussed in relation to contexts within a variety of musical styles including classical, jazz, popular and world music. Regular and repeated listening is an important part of the course in addition to required concert attendance.

**MUSC 301. Music Education: High Brass Class.** Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Open to music education majors only. Required of all instrumental music education students. Designed to develop basic skills of playing and teaching the trumpet and French horn. (offered fall, odd years)

**MUSC 302. Music Education: Low Brass Class.** Laboratory 2 hours; 1 credit. Prerequisite: MUSC 301 or permission of the instructor. Required of all instrumental music education students. Designed to develop basic skills of playing and teaching trombone, euphonium, and tuba. (offered spring, even years)

**MUSC 303. Music Education: Clarinet Class.** Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Designed to develop basic skills of playing and teaching the clarinet, which serves as a foundation for the other woodwind instruments. (offered fall, even years)

**MUSC 304. Music Education: Woodwind Class.** Laboratory 2 hours; 1 credit. Prerequisite: MUSC 303 or permission of the instructor. Designed to develop basic skills of playing and teaching flute, oboe, bassoon, and saxophone. (offered spring, odd years)

**MUSC 305. Music Education: Upper Strings Class.** Lecture 1 hour; 1 credit. Prerequisite: students must display the ability to read music. Designed to develop basic skills of playing and teaching the violin and viola and to evaluate instructional materials used with these instruments. (offered fall, even years)

**MUSC 306. Music Education: Lower Strings Class.** Laboratory 2 hours; 1 credit. Prerequisite: MUSC 305. The course is designed to develop basic skills of playing and teaching cello and string bass and to evaluate instructional materials used with these instruments. Introduces heterogeneous teaching and rehearsal techniques using all four stringed instruments. (offered spring, odd years)

**MUSC 307. Music Education: Percussion Class.** Laboratory 2 hours; 1 credit. Prerequisite: students must display the ability to read music. Class lessons on all percussion instruments and the study of teaching methods for these instruments. (offered fall, odd years)

**MUSC 308. Music Education: Music for the Elementary Classroom Teacher.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Students gain skills and experience related to the use of music in elementary school.

**MUSC 309. Principles of Conducting.** Lecture 1 hour; 1 credit. Prerequisites: MUSC 224, 322, or permission of the instructor. The development of basic skills and techniques necessary for conducting choral and instrumental ensembles.

**MUSC 316. Popular Songwriting Techniques.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 222. This course focuses on the craft of songwriting. Covering contemporary song forms, techniques of lyric and melody writing as well as popular harmony and analysis, the course prepares students to write hit songs. Students will learn how to effectively demo their own songs, successfully collaborate, write jingles and copyright their own material.

**MUSC 323-324. Advanced Ear Training, Sight Singing and Dictation.** 323 is prerequisite to 324. Lecture/laboratory 2 hours; 1 credit each semester. Prerequisites: MUSC 222 and 224 or permission of the instructor. A continuation of MUSC 224, written and keyboard work introducing modulation, seventh chords and chromatic harmony.

**MUSC 335T. Music Production: MIDI I.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: music student or permission of instructor. This course will introduce students to MIDI technology with an emphasis on sequencing and editing techniques and music notation skills.

**MUSC 336. Electronic Music.** Lecture 3 hours; 3 credits. Prerequisite: music major or permission of instructor. This introductory course is designed to give students a historical overview of mechanical and electronic music through topical study and listening examples. Additionally, students will create their own electronic music compositions using analog, digital and virtual hardware/software.

**MUSC 337. Jazz Improvisation I.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 222 or permission of the instructor. This course will introduce students to the basic concepts of Jazz

improvisation, including harmonic and melodic implications.

**MUSC 338. Jazz Improvisation II.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 337 or permission of the instructor. This course is a continuation of MUSC 337, and will delve further into more advanced techniques used in Jazz improvisation.

**MUSC 345, 346. Diction for Singers.** Lecture 1 hour; 1 credit each semester. Prerequisites: MUSA 142 or 152, or permission of the instructor. An introductory course dealing with correct principles of effective diction essential to the singing of English and Italian songs (MUSC 345) and German and French songs (MUSC 346). (345 offered every fall, 346 offered every spring)

**MUSC 350. Music Notation.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 120. This course is designed to introduce students to the art of music notation through exploring the history of music engraving practices, hands-on experience writing music manuscript (hand-written) and the use of modern notation software (Finale, Sibelius, etc.) with MIDI implementation.

**MUSC 361, 362W. History of Music.** Lecture 3 hours; 3 credits each semester. Prerequisites: MUSC 264A or MUSC 126A, or both MUSC 261 and MUSC 262, and MUSC 222. A general survey of the growth of music showing the influence of historical events upon musical developments. (362W is a writing intensive course.)

**MUSC 377, 378. Extracurricular Studies.** 1-6 credits each semester. Prerequisites: approval by the department and the dean, in accordance with the policy on granting credit for extracurricular activities. Extracurricular activities may be approved for credit based on objectives, criteria, and evaluative procedures as formally determined by the department and the student prior to the semester in which the activity is to take place. Credit is subject to review by the provost.

**MUSC 380. Symphony Band.** 1 credit. Open to all university students. Spring semester only. Prerequisite: Students must exhibit the ability to play a standard concert band instrument, read music and permission of the instructor. Symphony band is a large ensemble for woodwind, brass and percussion players. Students will participate in rehearsals and concerts.

**MUSC 390. Marching Band.** 1 credit. Prerequisite: Successful playing audition, the ability to read music and permission of the instructor. An audition is required. Marching band will meet only during the fall semester and perform at all home and select away football games and other selected events. Students will participate in rehearsals and performances. Meets MW 5-7 p.m., F 6-8 p.m. Foreman Field Stadium.

**MUSC 395, 396. Topics in Music.** 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. A study of selected topics designed for nonmajors, or for credit within a major. These courses will appear in the course schedule. Course descriptions and prerequisites for each course may be found in information distributed to all academic advisors.

**MUSC 397, 398. Tutorial Work in Special Topics in Music.** 1-3 credits each semester. Prerequisite: junior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

**MUSC 401. Music Education: Elementary Vocal Methods.** Lecture 2 hours; 2 credits. Corequisite: MUSC 402. Prerequisite: TLED 301 or 290. Required prior to student teaching for all

students in music education with voice, keyboard or guitar concentration. Focuses on elementary materials and methods of vocal instruction for music classrooms.

**MUSC 402. Music Education: Practicum (Elementary Vocal).** Hours to be arranged; 1 credit. Prerequisite: TLED 301 or 290. Pass/fail grading. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Must be taken concurrently with MUSC 401. Enables students to observe master classroom teachers and to test accumulated teaching practices in elementary school vocal classroom settings. Successful passing of the PRAXIS II Music Content Knowledge examination is one requirement of this course. (qualifies as a CAP experience)

**MUSC 403. Music Education: Secondary Vocal Methods.** Lecture 2 hours; 2 credits. Corequisite: MUSC 404. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Focuses on methods of vocal instruction, materials and rehearsal methods for secondary vocal classroom settings. (offered fall, odd years)

**MUSC 404. Music Education: Practicum (Secondary Vocal).** 1 credit. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with voice, keyboard or guitar concentration. Enables students to observe master teachers and to test accumulated teaching practices in secondary school vocal classroom settings. Successful passing of the PRAXIS II Music Content Knowledge examination is one requirement of this course. (qualifies as a CAP experience)

**MUSC 405. Music Education: Elementary Instrumental Methods.** Lecture 2 hours; 2 credits. Corequisite: MUSC 406. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with instrumental music concentration. Focuses on materials and methods of instrumental instruction in the elementary setting. (offered fall, even years)

**MUSC 406. Music Education: Practicum (Elementary Instrumental).** 1 credit. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with an instrumental music concentration. Must be taken concurrently with MUSC 405. Enables students to observe master teachers and to test accumulated teaching practices in elementary school instrumental classroom settings. (offered fall, even years) (qualifies as a CAP experience)

**MUSC 407. Music Education: Secondary Instrumental Methods.** Lecture 2 hours; 2 credits. Corequisite: MUSC 408. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with instrumental music concentration. Focuses on methods of instruction, materials and rehearsal methods for secondary instrumental classrooms. (offered spring, odd years)

**MUSC 408. Music Education: Practicum (Secondary Instrumental).** 1 credit. Prerequisite: TLED 301 or 290. Required prior to student teaching for all students in music education with instrumental music concentration. Enables students to observe master teachers and to test accumulated teaching practices in secondary school instrumental classrooms. Successful passing of the PRAXIS II Music Content Knowledge examination is one requirement of this course. (qualifies as a CAP experience)

**MUSC 409. Music Education: Instrumental Techniques.** Lecture 1 hour; 1 credit. Prerequisite: ability to read music or permission of the instructor. Required prior to student teaching for all students in music education with vocal, keyboard and guitar concentration. Focuses on development of vocal majors' ability to read instrumental scores; provides vocal majors an understanding of families of instruments.

**MUSC 410/510. Psychology of Music.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. This course is designed to assist students in enhancing their understanding of the aesthetic response to music in various settings. Students will learn to integrate their understanding of musical aptitude as it relates to human growth and development. In addition, students will study the psychological implication of personality types as they develop, implement, and assess their pedagogical approach.

**MUSC 413. Advanced Choral Conducting.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 309. Course deals with the analysis, interpretation, and conducting of varied choral literature.

**MUSC 414. Advanced Instrumental Conducting.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 309. Course deals with the analysis, interpretation, and conducting of varied instrumental literature.

**MUSC 421. Counterpoint.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 221. A study of the contrapuntal techniques of sixteenth century composers and their influence upon composers of the eighteenth through twentieth centuries. (offered fall, even years)

**MUSC 422/522. Form and Analysis.** Lecture 2 hours; aural analysis 1 hour; 2 credits. Prerequisites: MUSC 322 and 324 or permission of the instructor. Study and analysis of the principal traditional musical forms. Stylistic and harmonic analysis as it related to score study will be discussed. (offered spring, odd years)

**MUSC 424. Orchestration.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 321. A study of the range, musical functions, and technical characteristics of the instruments and their color possibilities in various combinations. Practical experience in scoring for small and large ensembles. (offered spring, even years)

**MUSC 425. Vocal and Instrumental Arranging.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 222. Building on the skills acquired in orchestration, this course covers basic arranging techniques for traditional vocal and instrumental ensembles. Students will develop the ability to reshape pre-existing melodies and chord progressions into successful arrangements for various media.

**MUSC 426. Marching Band Techniques and Arranging.** Lecture 2 hours; 2 credits. Prerequisite: MUSC 335T or permission of the instructor. Students will learn how to create marching drills and arrange music for the marching band. Students will be required to observe different styles of school marching bands.

**MUSC 428/528. Music Theory Review.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and/or permission of the instructor. A review of basic music theory with more advanced work in music analysis. The course is primarily for students in the M.S. in Education degree program. This course is required for those students who do not pass the Theory Placement Test. No credit for this course may be applied toward the degree.

**MUSC 435. Music Production: MIDI II.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 335T. This course builds upon the fundamentals experienced in the introductory MIDI course. Topics include: advanced sequencing techniques, looping, editing, data manipulation, patch and control changes through real-time recording, patch editing, storage and retrieval, incorporation of external hardware, sampling, and an introduction to the incorporation of digital audio.

**MUSC 436. Computers and Music.** Lecture 3 hours; 3 credits. Prerequisite: MUSC 336. This course is designed to give students a historical overview of computer music through topical study and listening examples. Additionally, students will create their own music compositions by using software to program, assist, enhance, manipulate and even compose the music.

**MUSC 445/545. Applied Music Pedagogy.** One hour seminar; 1 hour laboratory; 1 credit each semester. Prerequisite: music major senior standing or permission of the department. Teaching techniques, literature in the performing area. Seminar deals with resource materials. Laboratory: observation and teaching under supervision.

**MUSC 446/546. Applied Music Literature.** One hour seminar; 1 hour laboratory; 1 credit each semester. Prerequisite: music major senior standing or permission of the department. Teaching techniques, literature in the performing area. Seminar deals with resource materials. Laboratory: observation and teaching under supervision.

**MUSC 460/560. History of Jazz.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course will study the historical development of jazz as an American art form. The emotion and meaning of this style will be investigated as well as the historical and contemporary aesthetic response. Emphasis will include the defining role of African American artists. The influence of jazz on the development of contemporary American music will be discussed. Written critiques of live performances and a research paper will be required.

**MUSC 466/566. Modern Music.** Lecture 3 hours; 3 credits. Prerequisites: MUSC 361 and 362W or permission of the instructor. A study of the techniques and styles in music in the twentieth and twenty first century. (offered spring, odd years)

**MUSC 467. Musicology Seminar.** Independent study and weekly meetings with the instructor; 3 credits. Prerequisite: senior and music major standing. An introduction to techniques and materials for research in music. Students conduct investigations of selected topics and submit written reports of findings.

**MUSC 491/591. Music in the Baroque Era.** Lecture 3 hours; 3 credits. Prerequisites: MUSC 361-362W. A study of music history from monody through the works of Bach and Handel. A discussion of musical style within the context of cultural history.

**MUSC 492/592. Music in the Classical Era.** Lecture 3 hours; 3 credits. Prerequisites: MUSC 361-362W. A study of music history from the Rococo Period through the works of Haydn, Mozart and Beethoven. A discussion of musical style within the context of cultural history.

**MUSC 494/594. Music in the Romantic Era.** Lecture 3 hours; 3 credits. Prerequisites: MUSC 361-362W. A study of music history from the late works of Beethoven to Mahler and Strauss. A

discussion of musical style within the context of cultural history.

**MUSC 495/595, 496/596. Topics in Music.** 1-3 credits each semester. Prerequisite: junior standing or permission of the instructor. These courses will appear in the course schedule. Course descriptions and prerequisites for each course may be found in information distributed to all academic advisors.

**MUSC 497, 498. Tutorial Work in Special Topics in Music.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## II. Music Performing Organizations

(See ensemble requirements for music majors.) Courses with a plus sign are designated for activity credit.

**MUSC +370. Jazz Combo.** 1 credit. Prerequisite: permission of the instructor. This ensemble will explore Jazz literature, focusing primarily on the small group format. Previous experience with improvisation is necessary for all participants.

**MUSC +371. Ensemble (Opera Workshop, Percussion, Piano, Guitar, String, Woodwind).** 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and permission of the instructor.

**MUSC +381. Concert Choir.** 2 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music. Participation in rehearsals and public performances of the Concert Choir.

**MUSC +382. Wind Ensemble.** 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor. Participation in rehearsals and public performances of the band.

**MUSC +383. Symphony Orchestra.** Full orchestra 3 hours per week, and dress rehearsals TBA; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor. Participation in rehearsals and public performances of the University Symphony Orchestra.

**MUSC +384. Jazz Ensemble.** 1-3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

**MUSC +385. Basketball Band.** Meeting schedule TBD; 1 credit. Prerequisite: MUSC 390, ability to read music and permission of the instructor. Basketball band performs at all home Men's and Women's basketball games and selected tournament performances.

**MUSC +386. New Dominions.** 1-3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

**MUSC +387. Collegium Musicum.** 1-2 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

**MUSC +388. Madrigal Singers.** 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

**MUSC +389. Brass Choir.** 3 rehearsal periods per week; 1 credit each semester. Prerequisite: ability to read music and/or permission of the instructor.

### III. Applied Music Instruction\* — MUSA

All students wishing to register for applied music must have a placement audition prior to registration. Music Department requirements are described in detail in the section entitled "College of Arts and Letters Degree Requirements." Students studying applied music for credit will perform before an examining committee at the end of each semester following their first semester of study at this institution.

\*For these courses the student is charged the applied music fee of \$175 for one-credit courses and \$250 for two- or three-credit courses. Individual instruction in applied music is offered in guitar, harpsichord, piano, organ, voice, and the orchestral instruments. For information concerning fees for applied music, refer to the section entitled "Fees and Expenses." Students in applied music are assigned to teachers by the department chair.

#### Applied Music Major (Performance)

**Ap. Mus. 151-152.** One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisite for 152: 151 and permission of faculty.

**Ap. Mus. 232. Hour Lesson: Applied Composition.** One hour lesson per week; 3 credits per semester. Prerequisite: MUSC 222.

**Ap. Mus. 251-252.** One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisites: previous number and permission of faculty. Completion of this level includes successful performance of a half-hour public recital. Numbers may be repeated.

**Ap. Mus. 331-332. Hour Lesson: Applied Composition.** One hour lesson per week; 3 credits per semester. Prerequisites: MUSA 232 for MUSA 331; MUSA 331 for MUSA 332. Original work in composition starting with the smaller forms in both the vocal and the instrumental fields. At least one 10-minute lecture-performance at a Student Performance Hour or an equivalent thereof is required.

**Ap. Mus. 351-352.** One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisites: previous number and permission of faculty to advance to upper-division performance level.

**Ap. Mus. 431. Hour Lesson: Applied Composition.** One hour lesson per week; 3 credits per semester. Prerequisite: MUSA 332. Original composition in larger forms. One or more lecture-performances at Student Performance Hours or equivalents thereof are required.

**Ap. Mus. 432. Hour Lesson: Applied Composition.** One hour lesson per week; 3 credits per semester. Prerequisite: MUSA 431. Original composition in larger forms.

**Ap. Mus. 445. Advanced Electronic Composition I.** 2 credits. Prerequisites: MUSC 335T and 336. This course is designated only for music majors and/or minors. Students must complete two semesters of the recording class (MUSC 335T and MUSC 336) or have equivalent experience before taking MUSA 441. Music hardware and software to be studied includes, but is not limited to: K2500 Mackie 1604 VLZ 2 pro, Opcode MIDI 96 and Digital.

**Ap. Mus. 446. Advanced Electronic Composition II.** 2 credits. Prerequisite: MUSA 445. This course is designated for music majors and and/or minors. Music hardware and software

to be studied includes, but is not limited to: K2500, Sound Designer, Oro Tools, and Finale. The participants are expected to compose a medium-length work (at least 4-5 minutes) Using the above equipment. Grading is based on the knowledge of the electronic equipment and the quality of composing.

**Ap. Mus. 451-452.** One hour lesson per week (summer: 2 one-hour lessons per week); 3 credits each semester. Prerequisites: previous number and permission of faculty. Completion of this level includes successful performance of a one-hour public recital. Numbers may be repeated.

#### Applied Music Minor (Music Education)

**Ap. Mus. 139-140.** One half-hour lesson per week; 1 credit. Prerequisite: permission of the faculty and 139 for 140.

**Ap. Mus. 141-142.** One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisite for 142: 141 or 143 and/or permission of faculty.

**Ap. Mus. 239-240.** One half-hour lesson per week; 1 credit. Prerequisite: previous number and permission of the faculty.

**Ap. Mus. 241-242.** One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and permission of faculty.

**Ap. Mus. 339-340. Hour Lesson: Applied Composition.** One hour lesson per week; 2 credits per semester. Prerequisite: MUSA 240. MUSA 339 is prerequisite for 340.

**Ap. Mus. 341-342.** One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and permission of faculty.

**Ap. Mus. 439-440. Hour Lesson: Applied Composition.** One hour lesson per week; 2 credits per semester. Prerequisite: MUSA 340. MUSA 439 is prerequisite for 440.

**Ap. Mus. 441-442.** One hour lesson per week (summer: 2 one-hour lessons per week); 2 credits each semester. Prerequisites: previous number and permission of faculty. Satisfaction of a degree requirement on this level includes successful performance of a one-half hour private or, at faculty discretion, public recital. Numbers may be repeated.

### Naval Science — NAVS

Courses with a plus sign are designated for activity credit.

**NAVS 101. Introduction to Naval Science.** Lecture 2 hours; 2 credits. General introduction to the naval service. Particular emphasis placed on the mission, organization, regulations and broad warfare components of the Navy and Marine Corps. Includes customs, discipline, courtesies, leadership, core values and shipboard nomenclatures.

**NAVS +111. Naval Laboratory I.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers basic military formations, drill movements, commands, customs, courtesies, honors and inspection. Lecture and discussion topics include security, equal opportunity and military justice. First year Naval Science students only.

**NAVS +112. Naval Laboratory I.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Continues basic military formations, drill movements, commands, customs,

courtesies, honors and inspections. Lecture and discussion topics include cruise preparation, safety education, administration, security, equal opportunity and military justice. First year Naval Science students only.

**NAVS 201. Naval Ships Systems I.** Lecture 3 hours; 3 credits. Familiarizes students with types, structure and purpose of naval engineering systems, propulsion systems, auxiliary power systems, electrical systems and ship control. Ship design and stability characteristics are examined.

**NAVS 202. Naval Ships Systems II.** Lecture 3 hours; 3 credits. Introduction to theory and principles of operation of naval weapons systems. Covers types of weapons and fire control systems, capabilities/limitations, theory of target acquisition, identification and tracking, trajectory principles and basics of naval ordnance.

**NAVS +211. Naval Laboratory II.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include cruise preparation/evaluation, security, administration and military justice. Second year Naval Science students only.

**NAVS +212. Naval Laboratory II.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include cruise preparation and evaluation, safety, administration, security, equal opportunity and military justice. Second year Naval Science students only.

**NAVS 301. Navigation and Naval Operations I.** Lecture 3 hours; 3 credits. In-depth study of piloting including theory, principles and procedures. Includes use of charts, visual and electronic aids, and theory and operation of compasses. Other topics include tides, currents, effects of wind and weather, and nautical rules of the road.

**NAVS 302. Navigation and Naval Operations II.** Lecture 2 hours; laboratory 2 hours; 3 credits. Relative motion vector-analysis theory, relative motion problems, formation tactics, and ship employment. Also includes an introduction to naval operations and operations analysis, ship behavior and characteristics in maneuvering, applied aspects of ship handling, and afloat communications. Concepts in naval leadership and naval operations reinforced through case studies.

**NAVS 310. Evolution of Warfare.** Lecture 3 hours; 3 credits. Prerequisite: departmental permission. Explores the basic concepts for understanding the operational art of warfare from the beginning of recorded history to the present.

**NAVS +311. Naval Laboratory III.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include cruise preparation and evaluation, security and military justice. Third year Naval Science students only.

**NAVS +312. Naval Laboratory III.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include cruise preparation and evaluation, safety, administration, security, equal opportunity



and military justice. Third year Naval Science students only.

**NAVS 320. Naval Sea Power.** Lecture 3 hours; 3 credits. Prerequisite: NAVS 101 or department approval. The study of the evolution of the major world naval and maritime nations. The role of American naval and maritime affairs in the rivalries of the great world powers during the colonial period, the spread of revolutionary movements, and the era of civil and international conflicts in the 19<sup>th</sup> and 20<sup>th</sup> centuries.

**NAVS 401. Leadership and Management I.** Lecture and discussion 3 hours; 3 credits. Prerequisite: NROTC Junior or Senior Midshipman or STA-21/MECEP. Non-NROTC student: departmental permission. The fundamentals of the managerial process (planning, organization, directing, and controlling) are considered in their relationship to the effectiveness of naval organization and readiness. Coverage includes human resources management, naval personnel management, material management and administration of division discipline.

**NAVS 402. Leadership and Ethics.** Lecture 3 hours; 3 credits. Prerequisite: completion of all previous NAVS courses. Capstone course, designed to equip the student with the critical thinking skills to address moral and ethical dilemmas frequently faced by naval officers.

**NAVS 410. Amphibious Warfare.** Lecture 3 hours; 3 credits. Prerequisite: departmental permission. Historical survey of the projection of sea power with the emphasis on the evolution of the amphibious warfare in the 20th century. Defines the concept of amphibious warfare, explores its doctrinal origins and traces its evolution as an element of naval policy.

**NAVS +411. Naval Laboratory IV.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Covers military formations, drills, commands, customs, courtesies, honors and inspections. Lecture/discussion topics include precommissioning preparation, administration, equal opportunity, safety and military justice. Fourth year Naval Science students only.

**NAVS +412. Naval Laboratory IV.** On-campus laboratory 2 hours; 1 credit. Prerequisite: departmental permission. Military formations, drill movements, commands, customs, courtesies, honors and inspections. Lecture and discussion topics include precommissioning preparation, safety, administration, security, equal opportunity and military justice. Fourth year Naval Science students only.

## **Nuclear Medicine Technology — NMED**

**NMED 300. Medical Terminology.** Lecture 3 hours; 3 credits. Prerequisite: permission of the program director. A course designed to cover the terminology and abbreviations used in the clinical sciences.

**NMED 331. Fundamental Concepts in Nuclear Medicine Technology.** Lecture 4 hours; 4 credits. Prerequisites: PHYS 101N, 102N or equivalent and permission of the program director. A course designed to cover the physical principles related to nuclear medicine technology. The methods of radioactive decay, types of radiation, radiation interactions, origins of radionuclides, SPECT/PET/CT radionuclides and non-nuclear imaging techniques are presented.

**NMED 332. Nuclear Instrumentation.** Lecture 4 hours; 4 credits. Prerequisite: permission of the program director. This course is designed to familiarize the student with the theory, operation and quality assurance associated with the instrumentation found in a typical nuclear medicine department.

**NMED 335. Radiation Health.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Discussions of radiation effects on cellular systems as well as guidelines for radiation protection and safe handling of radioactive material.

**NMED 401. Nuclear Medicine Technology I.** Lecture 4 hours; 4 credits. Prerequisites: BIOL 250-251 or permission of the program director. A course designed to cover the nuclear medicine procedures of the gastrointestinal, genitourinary, central nervous and skeletal systems. Relevant clinical procedures are also covered.

**NMED 402. Nuclear Medicine Technology II.** Lecture 4 hours; 4 credits. Prerequisites: NMED 401 or permission of the program director. A course designed to cover the nuclear medicine procedures of the respiratory, cardiovascular and endocrine systems. Relevant clinical procedures are also presented.

**NMED 403. Radiopharmacy.** Lecture 3 hours; 3 credits. Prerequisites: NMED 331, CHEM 105N-106N or equivalent and permission of the program director. This course is designed to cover the concepts and techniques related to the field of radiopharmacy. The production, preparation and quality assurance of radiopharmaceuticals are presented.

**NMED 410. Non-Imaging Nuclear Medicine Technology.** Lecture 3 hours; 3 credits. Prerequisite: NMED 401. This course is designed to provide the student with an understanding of the theory and techniques relevant to non-imaging nuclear medicine technology. Topics include organ function studies, cellular kinetics and radionuclide therapy.

**NMED 440. Clinical Nuclear Medicine Technology I.** 8 credits. Prerequisites: NMED 401 and permission of the program director. Clinical instruction in patient care, radiation safety, radiopharmaceutical administration, imaging and nonimaging techniques and quality assurance procedures. (qualifies as a CAP experience)

**NMED 450. Clinical Nuclear Medicine Technology II.** 8 credits. Prerequisites: NMED 440 and permission of the program director. Continued clinical instruction in diagnostic and therapeutic nuclear medicine procedures, including PET/CT. The correlation of nuclear medicine procedures is also presented. (qualifies as a CAP experience)

**NMED 460. Clinical Nuclear Medicine Technology III.** 8 credits. Prerequisites: NMED 450 and permission of the program director. Advanced clinical instruction in diagnostic and therapeutic nuclear medicine procedures, including PET/CT. The clinical correlation of nuclear medicine procedures is also presented. (qualifies as a CAP experience)

**NMED 475W. Administration and Management in Nuclear Medicine Technology.** Lecture 3 hours; 3 credits. Prerequisite: admission to the program. This writing intensive course is designed to provide a review of the administration, management, policies, and practices relevant to nuclear medicine technology. The leadership, legal, ethical and planning aspects of operating a nuclear medicine department are covered. (This is a writing intensive course.)

**NMED 495. Special Topics in Nuclear Medicine Technology.** 3 credits. Prerequisite: permission of the program director. A study of selected current topics in nuclear medicine technology.

## **Nursing — NURS**

**NURS 300. Introduction to Nursing Theories and Concepts I.** Lecture 3 hours; 3 credits. Corequisite: NURS 302. Prerequisite: admission to the B.S.N. program. Emphasis is placed on concepts and theories underlying professional nursing practice, the nursing process, and therapeutic nurse-client communication.

**NURS 301. Introduction to Nursing Theories and Concepts II.** Lecture 3 hours; 3 credits. Corequisite: NURS 303. Prerequisite: NURS 300. This course emphasizes theories specific to nursing and their relevance to the practice of professional nursing.

**NURS 302. Health Assessment Clinical Laboratory.** Laboratory 6 hours; 2 credits. Prerequisite: admission to the B.S.N. program. Corequisite: NURS 300. This clinical laboratory course emphasizes the assessment phase of the nursing process. Skill acquisition in health assessment and health history interviewing is facilitated by supervised practice, faculty demonstration, and self-paced learning in the audio-visual laboratory.

**NURS 303. Fundamentals of Nursing Practice.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 301. This clinical course emphasizes the supervised application of health assessment skills, nursing process, and clinical nursing techniques in clinical laboratory and acute care settings. (qualifies as a CAP experience)

**NURS 305. Health Assessment.** Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. This course emphasizes the physical assessment phase of the nursing process. For registered nurse students only.

**NURS 306. Theoretical Foundation of Professional Nursing Practice.** Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. Pre- or corequisite: NURS 401. This course focuses on selected nursing models, concepts, and theories as supporting frameworks for professional nursing practice. Emphasis is placed on the utilization of nursing theory as a methodology for improving nursing practice in various client situations and practice settings. For registered nurse students only.

**NURS 310. Therapeutic Diets I.** Lecture 1 hour; 1 credit. Prerequisite: admission to the B.S.N. program. This course focuses on concepts of normal nutrition. Emphasis is placed on understanding the impact of various nutrients on the body.

**NURS 311. Therapeutic Diets II.** Lecture 1 hour; 1 credit. Prerequisite: NURS 310 or permission of instructor. This course builds upon NURS 310 and introduces the student to selected therapeutic diets. Emphasis is placed on restrictive diets associated with maternal-infant and selected medical-surgical processes.

**NURS 312. Therapeutic Diets III.** Lecture 1 hour; 1 credit. Prerequisites: NURS 310, 311. This course focuses on therapeutic diets associated with selected medical/surgical and pediatric disease processes.

**NURS 320. Adult Health Nursing I.** Lecture 3 hours; 3 credits. Corequisite: NURS 321. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300, 301, 302,

303 and 374. This lecture course focuses on the adult client experiencing alteration and/or adaptations in bodily defense mechanisms. Emphasis is on the use of the nursing process to assist adult clients to adapt to the body's breakdown of defense mechanisms.

**NURS 321. Clinical Management: Adult Health Nursing I.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 320. Prerequisites: junior standing in the B.S.N. program and completion of NURS 300, 301, 302, 303 and 374. This clinical course focuses on the nursing process with adult clients experiencing alterations/adaptations in bodily defense mechanisms. The concepts inclusive in the didactic component (NURS 320) will be actualized on general surgical nursing units and oncology units. (qualifies as a CAP experience)

**NURS 330. Nursing Care of the Childbearing Family.** Lecture 3 hours; 3 credits. Corequisite: NURS 331. Prerequisites: junior standing in the B.S.N. program and completion of NURS 320 and 321. This lecture course focuses on the theoretical and applied concepts related to the care of families experiencing pregnancy and childbirth. Emphasis is on the dynamic familial, societal, psychologic and physiologic changes which occur in this stage of family and personal development. The role of the nurse as assistive and family-centered provider of care is a major focus.

**NURS 331. Clinical Management of the Childbearing Family.** Clinical experience 3 hours; 1 credit. Corequisite: NURS 330. Prerequisites: junior standing in the B.S.N. program and completion of NURS 320 and 321. This clinical course provides the opportunity for planning and provision of nursing care to the childbearing family. Emphasis is on the use of the nursing process to plan, provide and coordinate quality care. Students are expected to demonstrate responsibility and accountability for personal actions as well as a respect for families and clients. (qualifies as a CAP experience)

**NURS 340. Adult Health Nursing II.** Lecture 3 hours; 3 credits. Corequisite: NURS 341. Pre- or corequisite: NURS 375. Prerequisites: junior standing in the B.S.N. program and completion of NURS 320 and 321. This lecture course focuses on the adult experiencing alteration/adaptation in organ and system mechanisms. Emphasis is on the use of the nursing process to assist adult clients to adapt to system related insults.

**NURS 341. Clinical Management: Adult Health Nursing II.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 340. Prerequisites: junior standing in the B.S.N. program and completion of NURS 320 and 321. This clinical course focuses on the nursing process with adult clients experiencing alterations/adaptations in organ and system mechanisms. Concepts emphasized in the didactic component (NURS 340) will be actualized on general medical nursing units and orthopedic surgical units. (qualifies as a CAP experience)

**NURS 350. Psychiatric/Mental Health Nursing.** Lecture 3 hours; 3 credits. Corequisite: NURS 351. Prerequisite: junior standing in the B.S.N. program and completion of NURS 300, 301, 302 and 303. This lecture course focuses on psychotherapeutic processes across the lifespan. Building on foundations from the social and behavioral sciences, emphasis is on the use of the nursing process in providing care to clients with acute and chronic illness in a variety of psychiatric settings.

**NURS 351. Clinical Management of Psychiatric/Mental Health Problems.** Clinical experience 3 hours; 1 credit. Corequisite: NURS 350. Prerequisite: junior standing in the B.S.N. program. This clinical course provides a mechanism for students to perform mental health assessments, plan nursing care, practice therapeutic communication techniques and observe group processes in both inpatient and outpatient settings. (qualifies as a CAP experience)

**NURS 358. Studies in Professional Nursing.** Lecture 2 hours; 2 credits. Prerequisite: admission to B.S.N. program. The study of selected topics in professional nursing practice; designed to provide an in-depth exploration of current nursing issues. Topic titles denoted in Guide to Enrollment each semester.

**NURS 363. Nursing Science.** Lecture 3 hours; 3 credits. Prerequisite: admission to B.S.N. program. Co- or prerequisite: STAT 130M. This course focuses on the theories and concepts utilized in the scientific investigation of nursing practice. Content emphasizes the development of skills necessary to be a consumer of nursing research.

**NURS 369. Practicum: Studies in Clinical Nursing Practice.** 1-3 credits. Prerequisite: admission to B.S.N. program and permission of undergraduate program director or chief departmental advisor. The study of selected clinical practice applications in professional nursing practice; designed to provide an in-depth practicum in selected nursing practice areas. Students must have specific practicum arrangements (ex: externship) prior to registration.

**NURS 374. Nursing Process and Drug Therapy I.** Lecture 2 hours; 2 credits. Prerequisite: admission to the B.S.N. program. This course addresses the general principles of drug therapy and beginning application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

**NURS 375. Nursing Process and Drug Therapy II.** Lecture 2 hours; 2 credits. Prerequisites: NURS 374 and junior standing in the B.S.N. program. This course addresses drug therapy and continued application of the nursing process as related to drug therapy for clinical situations involving individuals at all phases of the life cycle and at different levels of wellness.

**NURS 387. Nursing Science.** Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program. Corequisite: STAT 130M. This course focuses on the theories and concepts utilized in the scientific investigation of nursing practice. Content emphasizes the development of skills necessary to be a consumer of nursing research. An honors version of NURS 363. Open to Honors Program students only.

**NURS 393. Clinical Skills for Nonnursing Majors.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisites: junior standing and permission of the instructor. Focuses on basic hygiene, comfort and safety skills required of health professionals providing diagnostic and/or supportive therapies to clients in a health care facility. May not be taken as required elective by nursing majors. Open to nuclear medicine technology students only.

**NURS 395. Topics.** 1-3 credits. Prerequisite: school permission. Selected health-related topics of interest. Course descriptions and prerequisites are available from the chief academic advisor.

**NURS 396. Independent Study.** 1-3 credits. Prerequisite: school permission. Nursing majors only. Selected health-related topics of interest to nursing majors. Selected health-related topics of interest to nursing majors. Course descriptions and prerequisites are available from the chief academic advisor.

**NURS 397. Independent Study.** 1-3 credits. Prerequisite: school permission.

**NURS 398. Clinical Nursing Concepts I.** 17 credits. This advanced placement credit is awarded to the registered nurse who has demonstrated knowledge of selected basic clinical nursing concepts for the provision of nursing care to individuals experiencing health deviations. Awarded upon completion of 14 credits in major. Registered nurse students only.

**NURS 401. Career Pathway: Assessment.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: admission to the B.S.N. program. This course focuses on basic skills required for success in the post-licensure baccalaureate nursing program. Emphasis is placed on career pathway assessment. Selected skills to be acquired include development of a professional portfolio, use of computers, APA professional writing format, library use and professional communication strategies. For registered nurse students only.

**NURS 402. Career Pathway: Development.** Lecture 2 hours; laboratory 6 hours; 4 credits. Prerequisite: NURS 401. This course focuses on further development of the post-licensure baccalaureate nursing student with an emphasis on expanding critical thinking skills, teaching-learning theories and application, professional resume development and exploration of nursing specialties and practice roles. For registered nursing students only.

**NURS 403. Career Pathway: Expanding Horizons.** Lecture 2 hours; laboratory 6 hours; 4 credits. Pre- corequisite: all other RN-BSN sequence nursing courses. This course facilitates the completion of a professional portfolio for the post-licensure baccalaureate nursing student. Emphasis is on advanced professional communication strategies and reflective processes for professional role expansion and development. For registered nurse students only.

**NURS 420. Nursing Care of Infants and Children.** Lecture 3 hours; 3 credits. Corequisite: NURS 421. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This lecture course provides a basis for understanding the nursing care of children of various ages. Emphasis is on the use of the nursing process to assist children as they encounter acute and chronic illness. The nurse's communication with and education of the family and child as individuals or as part of a group are discussed as a means of achieving the goal of comprehensive individualized child care in the home and in health care settings.

**NURS 421. Clinical Management of Infants and Children.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 420. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This clinical course emphasizes the provision of nursing care to infants and children suffering from acute and chronic illnesses. Through the use of the nursing process, students provide and coordinate care, serving as client advocates. Students are expected to demonstrate responsibility for personal actions related to the practice of nursing. (qualifies as a CAP experience)

**NURS 430. Nursing and the Gerontological Client.** Lecture 2 hours; 2 credits. Prerequisite: admission to the B.S.N. program. This course focuses on the nursing needs of the gerontological client. Emphasis is on the multi/complex needs of the older adult.

**NURS 431. Transition to Professional Nursing Practice.** Clinical experience 6 hours; seminar 1 hour; 3 credits. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This capstone clinical course allows students to practice in selected areas. The focus of this practicum is to enhance the clinical decision making and nursing intervention skills of the senior student. This capstone course must be completed in the last semester of the B.S.N. curriculum. (qualifies as a CAP experience)

**NURS 440. Nursing Process in Rehabilitation.** Lecture 2 hours; 2 credits. Corequisite: NURS 441. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340, 341 and 450. This course focuses on using the nursing process to prevent further dependence and restore maximum levels of function to the client who has a physical disability.

**NURS 441. Clinical Management of Rehabilitation Clients.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 440. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340, 341 and 450. This clinical course emphasizes the provision of nursing care to clients to prevent further dependence and restore levels of function. (qualifies as a CAP experience)

**NURS 450. Adult Health Nursing III.** Lecture 3 hours; 3 credits. Corequisite: NURS 451. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This course focuses on the adaptation of clients to critical illness. Content emphasizes concepts and theories of crisis and the utilization of the nursing process with critically ill clients who require assistance in adapting to their condition.

**NURS 451. Clinical Management: Adult Health Nursing III.** Clinical experience 6 hours; 2 credits. Corequisite: NURS 450. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. This clinical course emphasizes the provision of nursing care to clients who are critically ill. Through the use of the nursing process, students will provide and coordinate care and serve as client advocates in a variety of critical care settings. (qualifies as a CAP experience)

**NURS 458. Studies in Professional Nursing.** Lecture 3 hours; 3 credits. Prerequisite: admission to B.S.N. program or permission of the instructor. The study of selected topics in professional nursing practice; designed to provide an in-depth exploration of current nursing issues.

**NURS 464. Developing Case Management Skills: Clinical Pathways and Outcomes.** Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program and completion of NURS 401. The focus of this course is twofold; exploration and discussion of the historical, theoretical and international contexts of the emergence and value of managing care, clinical pathways and clinical outcomes in nursing and health care practices as well as the practical application of the principles in each. For registered nurse students only.

**NURS 470. Community Health Nursing I.** Lecture 1 hour; clinical 3 hours; 2 credits. Prerequisite: senior standing in the B.S.N. program. This course focuses on family and community health nursing. Content emphasizes

concepts and themes of families and communities and the use of the nursing process to assist in promoting and maintaining health. Application of course concepts through experience and interactions with health care coalition groups is emphasized.

**NURS 471. Community Health Nursing II.** Lecture 1 hour; clinical experience 3 hours; 2 credits. Prerequisite: senior standing in the B.S.N. program. This course focuses on family and community health nursing. Content emphasizes concepts and themes of families and communities and the use of the nursing process to assist in promoting and maintaining health. Application of course concepts through experiences and interactions with health care coalition groups is emphasized. (qualifies as a CAP experience)

**NURS 480W. Leadership and Management.** Lecture 3 hours; 3 credits. Prerequisites: senior standing in the B.S.N. program and completion of NURS 340 and 341. Theoretical and applied concepts of nursing leadership and management within the health care setting. Focuses on the management issues and responsibility of the new graduate in contemporary professional nursing practice. Emphasis is on communication and complex organization, decision-making, leadership and motivation, techniques of delegation and evaluation, conflict management and change, and risk management and quality assurance. (This is a writing intensive course.)

**NURS 487W. Leadership and Management.** Lecture 3 hours; 3 credits. Theoretical and applied concepts of leadership and management within the health care setting. Focuses on management issues and responsibilities of new graduates. Emphasis is on communication, decision making, leadership motivation, delegation, evaluation, conflict and change. An honors version of NURS 480W. Open to Honors College students only. (This is a writing intensive course.)

**NURS 489. Transition to Professional Nursing Practice.** Clinical experience 6 hours; 2 credits. Prerequisite: senior standing in the B.S.N. program and completion of NURS 340 and 341. This capstone clinical course allows students to practice in selected areas. The focus of this practicum is to enhance the clinical decision making and nursing intervention skills of the senior student. An honors version of NURS 431. Open to Honors College students only.

**NURS 490W. Nursing Leadership.** Lecture 3 hours; 3 credits. Prerequisite: admission to the B.S.N. program and completion of NURS 401. This course focuses on utilization of strategies from leadership, management, systems and change theories to facilitate professional nursing practice. Emphasis is placed on the professional nurse as a leader in the health care system. The influence of organizational behavior, proactive political action, professional image and case management on nursing practice is examined. For registered nurse students only. (This is a writing intensive course.)

**NURS 492. Community Health Nursing.** Lecture 3 hours; 3 credits. Prerequisites: admission to the B.S.N. program and completion of NURS 401. This course focuses on professional nursing practice with families and communities as clients. Emphasis is on community wellness, interaction with political influences and epidemiological principles. For registered nurse students only.

**NURS 495/595. Topics in Nursing.** 1-3 credits. Prerequisite: Permission of the instructor. The study of selected topics that may not be

offered regularly. Special topics will appear in the schedule of classes each semester.

**NURS 498. Clinical Nursing Concepts II.** 16 credits. This advanced placement credit is awarded to the registered nurse who has demonstrated knowledge of selected complex nursing concepts for the provision of nursing care to individuals and families experiencing health deviations. Awarded upon completion of 26 credits in the major. For registered nurse students only.

## Ocean, Earth and Atmospheric Sciences — OEAS

**OEAS 106N-107N. Introductory Oceanography.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 106N is prerequisite to 107N. 106N emphasizes geology and chemistry covering the formation and constitution of the earth and the ocean basins. 107N emphasizes physics and biology including meteorology, waves, tides, currents and life in the sea. Laboratory emphasizes practice of basic scientific methods. Knowledge of the metric system, scientific notation, ratio and proportion, and graphing is required. Field trip required.

**OEAS 110N-112N. Earth Science—Historical Geology.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 110N is an introductory course in geological sciences. The course relates the principles of natural science to Earth as a planet, its resources, and its environment. The effects of geologic processes on the environment are stressed. 110N or 111N is a prerequisite for 112N. In 112N, evolution of the continents, ocean basins, mountain chains, and the major life forms throughout Earth's history are studied chronologically and are related to the physical and biological changes which have caused them. A student receiving credit for 111N cannot receive credit for 110N.

**OEAS 111N-112N. Physical Geology—Historical Geology.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 111N introduces the student to the study of the materials, structures, and processes of the Earth. Present terrestrial resources are interpreted in terms of the internal and surface processes that formed them. 110N or 111N is a prerequisite for 112N. In 112N, evolution of the continents, ocean basins, mountain chains, and the major life forms throughout Earth's history are studied chronologically and are related to the physical and biological changes which have caused them. A student receiving credit for 111N cannot receive credit for 110N.

**OEAS 126N-127N. Honors: Introductory Oceanography.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 126N is prerequisite to 127N. Open only to students in the Honors College. Special honors section of OEAS 106N-107N. In addition to broad coverage of the geology, chemistry, physics and biology of the ocean, students will read scientific papers with current environmental problems. There will be several field trips to nearby ecosystems.

**OEAS 195-196. Topics.** 1 credit.

**OEAS 210. Environmental Earth Science.** Lecture 3 hours; laboratory 2 hours; 4 credits. Dynamic processes of the land, ocean, and atmosphere and how they affect people. Topics include plate tectonics; rocks and minerals; soil and water; weather and climate; tides and currents; limits to natural resources. OEAS 210 is a required course for the IDS program in Early Childhood Education. Does not satisfy OEAS major degree requirements.

**OEAS 302. Environmental Geology.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and an 8-hour sequence in a General Education science course. Geologic resources and processes that limit human activities and pose significant hazards. Does not satisfy OEAS major degree requirements.

**OEAS 303. Paleontology.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisite: OEAS 112N. Concepts of paleontology and application of paleontological data to problems in other scientific fields are discussed. Major invertebrate phyla represented in the fossil record are studied. Laboratory work includes preparation techniques and study of representative examples of important fossil types.

**OEAS 306. Oceanography.** Lecture 3 hours; 3 credits. Prerequisites: MATH 211, BIOL 115N, CHEM 121N-122N, OEAS 111N, and PHYS 111N or 231N. General survey of physical, geological, chemical and biological oceanography. The application of skills from mathematics, geology, physics, biology and chemistry for the solution of oceanographic problems.

**OEAS 310. Global Earth Systems.** Lecture 3 hours; 3 credits. Prerequisites: BIOL 115N, CHEM 121N-122N, MATH 211, and OEAS 111N. Core course for ocean and earth sciences majors that examines the processes linking the Earth's atmosphere, lithosphere, and hydrosphere into an interactive system.

**OEAS 313. Mineralogy.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: CHEM 121N-122N. Corequisite: PHYS 111N or 231N. The concepts of mineralogy are developed on the basics of geometrical, crystallographic, chemical bonding, crystal structures, and physical and optical properties. Mineral associations and genesis will be emphasized. Laboratory exercises include mineral identification by physical and optical properties, X-ray diffraction, and crystal form.

**OEAS 314. Petrology.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: OEAS 313. The study of igneous, sedimentary, and metamorphic petrology is developed using the concepts of crystal growth, phase equilibria, mineral associations, and composition of the Earth's crust and mantle. Laboratory exercises include hand specimen, microscopic, and X-ray diffraction identification and origin of rocks.

**OEAS 320. Sedimentology and Stratigraphy.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: OEAS 110N or 111N. The origin, transport, and deposition of sediments with emphasis on interpretation of sediment sequences, principles and methods of correlation. Laboratory exercises involve field sampling, textural analyses, and sedimentary structures. Field trip required.

**OEAS 344W. Geomorphology.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisites: OEAS 112N, 314 or 320 and ENGL 211C or 221C or 231C. Geologic processes that shape the earth's surface. Laboratory studies involve interpretation of topographic maps, soil maps, and aerial photographs. Field trip required. (This is a writing intensive course.)

**OEAS 367. Cooperative Education.** 1-3 credits. Prerequisites: junior standing and permission of the department. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Career Management program prior to the semester

in which the experience is to take place. (qualifies as a CAP experience)

**OEAS 368. Internship in Ocean and Earth Sciences.** 1-3 credits. Prerequisites: junior standing, permission of department and a 3.00 grade point average. Available for pass/fail grading only. Students gain on the job work experience related to their undergraduate curriculum. (qualifies as a CAP experience)

**OEAS 369. Practicum.** 1-3 credits. Prerequisite: junior standing, permission of department and must have declared ocean and earth sciences major or minor. (qualifies as a CAP experience)

**OEAS 395. Selected Topics.** Lecture 3 hours; 3 credits. Prerequisite: completion of 8 hours of a laboratory science. A nonmathematical course based on topics such as urban geology, urban biometeorology, and intelligent life in the universe. Specific topics will be announced each semester.

**OEAS 402/502. Field Experiences in Oceanography for Teachers.** Lecture 2 hours; field experience 2 hours; 3 credits. Prerequisite: background in K-12 Education. Field and laboratory experiences in oceanography including hands-on experience using equipment and methods suitable for middle and secondary education professionals. Course will provide understanding of oceanic processes using simple field and laboratory experiments. Not available for credit for OEAS majors and minors.

**OEAS 403W/503. Aquatic Pollution.** Lecture 3 hours; 3 credits. Prerequisites: at least two semesters of one of the following: BIOL 115N-116N, CHEM 121N, 122N, 123N, 124N, OEAS 111N-112N, PHYS 111N-112N, OEAS 106N-107N or 126N-127N. This course will present basic ecological principles relevant to water pollution and toxicology. Topics will cover runoff, eutrophication, sewage treatment, industrial waste, oil pollution, pesticides, and plastics in the sea. Case studies provide focal points for consideration of issues in making decisions and setting policy. (This is a writing intensive course.)

**OEAS 404/504. Environmental Physiology of Marine Animals.** Lecture 3 hours; 3 credits. Prerequisite: OEAS 306 or BIOL 331. Functional morphology and physiological aspects of growth and ecological energetics of marine animals. Basic concepts and habitat comparisons.

**OEAS 405/505. Physical Oceanography.** Lecture 3 hours; 3 credits. Prerequisites: MATH 211 and either PHYS 231N-232N or two semesters of hydraulics. Physics of the ocean: properties of seawater and their distribution; water mass formation; mass and energy flows; waves; tides; models; estuarine and coastal processes. An elective for science and engineering majors.

**OEAS 406/506. Matlab.** Lecture 1 hour; 1 credit. Prerequisite: OEAS 306 for 406. This course is designed to introduce students to Matlab programming and to develop skills utilizing this program for data analysis.

**OEAS 408/508. Introductory Soils.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: CHEM 121N, 122N, 123N, 124N. Nature and properties of soils. Physical and chemical processes in soils and their influence on plant growth, the movement of water, and pollutants. Importance of soil properties in determining urban, industrial and agricultural uses.

**OEAS 410/510. Chemical Oceanography.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: CHEM 121N, 122N, 123N, 124N, OEAS 306 or consent of instructor. Chemical composition of the ocean and the chemical,

biological, geological and physical processes controlling it. Laboratory experiments include determination of salinity, oxygen, and nutrients, and a field sampling trip is undertaken.

**OEAS 411/511. Structural Geology.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: OEAS 320 or permission of instructor. Recognition, habitat, and origin of deformed geologic structures. Relationships between structural patterns and tectonic settings. Laboratory sessions emphasize cartographic and stereographic projections, map interpretation, and hand sample evaluation. Weekend field trip required.

**OEAS 412/512. Global Environmental Change.** Lecture 3 hours; 3 credits. Prerequisites: OEAS 306 and 310. An examination of the development of the earth as a habitable planet, from its origin to human impacts on global biogeochemical cycles on land, and in the oceans and atmosphere.

**OEAS 413/513. Geochemistry.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: CHEM 121N, 122N, 123N, 124N and OEAS 313. Low temperature geochemistry of surface and near-surface materials and processes. Weathering and the geochemical cycle as influenced by environment.

**OEAS 415/515. Waves and Tides.** Lecture 3 hours; 3 credits. Prerequisites: MATH 211-212 and PHYS 231N-232N or permission of the instructor. Causes, nature, measurement and analysis of water waves and tides. Mathematical and graphical application to wave and tide problems.

**OEAS 416/516. Electronics and Oceanographic Instrumentation.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisites: PHYS 232N or PHYS 112N, OEAS 306, OEAS 310, STAT 310 or STAT 330. The course will consist of brief lectures and hands-on laboratory exercises, in which students learn to build, use and debug electronic devices relevant to ocean and earth science applications. Topics covered will include circuit theory, power supplies and budgets, transducers and amplifiers, computerized data acquisition, instrument control, signal conditioning and resolution.

**OEAS 418/518. Chemical Limnology.** Lecture 3 hours; 3 credits. Prerequisite: OEAS 306. Chemical cycling in lakes and reservoirs, and interactions with biological and physical processes; quantitative modeling of lake geochemistry.

**OEAS 419/519. Spatial Analysis of Coastal Environments.** Lecture 1.5 hours; laboratory 3 hours; 3 credits. Prerequisite: GEOG 404/504. The course integrates remotely sensed and field techniques for scientific investigation and practical management of coastal environmental systems. Spatial modeling of coastal processes and management tools using geographic information system (GIS).

**OEAS 420/520. Hydrogeology.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: OEAS 320, MATH 211, PHYS 111N-112N or 231N-232N, or permission of the instructor. Topics covered will include the occurrence and movement of surface and subsurface water, the nature and distribution of permeable rocks and strata, field techniques used in ground-water studies, and the flow of ground-water to wells.

**OEAS 426/526. Concepts in Oceanography for Teachers.** 3 credits. Prerequisite: junior standing or permission of the instructor. This web-based course will provide a practical introduction to oceanography for earth science teachers. It is particularly aimed at current science teachers

attempting to become certified in earth science education. Topics will include discussions of geological, biological, physical and chemical oceanography. Not available for credit for OEAS majors and minors.

**OEAS 430/530. Introduction to Geophysics.** Lecture 3 hours; 3 credits. Prerequisites: OEAS 111N, MATH 211, and PHYS 111N/112N or 231N/232N. Pre- or corequisite: PHYS 112N or 232N. Introduction to the physics of the earth, including plate tectonics, volcanism, earthquakes and seismology, gravity, the earth's magnetic field, geophysical remote sensing, and mantle convection.

**OEAS 431/531. Sedimentary Petrology.** Lecture 2 hours; laboratory 3 hours; 3 credits. Prerequisite: OEAS 320. The chemical aspects of sediments and sedimentary rock needed for modern geologic and oceanographic studies. Optical petrology and x-ray diffraction are emphasized in the laboratory with particular attention to clay mineralogy. Field trip required.

**OEAS 440/540. Biological Oceanography.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisites: OEAS 106N-107N, 126N-127N or 306 and STAT 310 or 330. Marine organisms and their relationship to physical and chemical processes in the ocean. Laboratory study of local marine organisms, marine ecosystem and sampling techniques. Includes identification, data analysis and field trips.

**OEAS 441-442W. Ocean and Earth Sciences Field Study I and II.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisites: OEAS 306 and 310, CHEM 123N-124N, BIOL 116N or OEAS 303, PHYS 112N or 232N, MATH 212. 441 is prerequisite for 442W. Interdisciplinary investigation of selected sites in Southeast Virginia that includes field sampling, sample analyses, data interpretation and integration, and group report preparation and presentations. Focuses on site selection and evaluation mapping, sampling, and sample analyses. Oral presentations of results will be made by each student. (442W is a writing intensive course.)

**OEAS 443. General Meteorology.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Structure of the atmosphere; air masses, fronts, and cyclones; ice and water precipitation; hurricanes, tornadoes, and thunderstorms; introduction to modern weather forecasting; weather modification and air pollution. Required for earth science track; not available as OEAS upper-division elective.

**OEAS 444/445. Communicating Ocean Science to Informal Audiences.** Lecture 3 hours; 3 credits. Prerequisite: OEAS 306 and 310; OEAS 444 is a prerequisite for 445. This course sequence provides Earth Science Education students with instruction on presenting scientific information to informal audiences (K through adult). The courses provide techniques and practical experience in designing informal lessons. Students in 445 will develop more in-depth presentations and extended practice presenting their materials on the Virginia Aquarium floor. For Earth Science Education track students, this two-semester sequence can replace OEAS 441/442W. It is available as an elective for all other students.

**OEAS 446/546. Quaternary Geology.** Lecture 3 hours; 3 credits. Prerequisite: OEAS 344W. Geological effects of Cenozoic climate changes and tectonic movements on marine and terrestrial systems. Weekend field trips to study landscapes and deposits in the coastal plain and Appalachian provinces.

**OEAS 448/548. Population Ecology.** Lecture 3 hours; 3 credits. Prerequisite: MATH 211. This course uses conceptual and mathematical models to understand how populations grow and persist in space and time. Both plants and animals are discussed.

**OEAS 451. Data Collection and Analysis in Oceanography.** Lecture 3 hours; 3 credits. Prerequisites: OEAS 306, 310 and MATH 211-212. This course introduces the student to basic oceanographic tools used to obtain and analyze information. The student will use various oceanographic instruments to obtain data at different locations in the Chesapeake Bay. Data obtained with these instruments will be processed and analyzed using the data analysis techniques discussed in class. The data will then be used to answer a particular question related to the temporal and spatial variability in a natural system.

**OEAS 455/555. Introduction to Geomicrobiology.** Lecture 3 hours; 3 credits. Prerequisite: OEAS 303. This course explores microorganisms in marine environments and their role in the fossil record. Students will examine bacteria and protista and investigate Earth's history during the Precambrian. One field trip.

**OEAS 487, 488. Honors Research in Ocean and Earth Sciences.** Independent studies and scheduled meetings with faculty advisor; 1-3 credits each semester. Prerequisite: senior standing and admission to the Academic Honors Program. Supervised study in a field of individual interest. Research results are reported in a public oral presentation and a thesis.

**OEAS 495/595. Special Topics.** Lectures, field and laboratory studies; 1-4 credits each semester. Prerequisites: junior standing and permission of the instructor. An investigation of a selected problem in physical, geological, chemical, or biological oceanography.

**OEAS 497. Special Problems and Research.** 1-3 credits. Prerequisite: junior standing. Independent reading and study on a topic to be selected with the direction of an instructor.

## Operations Management — See Information Systems and Technology/Decision Sciences

## Ophthalmic Technology

These courses are coordinated through the School of Medical Laboratory and Radiation Sciences and are available only to those students admitted to the Ophthalmic Technology Program, which is a certificate program jointly offered by Eastern Virginia Medical School and Old Dominion University.

### Ophthalmic Sciences — OPHS

**OPHS 311. Motility.** Lecture 3 hours; laboratory 3 hours; 4 credits. Prerequisite: admission in the ophthalmic technology program. Fundamental study of muscle anatomy and physiology, vision testing for infants and children, and ocular motor evaluation.

**OPHS 312. Ocular Anatomy and Systemic Disease.** Lecture 3 hours; laboratory 1 hour; 3 credits. Prerequisite: admission in the ophthalmic technology program. In-depth study of the anatomy and physiology of the ocular system and medical terminology.

**OPHS 320. Optics and Refraction.** Lecture 2 hours; laboratory 6 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program.

Lensometry, visual function and testing, retinoscopy, refractometry, and basic optics.

**OPHS 321. Visual Pathway.** Lecture 3 hours; 3 credits. Prerequisite: admission in the ophthalmic technology program. Manual and Automated Perimetry, visual pathway, associated lesions, glaucoma and tonometry.

**OPHS 330. Pharmacology and Systemic Disease.** Lecture 3 hours; laboratory 1 hour; 3 credits. Prerequisite: admission in the ophthalmic technology program. General technical skills, systemic disease, case histories, basic pharmacology.

**OPHS 335. Technical Skills.** Lecture 5 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Advanced retinoscopy and refractometry, basic contact lens fitting, photography, and introduction to fluorescein angiography.

**OPHS 337. Advanced Motility.** Clinical experience 8 hours; 4 credits. Prerequisite: admission in the ophthalmic technology program. Advanced motility with sensory evaluation. (qualifies as a CAP experience)

**OPHS 350. Advanced Technical Skills.** Clinical experience 20 hours; 10 credits. Prerequisite: admission in the ophthalmic technology program. Continuation of advanced lecture topics, introduction to diagnostic testing. (qualifies as a CAP experience)

**OPHS 352. General Clinical Rotation.** Lecture 2 hours; 2 credits. Prerequisite: admission in the ophthalmic technology program. Externship in private ophthalmologist's office.

**OPHS 420. Specialty Rotation I.** (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

**OPHS 421. Specialty Rotation II.** (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

**OPHS 422. Specialty Rotation III.** (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

**OPHS 423. Specialty Rotation IV.** (2 month rotation) Clinical experience 20 hours; 5 credits. Prerequisite: admission in the ophthalmic technology program. Ten-week rotation in each of the following: pediatric ophthalmology, contact lenses, low vision, ophthalmic surgical assisting, and advanced diagnostic testing. (qualifies as a CAP experience)

**OPHS 430. Advanced Topics I.** Seminar 3 hours; 3 credits. Prerequisite: admission in the ophthalmic technology program. Lectures on various advanced topics in ophthalmic disease and special testing.

**OPHS 440. Advanced Topics II.** Seminar 3 hours; 3 credits. Prerequisite: admission in the ophthalmic technology program. Lectures on various advanced topics in ophthalmology and Board Exam review.

## Philosophy and Religious Studies

### Philosophy — PHIL

**PHIL 110P. Introduction to Philosophy.** Lecture 3 hours; 3 credits. An introduction to basic concepts, methods and issues in philosophy, and a consideration of representative types of philosophical thought concerning human nature, the world, knowledge, and value.

**PHIL 120P. Logic and Philosophy.** Lecture 3 hours; 3 credits. A study of the principles of correct reasoning and the types of fallacious reasoning. Includes an examination of the philosophical and historical context of logic, and the application of logical methods to philosophical questions.

**PHIL 126P. Honors: Introduction to Philosophy.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PHIL 110P.

**PHIL 127P. Honors: Introduction to Philosophy of Science.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Scientific developments are used as an occasion for philosophical reflection. In the process the student is led to a better understanding of science. The course introduces and makes use of basic logical and conceptual tools of philosophy.

**PHIL 140P. Introduction to Philosophy of Science.** Lecture 3 hours; 3 credits. Scientific developments are used as an occasion for philosophical reflection. In the process the student is led to a better understanding of science. The course introduces and makes use of basic logical and conceptual tools of philosophy.

**PHIL 227E. Honors: World Religions: Beliefs and Values.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PHIL 250E.

**PHIL 228E. Honors: Introduction to Ethics.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PHIL 230E.

**PHIL 230E. Introduction to Ethics.** Lecture 3 hours; 3 credits. An introduction to the study of ethics through philosophical reflection on a variety of moral issues of contemporary significance. Topics covered will vary by semester and instructor, but may include issues drawn from professional fields such as business, medicine, and information technology, plus matters of public concern like the environment, the treatment of animals, the use of military force, social justice, and civil and human rights.

**PHIL 250E. World Religions: Beliefs and Values.** Lecture 3 hours; 3 credits. A comparative and philosophical study of major world religions in the Eastern and Western traditions, with particular attention being paid to their views about the basis of right action and the nature of good and evil. Other points of comparison include the foundations of religious knowledge and belief, the meaning of human life, divinity, and death and immortality. A student with credit for PHIL 150P cannot receive credit for PHIL 250E.

**PHIL 302. Gender and Ethics.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. An examination of ethical issues concerning whether men and women should be treated differently and of the standards by which such decisions are made.

**PHIL 303E. Business Ethics.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. A

philosophical examination of ethical issues that arise in business and commerce. Topics discussed will vary by semester and instructor, but may include affirmative action, ethical versus unethical sales and marketing techniques, the obligations of business to society (if any), and the moral foundations of capitalism.

**PHIL 304. Marx and the Marxists.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and three semester hours in philosophy, or permission of the instructor. Learning how to understand Marxism, yesterday and today, through readings, applications, exercises for discussion and projects.

**PHIL 305. American Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of the writings of some of the major American philosophers such as Peirce, James, Royce, Dewey, and Whitehead.

**PHIL 313. Philosophy of Religion.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An analytical and critical consideration of the philosophical foundations of religion. Such topics as the existence of God, the problem of evil, theism and atheism, prayer, and immortality are discussed.

**PHIL 314. Studies in Western Religious Thought.** Lecture 3 hours; 3 credits. Prerequisite: three semester hours in philosophy, or permission of the instructor. Various topics exploring religious, philosophical, and cultural themes in the traditions of Judaism, Christianity, or Islam.

**PHIL 324. Philosophy of Art.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. A study of the various theories of art and human creativity in the context of historical and cultural backgrounds.

**PHIL 330W. Ancient Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the thought of the classical Greek and Roman philosophers from the sixth century B.C. to the fifth century A.D. (This is a writing intensive course.)

**PHIL 331. Modern Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the thought of the major Western philosophers through the eighteenth century, including the empirical tradition of Bacon, Locke, Berkeley, and Hume, the rationalistic tradition of Descartes, Spinoza, and Leibniz, and the critical philosophy of Kant.

**PHIL 332. Medieval Philosophy.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. This course focuses on philosophical inquiry during the middle ages (400-1400 A.D.). Students will study the work of major philosophers from the Christian, Jewish, and Islamic traditions, including Augustine, Maimonides, Al-Ghazali Averroes (Ibn Rushd), Avicenna (Ibn Sina), Aquinas, Duns Scotus, and Okham.

**PHIL 340. Logic I.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the basic concepts and methods of logic as they occur in ordinary language, formal logical arguments, and an elementary logical system. Traditional Logic is emphasized, but some elements of Modern Logic are also introduced.

**PHIL 344E. Environmental Ethics.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. A

philosophical examination of the nature and basis of human obligations for the condition of the environment with special attention to the foundations of ethical decision making.

**PHIL 345E. Bioethics.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. An examination of the philosophical foundations of ethical decision making in biology, medicine, and the life sciences.

**PHIL 353. Asian Religions.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of religious and philosophical traditions of India, China and Japan. Primary emphasis will be given to Hinduism, Buddhism, Confucianism and Taoism. (cross listed with ASIA 353)

**PHIL 354. Comparative Philosophy East and West - Personhood.** Lecture 3 hours; 3 credits. Prerequisite: PHIL 110P or 250E or permission of the instructor. An examination of the philosophical theme "personhood" in Eastern and Western traditions. The course will include a methodology for comparative analysis, a dialogue on key issues and their application to contemporary topics from historical and contemporary religious, psychological and gender perspectives. The class will sample well known positions in the Eastern and Western traditions as well as social and political contexts for the various conceptions.

**PHIL 355. Computer Ethics.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of ethical issues created, aggravated or transformed by computer technology. Theory-grounded paradigms of ethical decision making will be presented with application to realistic cases. Principal topics: computer crime, privacy, cyberspace, and business applications.

**PHIL 369. Practicum.** 1-3 credits. Prerequisites: junior standing; minimum of 15 credit hours in philosophy. The course offers three forms of practical experience for philosophy majors: Professional (for students anticipating careers in relevant professions, including philosophy); Classroom (for students anticipating graduate study and a teaching career); Civic/Social Affairs (for students interested in grassroots activism). Consult the department for details and certain specific prerequisites. (qualifies as a CAP experience)

**PHIL 383T. Technology: Its Nature and Significance.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. A philosophical examination of technology with special attention to its relationship with and mutual dependence upon society, culture, and human values. Historical developments and specific technologies will also be covered.

**PHIL 395, 396. Topics in Philosophy.** 3 credits each semester. Prerequisite: junior standing or approval of the department chair. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**PHIL 404/504. Twentieth Century Continental Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of influential contemporary movements in European philosophy. Emphasis will be given to the writings of Husserl, Heidegger, Sartre, Gadamer, Derrida, and Foucault.

**PHIL 406/506. Contemporary Analytic Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the twentieth-century analytic tradition, including such thinkers as Moore, Russell, Wittgenstein, Ayer, Carnap, Ryle, Wisdom, and Austin.

**PHIL 410/510. Social and Political Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A philosophical analysis of the relation between man, society, and the state, studying about a dozen philosophers since Plato on such topics as justice, authority, law, freedom, and civil rights.

**PHIL 411/511. Postmodernism and Political Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy and junior standing or permission of the instructor. An examination of intellectual currents in postmodernism as they pertain to central questions in social and political thought. The course covers the roots of modernism in the Enlightenment and various challenges to modernism in 19th and 20th century thought. Particular attention is given to the prospects for democracy in postmodern thinking.

**PHIL 412/512. Philosophy of Law.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and three semester hours in philosophy, or permission of the instructor. An examination of the nature of law and philosophical issues concerning the law.

**PHIL 417/517. Philosophy and Educational Issues.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and one introductory philosophy course or a course in Principles of Education. Considers the relationship of philosophy and education. Topics considered include: philosophy as a foundation for education, education as an institution, and educational and philosophical issues as they relate to each other.

**PHIL 423/523. Philosophy of Work.** Lecture 3 hours; 3 credits. Prerequisites: junior standing or permission of instructor. An examination of philosophical issues surrounding the practice of work. Topics to be discussed may include the definition of work, alienation, exploitation, whether there is a right to work or a right not to work, religious perspectives on work, and gender issues in work.

**PHIL 427/527. Myth and Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the nature of myth, its role and importance in human thought. The analysis will stress the relationships between mythology, religion, literature, drama, and philosophy in ancient Greece.

**PHIL 431/531. Nineteenth-Century Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of significant intellectual innovations and revolutions in nineteenth century European thought that helped shape the modern mind. Emphasis will be given to the writings of Kant, Schopenhauer, Hegel, Marx, Kierkegaard and Nietzsche.

**PHIL 434/534. Contemporary Theory of Knowledge.** Lecture 3 hours; 3 credits. Prerequisites: junior standing or permission of instructor. This course provides students with a problem-oriented, critical, and comparative understanding of problems in contemporary epistemology. Topics include skepticism and responses thereto, analyses of knowledge, the

externalist versus internalist debate, foundationalism and coherentism, and social approaches to knowledge including contextualism and feminism.

**PHIL 435/535. Philosophy of Psychology.** Lecture 3 hours; 3 credits. Prerequisites: junior standing or permission of instructor. An examination of various ways in which the mind has been understood in philosophy and in psychology and of the methods that have been used in the study of the mind.

**PHIL 440/540. Philosophy of Natural Sciences.** Lecture 3 hours; 3 credits. Prerequisites: junior standing, three semester hours in philosophy and eight semester hours of laboratory science. A study of the concepts and philosophical problems common to the natural sciences: scientific reasoning, confirmation, explanation, laws, meaning, theories, revolutions, progress, and values.

**PHIL 441E/541. Foundations of Ethics.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C, 221C or 231C; junior standing. An inquiry into the philosophical foundations of ethical theory. Various ethical systems are considered, and different views of metaethics and moral psychology may be as well.

**PHIL 442E/542. Studies in Applied Ethics.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 110C and junior standing. An intensive examination of ethical issues in a particular field or profession; an emphasis on ethical theory underlying practical decisions.

**PHIL 480/580. Hinduism.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An intensive study of the basic teachings of Hinduism as manifested in its sacred writings.

**PHIL 481/581. Buddhism.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of the origin, historical development, and contemporary status of Buddhism, in terms of its religious and philosophical elements and its influence in Asian cultures.

**PHIL 482/582. Chinese Religion and Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. A study of Chinese thought emphasizing Early and Classical Confucianism and Taoism, Chinese Buddhism, and NeoConfucianism. Modern currents of Chinese thought will also be discussed.

**PHIL 485/585. Japanese Religion and Philosophy.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy or permission of the instructor. A study of the religious and philosophical traditions of Japan. Emphasis will be given to Shintoism, Buddhism, and Neo-Confucianism and their contemporary status and influence in Japanese culture.

**PHIL 491/591, 492/592, 493/593, 494/594. Seminar in Philosophy.** 3 credits each semester. Prerequisites: junior standing and six semester hours in philosophy, or permission of the instructor. Intensive examination of the thought of one major philosopher.

**PHIL 495/595, 496/596. Topics in Philosophy.** 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups

of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**PHIL 497/597, 498/598. Tutorial Work in Special Topics in Philosophy.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study of a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Religious Studies — REL

**REL 311. Hebrew Bible/Old Testament.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An investigation of the Hebrew Bible on the basis of Biblical criticism and research. Attention is given to the cultural and historical background of these writings.

**REL 312. New Testament.** Lecture 3 hours; 3 credits. Prerequisites: junior standing and three semester hours in philosophy, or permission of the instructor. An investigation of New Testament literature and thought on the basis of Biblical criticism and research. Attention is given to the religious and cultural background of early Christianity, particularly in late Judaism.

**REL 350. Judaism.** Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Jewish tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Judaism as a way of life.

**REL 351. Christianity.** Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Christian tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Christianity as a way of life.

**REL 352. Islam.** Lecture 3 hours; 3 credits. Prerequisites: three semester hours in philosophy or permission of the instructor. A study of the Islamic tradition, including its primary texts, historical development, intellectual tenets, and contributions to human culture. Specific attention will be given to Islam as a way of life.

**REL 395/495. Topics in Religious Studies.** 3 credits each semester. Prerequisite: PHIL 110P, 120P or 250E. The advanced study of selected topics designed to permit qualified students to work on subjects that, because of their specialized nature, may not be taught regularly. These courses will appear in the course schedule and will be more fully described in information distributed to all academic advisors.

## Physical Education-See Human Movement Sciences

## Physics — PHYS

**PHYS 101N-102N. Conceptual Physics.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. PHYS 101N is a prerequisite for 102N. An introductory descriptive course which develops and illustrates the concepts of physics in terms of phenomena encountered in daily life. The first semester covers mechanics, electricity and

magnetism. The second semester covers sound, light, fluids and heat. (offered fall-spring sequence)

**PHYS 103N-104N. Introductory Astronomy.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. 103N is a study of the physical principles and scientific investigation of objects in our solar system. 104N emphasizes the study of stars, star systems, cosmology and relativity. Both semesters stress how we acquire knowledge of celestial objects to develop models of our universe. (offered fall-spring sequence, summer)

**PHYS 109. Introductory Astronomy Laboratory.** Laboratory 2 hours; 1 credit. Prerequisite: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory course in astronomy dealing with experiments about the laws of nature that apply to objects in our solar system. (offered fall, spring, summer)

**PHYS 111N-112N. Introductory General Physics.** 111N is prerequisite to 112N. Lecture 3 hours; laboratory 2 hours; 4 credits each semester. Prerequisite: MATH 102M or 162M or MATH 166. 111N emphasizes mechanics, wave motion and heat and will also cover the needed elements of trigonometry and vectors. 112N emphasizes electricity and magnetism, light, and introduction to modern physics. Students receiving credit for PHYS 111N cannot receive credit for PHYS 102N either simultaneously or subsequently. (offered fall, spring, summer)

**PHYS 113. Physics Laboratory.** Laboratory 2 hours; 1 credit. Available for pass/fail grading only. Prerequisite: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory covering experiments from mechanics, wave motion, heat and sound. Available for pass/fail grading only. (offered fall, spring, summer)

**PHYS 114. Physics Laboratory.** Laboratory 2 hours; 1 credit. Available for pass/fail grading only. Prerequisite: written permission of the chief departmental advisor of the Physics Department. An introductory laboratory covering experiments from electricity, magnetism, and optics. Available for pass/fail grading only. (offered spring, summer)

**PHYS 120. Physics in the 21<sup>st</sup> Century.** Lecture 1 hour; 1 credit. This seminar will provide students with a broad introduction to the cutting edge of physics research and its applications in diverse areas of contemporary physics. Recommended for incoming students interested in physics and the natural sciences. (offered fall)

**PHYS 126N-127N. Honors: Introductory Astronomy.** Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of PHYS 103N-104N.

**PHYS 151-152. AP Credit for Introductory General Physics.** 3 credits each. This course sequence is an AP credit vehicle for the lecture portion of PHYS 111N-112N, Introductory General Physics. Students who receive a 3, 4, or 5 on the AP Physics B exam administered by ETS will be awarded three credits for PHYS 151 and three credits for PHYS 152. In order to receive equivalency for PHYS 111N-112N, students must also complete the one credit lab courses PHYS 113 and 114. PHYS 151-152 will not be offered for credit by Old Dominion University.

**PHYS 210. Physics in Everyday Life.** Lecture 3 hours; laboratory 2 hours; 4 credits. An introductory descriptive course of physics that

discusses the basic principles of motion, electricity and magnetism, and thermal physics. Topics emphasized include simple machines, magnets, energy balance, and energy sources.

**PHYS 226N-227N. Honors: University Physics.** Lecture 3 hours; laboratory 2 hours; 4 credits. Open only to students in the Honors College. A special honors version of PHYS 231N-232N.

**PHYS 231N-232N. University Physics.** Lecture 3 hours; laboratory 2 hours; 4 credits each semester. Corequisite: MATH 211 or 226 or permission of instructor. 231N is prerequisite to 232N. A general introduction to physics in which the principles of classical and modern physics are applied to the solution of physical problems. The reasoning through which solutions are obtained is stressed. This course is designed for majors in the physical sciences, engineering, mathematics, and computational sciences. Students receiving credit for PHYS 231N-232N cannot simultaneously or subsequently receive credit for PHYS 101N-102N or PHYS 111N-112N. (offered fall, spring, summer)

**PHYS 251. AP Credit for University Physics.** 3 credits. This course is an AP credit vehicle for the lecture portion of PHYS 231N, University Physics. Students who receive a 4 or 5 on the AP exam Physics C exam (Mechanics) administered by ETS will be awarded three credits for PHYS 251. In order to receive equivalency for PHYS 231N students must also complete the one credit lab course, PHYS 113. PHYS 251 will not be offered for credit by Old Dominion University.

**PHYS 252. AP Credit for Natural Science Requirement.** 3 credits. This course is an AP credit vehicle for the lecture portion of the second course in the natural science requirement. Students who receive a 4 or 5 on the AP exam Physics C exam (Electricity and Magnetism) administered by ETS will be awarded three credits for PHYS 252. In order to receive equivalency for the second course in the natural science requirement, students must also complete the one credit lab course, PHYS 114. PHYS 252 will not be offered for credit by Old Dominion University.

**PHYS 303-304. Intermediate Experimental Physics.** Laboratory 6 hours; 3 credits each semester. Prerequisite: PHYS 232N. 303 is a prerequisite to 304. A laboratory oriented course designed to provide students with a broad introduction to instrumentation and techniques used in modern physics laboratories. Topics to be covered include: basic electronics, vacuum technology, optics and lasers, nuclear instrumentation, LabView programming and computer interfacing, and glassblowing. (offered fall-spring sequence)

**PHYS 309. Physics on the Back of an Envelope.** Lecture 1 hour; 1 credit. Corequisite: PHYS 102N, 112N or 232N. Physicists should be able to estimate the order-of-magnitude of anything. How many atoms of Julius Ceasar do you eat every day? How much waste does a nuclear power plant generate? Will develop concepts, relations and numbers useful for estimation. Will cover little new material, emphasizing already acquired knowledge. Will help students apply physics to real-life questions and understand which physical effects are appropriate on which scales. Seminar course. (offered spring)

**PHYS 311. Color in Nature and Art.** Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. Explores the relationship between light as stimulus and color perceived by us. Develops underlying

concept of technology of art and applied art. Describes basis for optical phenomena involved in many facets of daily life. Topics include: the interaction of light and the visual perception it produces; the basic concept of spectra; wave, ray, and quantum optics; polarized light; photography; paintings; pigments; rainbows and mirages; color theory systems; formation of images; optical instruments. There is no physics prerequisite for this course.

**PHYS 312. Elements of Optics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 112N or 232N. Corequisite: MATH 212. Light as an electromagnetic wave. Lens, mirror and fiber optical systems, polarization, interference and diffraction. Introduction to quantum and contemporary optics.

**PHYS 313. Elements of Astrophysics.** Lecture 3 hours; 3 credits. Prerequisite: PHYS 232N. A one-semester course covering the important topics of modern astrophysics. The physical basis of stellar evolution and chemical element formation is derived from first principles. Observational details of white dwarfs, neutron stars, pulsars, and black holes are developed.

**PHYS 319. Analytical Mechanics.** Lecture 3 hours; 3 credits. Prerequisite: PHYS 232N. Corequisite: MATH 307. Fundamentals of Newtonian mechanics. Topics include kinematics, dynamics, energy and momentum, central forces and planetary motion, and resonance phenomena. (offered fall)

**PHYS 320. Introduction to Electromagnetic Theory.** Lecture 3 hours; 3 credits. Corequisite: MATH 312. Prerequisite: PHYS 232N. A study of the classical theory and phenomena of electricity and magnetism. Topics include the calculation of electric and magnetic fields, magnetic and dielectric properties of matter, and an introduction to Maxwell's equations. (offered spring)

**PHYS 323. Modern Physics.** Lecture 3 hours; 3 credits. Corequisite: MATH 212. Prerequisite: PHYS 232N. Introduction to the wave nature of matter, with applications in materials science, atomic, and nuclear physics. Introduction to relativity, including applications in mechanics and electrodynamics. (offered fall)

**PHYS 332. Physics of Music and Musical Reproduction.** Lecture 3 hours; 3 credits. Prerequisite: MATH 102M. This course explores the topics of: the nature of sound, vibrations, resonance, the human ear, loudness, pitch, timbre, musical scales, dissonance and consonance, musical instruments, sound recording and reproduction, electronic music, noise, and acoustics.

**PHYS 350. Light and Lasers.** Lecture and demonstrations 3 hours; 3 credits. Prerequisite: PHYS 102N or 112N or 232N. An analysis of those concepts of geometrical physical optics needed for the understanding of laser resonators, optical propagation, and radiation detection. A study of laser diodes, molecular, neutral and ion gas lasers, tuneable dye and excimer lasers. Laser applications in medicine, communications, information processing, holography, pollution detection, and material testing and fabrication are stressed. (offered spring)

**PHYS 352. Introduction to Quantum Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and 323. Introduction to the physical and mathematical structure of quantum theory, including the historical and experimental origins of the subject. The curriculum includes techniques for solving the Schrodinger wave equation, particularly for the



harmonic oscillator and the hydrogen atom. (offered spring)

**PHYS 355. Mathematical Methods of Physics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 232N and MATH 212. This course will provide a strong foundation in the mathematical methods and applications necessary for undergraduate study of physics beyond the introductory level.

**PHYS 367. Cooperative Education.** 1-3 credits each semester (may be repeated for credit). Prerequisite: approval of the chief departmental advisor and Career Management in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**PHYS 368. Internship.** 1-3 credits. Prerequisite: approval by the chief departmental advisor and Career Management. Available for pass/fail grading only. Academic requirements will be established by the department and will vary with the amount of credit desired. Allows students to gain short duration career-related experience. (qualifies as a CAP experience)

**PHYS 406/506. Observational Astronomy.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Observational techniques in astronomy with emphasis on constellation identification, celestial movements, and telescopic observation. Individualized night observations are required.

**PHYS 408/508+. Astronomy for Teachers.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course in astronomy dealing with stars and stellar systems. Topics will include observational astronomy, the electromagnetic spectrum, relativity, stellar and galactic structures, cosmology, and the search for extraterrestrial intelligence.

**PHYS 411. Introduction to Atomic Physics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 352 and MATH 307. The hydrogen atom, radiative transitions, two-electron systems, many-electron atoms, interaction with external fields, theory of atomic spectra.

**PHYS 413/513. Methods of Experimental Physics.** Laboratory 6 hours; 3 credits. Prerequisites: PHYS 303 and 323. Corequisite: CS 150. Experiments in classical and modern physics, designed to develop skills in the collection, analysis, and interpretation of experimental data. (offered spring)

**PHYS 414/514. Principles of Physical Instrumentation.** Laboratory 6 hours; 3 credits. Prerequisite: PHYS 413. Methods for design of experiments using modern physical instrumentation. Included are topics such as analog and digital data acquisition, materials science, vacuum technology, cryogenics measurement techniques, and error and data analysis.

**PHYS 415. Introduction to Nuclear and Particle Physics.** Lecture 3 hours; 3 credits. Prerequisite: PHYS 352. Corequisite: MATH 307. An introduction to the structure of the atomic nucleus, natural and artificial radioactivity, nuclear decay processes and stability of nuclei, nuclear reactions, properties of nuclear forces, and nuclear models. Also, particle phenomenology, experimental techniques and the standard model. Topics include the spectra of leptons, mesons, and

baryons; strong, weak, and electromagnetic interactions.

**PHYS 416/516. Introduction to Solid State Physics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 352 and MATH 307. Introduction to solid state physics and materials science, with emphasis placed on the applications of each topic to experimental and analytical techniques. Topics include crystallography, thermal and vibrational properties of crystals and semiconductors, metals and the band theory of solids, superconductivity and the magnetic properties of materials.

**PHYS 417/517. Introduction to Particle Accelerator Physics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 or ME 205, and PHYS 320 or ECE 323. Introduction to the historical development and applications of particle accelerators to the fields of nuclear physics, particle physics, material sciences, and medical therapy and the design and physics of particle accelerators. Aspects of linear accelerators, circular accelerators such as cyclotrons, betatrons, synchrotrons, and storage rings, and recirculated linacs are covered. Topics include linear and non-linear single particle motion in accelerators, collective effects and beam stability in particle accelerators, and the electromagnetic radiation emitted by relativistic particles in accelerators. Up to date descriptions of the most modern particle accelerators will be included, as well as applications such as fixed target nuclear physics arrangements, colliding beam accelerators for high energy physics research, advanced storage ring sources of X-Rays, advanced neutron sources, radiation and radioactive material sources, and cancer therapy devices.

**PHYS 420/520. Introductory Computational Physics.** Lecture 2 hours; Laboratory 2 hours; 3 credits. Prerequisites: PHYS 232N and MATH 212. Introduction of computational methods and visualization techniques for problem solving in physics.

**PHYS 451/551. Theoretical Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and MATH 312. A mathematical study of the concepts of mechanics. Vector calculus methods are used. Topics include mechanics of a system of particles, Lagrangian mechanics, Hamilton's canonical equations, and motion of a rigid body.

**PHYS 453/553. Electromagnetic Radiation and Optics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 320 or ECE 323 and MATH 312. A course in electrodynamics developed from Maxwell's Equations. Topics include Maxwell's Equations, Conservation Laws, Electromagnetic Waves, Potentials and Fields, Radiation, and the interplay of electrodynamics and special relativity. (offered fall)

**PHYS 454/554. Thermal and Statistical Physics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 319 and 323. A study of the fundamental concepts of thermodynamics, kinetic theory, and statistical mechanics. Topics include the thermodynamics of simple systems, kinetic theory of gases, statistical mechanics of gases and an introduction to quantum statistics. (offered spring)

**PHYS 456/556. Intermediate Quantum Mechanics.** Lecture 3 hours; 3 credits. Prerequisites: PHYS 323 and 352 or permission of the instructor. A study of the experimental basis of quantum mechanics, basic postulates, solution of the wave equation for simple systems, uncertainty relations, potential barriers, wave packets, angular momentum, symmetry properties of wave functions, Pauli exclusion principle, Dirac

notation, perturbation theory, and scattering. (offered fall)

**PHYS 460/560. Fundamentals of Accelerator Physics and Technology with Simulations and Measurements Lab.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: PHYS 319 and 320. Historical development of accelerators and their past and present applications. Principles of acceleration, including the physics of linear accelerators, synchrotrons, and storage rings. Magnet design; machine lattice design and particle beam optics. Longitudinal and transverse beam dynamics, including synchrotron and betatron particle motion. Special topics will be reviewed, including synchrotron radiation, injection techniques, and collective effects and beam instabilities.

**PHYS 497/597. Special Problems and Research.** 1-3 credits each semester. Prerequisite: senior standing or permission of the instructor. These courses afford the student an opportunity to pursue individual study and research.

**PHYS 489W-490W. Senior Thesis I and II.** 489W 1 credit; 490W 2 credits. Prerequisite: permission of the instructor for 489W; 489W for 490W. A two-semester option for completing the Senior Thesis. PHYS 489W-490W is equivalent to PHYS 499W.

**PHYS 499W. Senior Thesis.** 3 credits. Prerequisite: permission of the instructor. Each student will undertake a research experience under the supervision of a department faculty member. The experience can be of an experimental, theoretical, or calculational type. A final oral and written report are required. The research may be completed on campus or at one of the department affiliated research organizations. (offered fall, spring, summer) (This is a writing intensive course.)

## Political Science — POLS

**POLS 100S. Introduction to International Politics.** Lecture and discussion 3 hours; 3 credits. This course provides a basic introduction to the study of international politics. The first part of the course considers some of the more prominent theoretical perspectives in the discipline, organized around alternative levels of analysis. The course then examines conflict and competition in the global arena and alternative mechanisms for promoting cooperation among nation-states and the more pressing economic, social and ecological problems facing the global community.

**POLS 101S. Introduction to American Politics.** Lecture and discussion 3 hours; 3 credits. This course introduces students to the political processes and the institutions of American politics. The course examines American political culture, gender and minority rights, citizen participation, national institutions, public policy, and foreign and defense policy.

**POLS 102S. Introduction to Comparative Government and Politics.** Lecture 3 hours; 3 credits. This is a comparative course of political systems of established and emerging democracies and non-democratic states.

**POLS 126S. Honors: Introduction to American Politics.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of POLS 101S.

**POLS 127S. Honors: Introduction to International Politics.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. Special honors section of POLS 100S.

**POLS 300. Introduction to Public Policy.** Lecture 3 hours; 3 credits. Prerequisite: six credits in the social sciences. An introduction to various approaches to policy making followed by a detailed study of several of the most important domestic contemporary issues (housing, transportation, education, welfare, etc.).

**POLS 301W. Introduction to Public Law.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. Introduces students to the American legal system through an examination of its institutions, practitioners, and processes. A general survey of constitutional law, administrative law, civil and criminal law, and selected topics of substantive and procedural dimensions of the court system. (This is a writing intensive course.)

**POLS 306. Judicial Process and Behavior.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. In-depth analysis of the American court system with an emphasis on the political behavior of the system's participants and the procedural dimensions of the court system.

**POLS 307. Constitutional Criminal Procedure.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. Development of criminal procedure under the United States Constitution, with particular emphasis on the Fourth, Fifth, Sixth, Eighth, and Fourteenth Amendments as interpreted by the U.S. Supreme Court.

**POLS 308. Research Design.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 101S and 102S or permission of instructor. Covers the design and implementation of quantitative and qualitative methods of inquiry in social sciences.

**POLS 309. Race, Culture and Public Policy.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in social sciences. This course examines the public policy problems of various racial groups in America. It analyzes the extent to which the American political system protects and promotes the concerns of African Americans, Hispanics, Native Americans and Asians.

**POLS 310. Political Theory.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S and 101S or permission of the instructor. This course is a survey of political theory covering political thinkers such as Plato, Aristotle, St. Thomas Aquinas, Machiavelli, Locke, Mill, Marx and Rawls as well as central concepts like justice, order, liberty, and equality.

**POLS 311. Virginia Politics and Government.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. This course is a survey of Virginia state and local government institutions, functions, processes, and behavior of political actors.

**POLS 312. American Political Thought.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course considers the origins, evolution, purposes, and relevancy of American political thought. It includes studies in democracy versus elitism; civil disobedience versus revolution; liberalism versus conservatism.

**POLS 313. United Nations Seminar.** Lecture 1 hour; 1 credit. Prerequisite: junior standing or permission of the instructor. An examination of the United Nations and key issues facing the international community. Includes a three-day visit to United Nations headquarters in New York.

**POLS 314. European Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S, 102S or permission of the instructor. Analyzes and compares the major political functions and the social, economic, and cultural bases of European

states. Also examines the contemporary movement for European economic, military, and political unity.

**POLS 316. Politics of Africa.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is intended to familiarize students with the struggles, advances, and setbacks of African peoples for state-building and socioeconomic development during the colonial and post-independence eras.

**POLS 319. Lobbies and Interest Groups.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. A survey of the lobby movement in America, its history and present status, with particular attention to current lobbies and interest groups and their impact on the national government.

**POLS 320. United Nations I.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S or GEOG 100S or permission of the instructor. Part I of the history, working and role of the United Nations system, stressing contemporary issues and student participation in UN simulations and conferences.

**POLS 321W. United Nations II.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S or GEOG 100S; POLS 320 recommended, or instructor's permission. Part II of the history, working and role of the United Nations system. The course includes management of a major UN simulation, conference attendance and debate on the role of the UN in current global issues. (This is a writing intensive course.)

**POLS 323. International Political Economy.** Lecture 3 hours; 3 credits. Prerequisite: six hours of social science. Introduces students to the primary mechanisms of the global political economy in allocating goods, income, wealth and the means to produce them, with emphasis on the international division of labor.

**POLS 324. International Relations Theory.** Lecture 3 hours; 3 credits. Prerequisite: six hours of social science including POLS 100S. Comparative study of the various theories that attempt to explain the patterns of interactions among the different members of the global community. Draws on historical and modern cases to explain traditional and alternative theories.

**POLS 325W. World Politics.** Lecture 3 hours; 3 credits. Prerequisites: six hours of social science and junior standing. This course is designed for advanced students who are interested in learning about world politics (or international relations). The course provides a brief overview of the major theoretical schools and uses them to examine contemporary international and global issues, such as regional/global conflict and cooperation, arms control, the protection of human rights, international trade, regional/global economic development, and environmental preservation. (This is a writing intensive course.)

**POLS 326. American Foreign Policy.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. This course presents those factors that go into the making and analyzing of American foreign policy, explores their application in decision making, and seeks to test their utilization against contemporary problems.

**POLS 327W. Politics of National Security.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. Examination of issues facing America as it debates the use of international force, including the range of national security choice, defense reform, and the tensions between American resort to warfare and global

trends transforming the ability to use violence effectively. (This is a writing intensive course.)

**POLS 328. Russian Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or 102S or GEOG 100S or permission of the instructor. Starting with the Soviet communist system, explores Russia's efforts to establish democracy and the rule of law, to fashion a productive, beneficial market economy, to establish viable relationships with the other former republics of the USSR and to craft advantageous foreign and military policies toward the West, Asia, and the developing countries.

**POLS 331. State and Local Government.** Lecture and discussion 3 hours; 3 credits. Prerequisite: POLS 101S. This course is a survey of state and local government institutions, functions, processes, and behavior of political actors.

**POLS 332. Europe in World Affairs.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. Analyzes European politics from World War II to the present. Emphasizes the foreign policies of major European states, including policies towards EU and NATO.

**POLS 333. Media and Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. An examination of the development of the news media and the role of political communication and information in American politics. Analysis of the newsmaking process; media coverage of political campaigns, the President and Congress; the impact of the news media on the American public; and the interaction between public officials and journalists.

**POLS 334. Electoral Politics.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in political science including POLS 101S. A survey of electoral politics and behavior, including the structure of the electoral system, contemporary political campaigning, political partisanship, voting behavior, and role of interest groups in the electoral process.

**POLS 335. Environmental Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. This course examines the evolution of environmentalism in the United States, including the policy-making process, science and the role played by the public and political institutions.

**POLS 336. South Asia Since Independence.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or 102S. This is a comparative study of the main political, economic and social developments in the major countries of South Asia. Themes will include democratization, problems of economic development, the role of caste and religion, the causes of intrastate conflict and interstate conflict and the influence of global forces on the region.

**POLS 337. Latin American Politics.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in social science. Examines the evolution of Latin American politics, including early colonial and caudillo rule, populism and radicalism, the emergence of military regimes, and the reestablishment of constitutional democracies. Also considers contemporary economic, social, cultural, and environmental issues which condition state-society relations in the region.

**POLS 338W. Politics of East Asia.** Lecture 3 hours; 3 credits. Prerequisite: six hours of social science and junior standing or permission of the instructor. This course is designed for intermediate students who are interested in the theoretical and systematic study of world politics. The course first introduces students to several major theoretical approaches to the study of world politics, and then applies these approaches to a number of major,

contemporary issues – ranging from war and peace, conflict and cooperation, development and underdevelopment to global and national interests. (cross listed with ASIA 338W) (This is a writing intensive course.)

**POLS 350T. Technology and War.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S or permission of the instructor. This course examines the fundamental changes and continuities that the evolution of technology has brought to armed conflict. It explores the historical development of technology and warfare, emphasizing the role of cultural, social and political choice shaping the development of new military technologies and affecting how they are used. What is the future of Western assumptions about technologically dominated warfare?

**POLS 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department chair and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**POLS 368. Internship in Political Science.** 1-12 credits. Prerequisite: 9 hours in political science, 3 of which must be in an upper-level course. Admission at discretion of faculty advisor. Available for pass/fail grading only. Individualized practical experience in public bureaucracies, political groups, administrative agencies or law firms. Group seminars are held periodically under the supervision of faculty. Credits are commensurate with the level of the student's involvement. (qualifies as a CAP experience)

**POLS 395, 396. Topics in Political Science.** Lecture, discussion, or seminar 1-3 hours; 1-3 credits each semester. Prerequisites: junior standing and permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses and any additional prerequisites will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**POLS 400. Congress.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. This is a detailed study of the institutional and behavioral factors at work in legislative decision making, especially at the national level. Emphases are on the interrelationships among Congress, the Presidency, and the bureaucracy and on learning how to do research on specific legislation.

**POLS 401. Global Environmental Policy.** Lecture 3 hours; 3 credits. Prerequisite: six credits in political science. This course analyzes the causes, severity, potential consequences, and proposed solutions regarding global ecological issues with special attention to the scientific debate and the political and policy process. It examines environmental policies of national governments, regional/international organizations, and global conferences.

**POLS 403/503. First Amendment Freedoms.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course deals with the development and practice of conflicting judicial and legal theories concerning our substantive guaranties. Students are asked to

act as advocates in developing and substantiating theories of their own.

**POLS 407. American Presidency.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. The course covers the development of presidential power and activity, the contemporary operations of the Presidency, and the problems which may confront the institution in the future.

**POLS 408. American Constitutional Law and Politics I.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. An examination of the vexatious line between the rights of individuals and those of the state in the American democracy, focusing on such major issues as freedom of expression and worship; freedom of the press; separation of church and state; privacy; and racial and gender discrimination.

**POLS 409. American Constitutional Law and Politics II.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S. An examination of separation of powers, federalism and the democratic process as reflected by Supreme Court decisions. Also, the Supreme Court as a political institution.

**POLS 410/510. African American Politics.** Lecture 3 hours; 3 credits. Prerequisites: 6 hours in social science and junior standing. This course will examine the political development of Black people in the United States by focusing on the relationship and processes of the American political system. In addition, the political dynamics of Black political thought, the Civil Rights Movement, and Black protest politics will also be analyzed.

**POLS 412/512. Politics of the Civil Rights Movement.** Lecture 3 hours; 3 credits. Prerequisites: six hours in social science and junior standing. Examines the political activities which resulted in the passage of the nation's second Civil Rights policy, the 1960 and 1964 Civil Rights Acts, the 1965 Voting Rights Act and the 1968 Fair Housing Act. The course will analyze the underpinnings, leadership, and political strategies of the Civil Rights Movement.

**POLS 414/514. Politics of Education.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. The question of power, often ignored by education policy analysts and researchers, is a principal focus of this seminar. Issues ranging from the role of education in political socialization and the politics of affirmative action and equal opportunity are examined.

**POLS 415/515. Women and Politics in America.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. Examines women's place in political theory and the practice of politics in the United States. A major focus is to trace the development of women's political rights, the impact of public policy on the lives of American women and to see how women influence and participate in the political process.

**POLS 418. Quantitative Methods.** Lecture 3 hours; 3 credits. Pre- or corequisite: STAT 130M with a grade of C- or better. Prerequisites: POLS 101S; POLS 308 with a grade of C- or better. A survey of and practicum in the basic techniques of quantitative research, including the logic of empirical research, the identification of data sources, and the use of appropriate statistical techniques.

**POLS 419. Jurisprudence.** Lecture 3 hours; 3 credits. Prerequisite: POLS 408 or 409 or permission of the instructor. An examination of

the history of legal thought and developments of natural law, as well as an in-depth analysis of legal positivism and realism. Particular attention is paid to American legal philosophy.

**POLS 420W/520. Southern Politics.** Lecture 3 hours; 3 credits. Prerequisite: POLS 101S or permission of the instructor. This seminar focuses on the politics of the American South from the 1940s to the present. Emphasis is on introducing students to contrasting explanations and analysis about the politics of the American South. (This is a writing intensive course.)

**POLS 421/521. International Law.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in political science or permission of the instructor. POLS 325W is recommended. Surveys major areas of public international law (e.g., laws of warfare, law of the sea, conflict resolution, etc.). Emphasizes the relationship between international law and international politics.

**POLS 424/524. International Organization.** Lecture 3 hours; 3 credits. Prerequisite: 9 hours in international courses, including POLS 100S and 325W, or permission of instructor. Corequisite: POLS 313. Course provides a basis for understanding the role and importance of international organizations in contemporary international relations. Focuses on development and history of global organizations, with particular emphasis on the United Nations, and regional and functional organizations.

**POLS 434/534. Political Participation in the United States.** Lecture 3 hours; 3 credits. Prerequisite: six semester hours of political science. An examination of current theories and research on political behavior, conventional and unconventional modes of political participation, and the impact of participation on the political system.

**POLS 435/535. Chinese Politics.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 102S, or permission of the instructor. A study of origins of the Chinese revolution; development and functions of the Chinese Communist Party; government institutions; the defense establishment; evolution of foreign policy; and post-Mao political and economic reforms. (cross listed with ASIA 435)

**POLS 436/536. Japanese Politics.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S, 102S, or permission of the instructor. A study of Japan's historical political development and social patterns; government institutions; problems of the constitution; and foreign and defense policy.

**POLS 437/537. International Relations in East Asia.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. A study of contemporary issues (political, economic, and strategic) in the East Asia area; the interactions of China, Japan, the United States, and the former Soviet republics in East Asia.

**POLS 442/542. Twentieth Century Dictatorships.** Lecture 3 hours; 3 credits. Prerequisites: six hours of social science, junior standing, or permission of the instructor. A study of the Fascist, Nazi, Stalin and Mao regimes and the forces that brought them to power and sustained them, including a study of the impact of their policies on their people and neighboring states.

**POLS 445. Globalization: Dynamics and Implications.** Lecture 3 hours; 3 credits. Prerequisites: 3 hours of economics and 6 hours of political science. Explores the essential characteristics of globalization and its implications for social relations and existing institutions.

**POLS 451. African Americans and Foreign Affairs.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course focuses on the political behavior of African Americans in foreign affairs. It illuminates the nexus between African American international and domestic participation. Specifically, African American foreign affairs participation is explored with an emphasis on how African Americans have participated. The eras of slavery, colonialism, and the rise of European and American hegemony in the Americas, Africa, and the African Diaspora and the rest of the developing world constitute the critical time frame for the course.

**POLS 458. Weapons of Mass Destruction in Global Security.** Lecture 3 hours; 3 credits. Prerequisite: POLS 100S. Since the end of the Cold War, weapons of mass destruction have emerged as one of the most dangerous and contentious issues in International affairs. The course examines how they are made, how they proliferate, and how they are controlled.

**POLS 461. Seminar in European Politics.** Lecture 3 hours; 3 credits. Prerequisites: POLS 100S or 102S, and 314 or 332. This course focuses on one specific European country such as France, Germany, the United Kingdom, etc. Examination of trends and events which most influenced the evolution of domestic politics and foreign relations from World War II to the present.

**POLS 462. Ethnic Conflict in the New Global Order.** Lecture 3 hours; 3 credits. Prerequisite: six hours in social sciences. Ethnically based conflict is presently a pervasive worldwide phenomenon. This course examines internal and external factors causing ethnic conflicts and mechanisms for resolving or mitigating such conflicts.

**POLS 466/566. Politics of the Middle East.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An analysis of the political processes throughout the region and in selected nations of the Middle East. Topics to be discussed include inter-Arab relations, the Arab-Israeli conflict, the Iran-Iraq rivalry and foreign power involvement in the Middle East.

**POLS 470. African Americans and Foreign Affairs.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course focuses on race, ethnicity, and the role and influence of African Americans in international affairs and American foreign policy making. It investigates the activities of African Americans in the international arena. The emphasis is on how African Americans have participated and the results of that participation from the era of slavery to Barack Obama.

**POLS 480W. Senior Seminar in International Studies.** Lecture 3 hours; 3 credits. Prerequisite: senior standing in the BAIS degree program or permission of the instructor and the director of the BAIS program. This seminar examines political convergence in the world today, focusing on the role that inter-governmental and non-governmental institutions play in structuring transnational relations. Special focus is placed on the central challenges currently facing the global community, including reducing military conflict, defending universal human rights, promoting economic development, enhancing ethnic and gender equity, and preserving natural environments. (This is a writing intensive course.)

**POLS 481. Seminar in American Politics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing in political science. The advanced study

of selected topics in American politics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

**POLS 493. Great Decisions.** Lecture 1 hour; 1 credit. Prerequisite: POLS 100S or 101S. An examination and discussion of critical world issues based upon the Foreign Policy Association's Great Decision Series.

**POLS 495/595, 496/596. Topics in Political Science.** Lecture, discussion, or seminar 1-3 hours; 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

**POLS 497/597. Independent Research in Political Science.** 1-3 credits. Prerequisite: senior standing or permission of the instructor. Independent research in political science under the supervision of a faculty member. May be repeated up to 6 credit hours.

## Psychology — PSYC

**PSYC 201S. Introduction to Psychology.** Lecture 3 hours; 3 credits. Introduction to the scientific study of psychology. The student is introduced to fundamental terms, facts, and concepts dealing with motivation, learning, perception, intelligence, measurement, personality structure, behavior disorders, psychological development, and social processes.

**PSYC 203S. Lifespan Development.** Lecture 3 hours; 3 credits. A broad contemporary view of the processes of development. The influences of biological and environmental factors in the development of personality and cognitive functioning are explored.

**PSYC 226S. Honors: Introduction to Psychology.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PSYC 201S.

**PSYC 227S. Honors: Lifespan Development.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of PSYC 203S.

**PSYC 295, 296. Topics in Psychology.** Lecture and discussion 3 hours; 3 credits. A study of selected topics designed for nonmajors or for elective credit within a major.

**PSYC 303. Industrial/Organizational Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of instructor. An application of psychological principles and research to human behavior in work settings. Among the topics covered are personnel selection, training, and evaluation; employee motivation and job satisfaction; and organizational leadership and theory.

**PSYC 304. Social Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. The behavior of the individual as affected by other people and groups. Interpersonal attraction, attitude change, group dynamics, and the application of psychology to social problems are among the topics covered.

**PSYC 306. Health Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. Course examines how psychological states (e.g., anxiety, stress) influence physical health. The course also examines how physical states (e.g., illness, pain, injury) influence psychological health. Topics include the impact of

stress on health and proneness to illness; coping with illness, injury and trauma; and the role of health-enhancing behaviors in maintaining physical health.

**PSYC 308. Positive Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. This course examines and discusses psychological theories and research that focus on human strengths and potential. Factors that contribute to happiness and a fulfilling life are emphasized. Lectures, self-assessments and experiential exercises are used to understand how to cultivate a meaningful life.

**PSYC 311. Psychology of Criminal Behavior.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. The Study of crime from a psychological perspective. Topics include theories of criminal behavior, violent and non-violent crime, sexual offenses, insanity, addiction, white collar crime, and other criminal behaviors.

**PSYC 317. Quantitative Methods.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: completion of PSYC 201S and STAT 130M or higher general education math requirement with a final grade of C (2.0) or higher. The application of statistical principles to psychological research problems, including an introduction to the principles of experimental design.

**PSYC 318W. Experimental Psychology.** Lecture 3 hours; laboratory 2 hours; 4 credits. Prerequisite: PSYC 317 with a grade of C (2.0) or higher. An examination of the principles of psychological research. Experimental design and interpretation are stressed. The student learns to locate and read technical articles and to report his or her own research in the style of the American Psychological Association. (This is a writing intensive course.)

**PSYC 321. Psychology of the Exceptional Child.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or 203S. A study of the psychological development of the child with physical, emotional, social, intellectual, and educational disabilities.

**PSYC 322. The Psychology of Adolescence.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or 203S. A survey of the processes of development during adolescence. Covers topics such as the influences of biological, emotional, social, and cognitive factors on personality development and adjustment of the adolescent.

**PSYC 323. Psychology of Women.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An examination of the major determinants of the psychology of women from theoretical, biological, interpersonal and sociocultural perspectives.

**PSYC 325. Drugs and Behavior.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. An examination of the effects of psychoactive drugs on behavior and the factors involved in drug use. Current research literature is discussed.

**PSYC 334. Social Development.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S. This course provides students with theories and research on the development of social processes from birth to adolescence. Major theories of social development and research are examined.

**PSYC 343. Personnel Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 303. The application of psychological principles and research to the development and improvement of personnel subsystems in business and industry. Emphasis is placed on the assessment, selection and training of workers and manager. While not required, PSYC 317 is recommended.

**PSYC 344. Human Factors.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 318W. The application and evaluation of psychological principles and research relating human behavior to the design of tools, technology, and the work environment.

**PSYC 345. Organizational Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 303. This course emphasizes the study of human behavior in organizations. Topics include leadership, motivation, group behavior, communications, power and politics, and organization change.

**PSYC 351. Child Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S or 201S. The development of children within their diverse environments is examined. A focus is on the methods used to understand how children experience their world.

**PSYC 352. Cognitive Development During Childhood.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 203S. The course will acquaint the student with theories and research on the development of cognitive processes from birth to adolescence. Major theories of cognitive development and research on the various cognitive processes will be reviewed.

**PSYC 353. The Psychology of Adulthood and Aging.** Lecture 3 hours; 3 credits. Prerequisites: PSYC 201S, 203S, or 304. The study of adults with emphasis on aging. Current theories and research as well as the characteristics, life styles, and activities of adulthood and aging will be discussed.

**PSYC 363. Psychology of Sex.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. A study of critical issues in human sexuality; gender and sexual identity, sexual arousal and erotic behavior, relationship development, and sexual dysfunction and deviation disorders.

**PSYC 367. Cooperative Education.** 3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management in accordance with the policy for granting credit for Cooperative Education Programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**PSYC 368. Internship in Psychology.** 3 credits. For ODU psychology majors only. Prerequisites: PSYC 317, PSYC 318W (pre- or corequisite) and permission of the instructor. Students engage in academically relevant work related activities in non-clinical settings. Available for pass/fail grading only. Students should work with the Career Management Center to identify their placement in the semester prior to enrollment. A maximum of 6 credits of PSYC 368 and/or 369 can be counted towards the major in Psychology. (qualifies as a CAP experience)

**PSYC 369. Practicum in Clinical Psychology.** 3 credits. For ODU psychology majors only. Prerequisites: PSYC 405, PSYC 317, PSYC 318W (pre- or corequisite), at least 80 earned credit hours and permission of the instructor. Corequisite: PSYC 371. Students engage in academically relevant work activities in clinical settings. Available for pass/fail grading only. Students should work with the Career Management Center to identify their placement in

the semester prior to enrollment. Instructor approval is required prior to registration. A maximum of 6 credits of PSYC 368 and/or 369 can be counted towards the major in Psychology. (qualifies as a CAP experience)

**PSYC 371. Clinical Supervision in Psychology.** Lecture 1 hour; 1 credit. Corequisite: PSYC 369 or 368. Students doing practica at designated clinical placements must also enroll in this course taught by a clinical faculty member. This seminar addresses the special issues in the areas of safety, confidentiality, and professionalism that arise in clinical settings. Students doing non-clinical internships may also enroll in the course. A maximum of 2 credits of PSYC 371 can be counted towards the major in psychology.

**PSYC 395, 396. Topics in Psychology.** 1-3 credits. Prerequisite: permission of the instructor. The department offers selected topics that may not be offered on a regular basis.

**PSYC 400. Senior Seminar.** Discussion 1 hour; 1 credit. Prerequisites: senior standing and minimum GPA of 3.25. Discussion of current research, theoretical, and professional topics in psychology.

**PSYC 403. History of Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A survey of the historical development of modern psychology. The major systems and their influences on contemporary American psychology are studied.

**PSYC 405. Abnormal Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A study of psychopathology, covering various behavior disorders, their descriptions, characteristics, and causation. Methods of therapeutic technique are reviewed.

**PSYC 408. Theories of Personality.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. A study of the structure of personality and the dimensions along which individuals differ. The contributions of major personality theorists and the implications of current research are considered.

**PSYC 410. Human Cognition.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An investigation of the ways in which people learn and think. Current models of human memory and cognition are considered in relation to the evidence on human thinking capabilities. The role of language in thought and knowledge acquisition is also explored.

**PSYC 412. Psychological Tests.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An examination of the history, theory and applications of psychological testing.

**PSYC 413. Sensation and Perception.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An analysis of the processes by which humans obtain information about the environment through the eyes, ears, and other sensory systems.

**PSYC 414. Principles of Learning.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. Course focuses on basic learning principles and processes; classical conditioning, instrumental conditioning, discrimination, attention, appetitive and aversive conditioning.

**PSYC 417. Advanced Statistics and Computer Applications.** Lecture 3 hours; 3 credits. Prerequisites: PSYC 317 and 318W, or permission of the instructor. The course covers advanced statistical methods and computer applications that build on knowledge and skills acquired in PSYC 317 and 318W.

**PSYC 420. Cross-Cultural Psychology.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A wide

variety of psychological research and theory relevant to human behavior in different cultures is examined and the impact of culture on human behavior is discussed. The course examines cross-cultural research conducted by scholars around the world. In addition to factual knowledge, emphasis is placed on critical thinking and problem solving.

**PSYC 424. Physiological Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. An investigation of the biological bases of behavior including mental illness, motivation, learning, memory and language.

**PSYC 430. Animal Behavior.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. This course explores the environmental and social factors that affect the behavior of animals. Special attention is given to the mechanisms of behavior and the evolutionary context of behavior.

**PSYC 431. Community Psychology.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. This course focuses on behavioral prevention and intervention efforts targeting social problems. The goal is to understand how to design and evaluate such programs. Topics vary, but include an emphasis on public health and safety issues. Individual and group behavior change, and cultural design, are each considered when targeting problems.

**PSYC 460. Psychology of African Americans.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S or permission of the instructor. This course examines the issues and perspectives related to the psychological evolution of African Americans in the United States. Particular emphasis is placed on exploring the discipline of psychology from an Afrocentric focus.

**PSYC 461. Drug Abuse and Dependence.** Lecture 3 hours; 3 credits. Prerequisite: PSYC 201S. This course offers an intensive review and clinical analysis of the issues and problems associated with addictive behavior with an emphasis on alcohol abuse and dependency.

**PSYC 487, 488. Honors Program in Psychology.** For ODU psychology majors only; 3 credits each semester. Prerequisites: PSYC 497; cumulative GPA of 3.25 or higher and psychology GPA of 3.50 or higher; permission of the departmental Honors Program chair. With psychology faculty supervision, student develops an honors thesis proposal (in PSYC 487) for approval by the Psychology Honors Program committee. Student conducts the supervised honors research and documents it in a thesis (in PSYC 488) for approval by the Psychology Honors Program committee. See section on Honors Program in Psychology in this Catalog.

**PSYC 489, 490. Readings in Psychology.** 3 hours; 3 credits. Prerequisite: approval by supervisory faculty member and department. The course may be taken only once. An individualized course in which the student does library research and writes a paper.

**PSYC 495/595. Topics in Psychology.** 1-3 credits each semester. Prerequisite: PSYC 201S or permission of the instructor. The department offers selected topics that may not be offered regularly. These special topics will appear in the Schedule of Classes each semester.

**PSYC 497, 498. Supervised Research.** For ODU psychology majors only; 3 credits each semester. Prerequisites: PSYC 317 and 318W, GPA of 2.5, pre-approval by psychology faculty supervisor. Student and faculty supervisor develop and approve a contract of required research activities for the semester, such as attending

research lab meetings, data collection, coding and/or analysis, library research, etc.

## Public Affairs and Service — PAS

**PAS 300. Foundations of Public Service.** Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. An introduction to the study of public service. Emphasis is placed on the history and framework of public service and the study and practice of public administration.

**PAS 301. Accountability, Governance, and Ethics.** Prerequisite: junior standing and a declared major in the university or permission of the Dean's Office of the CBPA. This course examines the ethical implications of management in the public and non-profit sectors, and the role of accountability in policy processes in relation to critical social, political and economic issues.

**PAS 368. Internship in Public Service.** 1-3 credits. Prerequisites: PAS 300 and 301. Student participates in a relevant public service-related work experience. Approval for enrollment and allowable credits is determined by the PAS CAP advisor and the Career Management Center in the semester prior to enrollment. (qualifies as a CAP experience)

**PAS 395. Selected Topics in Public Administration.** Lecture 3 hours; 3 credits. Prerequisite: a declared major in the university or permission of the Dean's Office of the CBPA, and permission of the instructor. Designed to provide students the opportunity to study, independently or in small groups, selected topics in public service under the guidance of a faculty member.

**PAS 410. Public and Non-profit Organization.** Lecture 3 hours; 3 credits. Prerequisite: PAS 300 or 301 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA, and junior standing. An introduction to the study and practice of public and non-profit agencies. The course is designed to explore fundamental issues of organizational structure, management, and operations of public and non-profit organization in modern American society.

**PAS 411. Multi-Sector Partnerships for Public Service.** Lecture 3 hours; 3 credits. Prerequisite: PAS 300 or 301 or permission of the instructor, and a declared major in the university or permission of the Dean's Office of the CBPA, and junior standing. This course examines the interplay between the public, private, and non-profit sectors. Particular emphasis is placed on the structure and operation of intersectoral partnerships to achieve public goals, including cooperative, coordinative, and collaborative arrangements.

**PAS 497. Independent Study in Public Service.** 3 credits. Prerequisites: PAS 300 and 301. Provides students the opportunity to undertake independent study of selected topics/issues in public service under the guidance of a faculty member. Student and faculty member must complete and agree on a learning contract before study begins.

## Recreation and Tourism Studies — See Human Movement Sciences

## Religious Studies — See Philosophy and Religious Studies

## Sciences - SCI

**SCI 101. Introduction to Sciences.** 0 or 1 credit. Presents the relationship between majors in the College of Sciences and the student's career goals for students planning to major in a science. Provides an orientation to the University emphasizing the learning skills needed for science majors.

**SCI 302T. The Evolution of Modern Science.** Lecture 3 hours; 3 credits. Prerequisite: HIST 100H, 101H, 102H, 103H, 104H or 105H. Traces the development of modern science from the ancient Greeks to the 21<sup>st</sup> Century. (Cross-listed with HIST 386T)

**SCI 395. Special Topics.** 0-3 credits.

**SCI 495. Topics.** 1-3 credits.

## Sociology — SOC

The Department of Sociology and Criminal Justice offers courses in sociology, anthropology, criminal justice, and social welfare. Anthropology and criminal justice courses are listed separately in this catalog.

**SOC 201S. Introduction to Sociology.** Lecture 3 hours; 3 credits. An introduction to the discipline and methods of sociology. Major topics include socialization, social inequality, family, education, gender roles, ethnic and minority relations.

**SOC 226S. Honors: Introduction to Sociology.** Lecture 3 hours; 3 credits. Open only to students in the Honors College. A special honors section of SOC 201S.

**SOC 300. Social Problems.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An analysis of the major social problems confronting groups and individuals in a society marked by rapid change. Emphasis is given to the study of social phenomena including both historical and comparative perspectives.

**SOC 303. Introduction to Marriage and the Family.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. A wide variety of topics are covered, including gender-role socialization, dating, premarital sex, power, negotiation, conflict and violence as well as satisfaction in relationships, singlehood, cohabitation, commuter and dual-career relationships, and relationship dissolution.

**SOC 306. Religion and Society.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Sociological analysis of religion as a social institution, of the functions of religion and its relationship to other institutions and to social change, and of the religious behavior of individuals.

**SOC 309. Population and Society.** Lecture 3 hours; 3 credits. Prerequisite: six semester hours in the social sciences or permission of the instructor. This course offers an introduction to the field of population and its interconnection to broader societal changes. It introduces students to the concepts, issues and concerns in population studies and examines the interaction between population processes and economic development, social changes and environment. Topics include theories, fertility, mortality, migration, distribution and composition, population and development, population and environment, and policy. Emphasis is given to a critical assessment of population processes as both causes and consequences of development and societal changes with a focus on comparative patterns between developing countries and the more developed countries.

**SOC 316. Juvenile Delinquency.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S or permission of the instructor. A study of juvenile misbehavior in the contemporary community, its nature, extent, treatment, and control, including juvenile court procedure and philosophy. (cross-listed with CRJS 316)

**SOC 320. Social Inequality.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An analysis of social differentiation, stratification, and social class. Emphasis is placed upon modern American society, with some comparison with historical and contemporary systems of other societies.

**SOC 323. Sociology of Minority Families.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Examination and explanation of minority families' lives in relationship to other societal institutions and historical developments. The course focuses on issues of minority families and places these issues in a sociological framework, e.g., stratification, poverty and gender.

**SOC 325. Social Welfare.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. An introduction to the broad field of social welfare. The philosophy, values, purposes, goals, and functions of social welfare are examined.

**SOC 330. Society and the Individual.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Social psychological theory and research on current topics of interest on the relationship of the individual to society.

**SOC 337. Introduction to Social Research.** Lecture 3 hours; 3 credits. Prerequisite: CRJS 215S or SOC 201S. An overview of the scientific approach to the study of social phenomena. Includes the application of descriptive measures, graphic techniques, survey and experimental analysis to the study of these phenomena and techniques for making qualitative judgements about such research.

**SOC 340. Sociology of Women.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or six credits in social sciences or permission of the instructor. An exploration of the role and status of women in contemporary American society from feminist sociological perspectives.

**SOC 342. Feminist Research Methods.** Lecture 3 hours; 3 credits. Prerequisites: WMST 201S and an introductory social science research methods course or permission of the instructor. An introduction to feminist critiques of mainstream social science research methods and to feminist approaches to social science research as applied to current issues pertaining to women.

**SOC 343. Sociology of Sexuality.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S. Study of the sociological research and theory on sexuality. Wide range of issues covered including childhood sexuality and arousal, premarital sex, adult erotic behavior, response to pornography, rape and incest.

**SOC 352. War and Peace.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours of social science courses or permission of the instructor. An introduction to the nature and implications of nuclear weapons. Focus on sociological and psychological dimensions of the nuclear threat.

**SOC 353. Sociology of the Middle East.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or six hours of social science courses or permission of the instructor. A comparative survey of population and culture and other sociological

characteristics of Middle Eastern and Arab League States.

**SOC 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit is based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**SOC 368. Internship.** 1-6 credits. Prerequisite: permission of the department. This course allows students to volunteer in an agency related to their major for pass/fail credit. Students must volunteer for 50 hours per course credit. Internships for less than 3 credits require prior approval by the Internship Faculty Director. (qualifies as a CAP experience)

**SOC 369. Practicum.** 3-6 credits. Prerequisite: permission of the department. This course is for students participating in the Career Advantage Program (CAP). (qualifies as a CAP experience)

**SOC 395, 396. Topics in Sociology.** 3 credits each semester. Prerequisite: SOC 201S or permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**SOC 400/500. War and Gender.** Lecture 3 hours; 3 credits. Prerequisite: junior or senior standing. In this course students will grapple with issues concerning war, gender roles, and gender in/equality. The course will address gender roles in war throughout history, globally and across cultures. However, the United States military and military involvement in the 20<sup>th</sup> and 21<sup>st</sup> century will remain the primary focus. Discussion will include how social norms and ideals of masculinity and femininity shape, and in turn are shaped by, images and realities of war—including gendered aspects of nationalism and just war theories. The military involvement of men, women (and children) in war and in peacetime, as participants and observers, perpetrators and victims, supporters and opponents of war will also be discussed.

**SOC 402/502. Sociology of Child Welfare.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or approval of Instructor. A sociological analysis of the field of child welfare. Topics include social inequality as it applies to children as a group in the U.S. and globally; understanding violence against children within the global context of children's rights; examining data on the degree to which policies, programs and research in the field fail to protect children and why; prevalence, causes and consequences of child sexual, physical and emotional abuse and neglect; evaluation of programs like 'family preservation' and placement in 'substitute' care, i.e. foster care, adoption, institutionalization; changes that would protect and advance the interests and rights of children at the parent-child, agency and societal level.

**SOC 403. Violence in the World of Children.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in the social science perspective or SOC 201S or CRJS 215S or permission of the instructor. This "child-centered" course examines the interaction of adults in violent conflict with the world of

children, children's experience of violence and its meaning in the lives of children. Topics include: valuing children, violence toward children in culture, families, and schools; child physical and sexual abuse and neglect; gangs, violent communities, and children and war. The effects of childhood experiences of violence, children's coping with violence, and alternatives to violence are also developed. (cross-listed with CRJS 403)

**SOC 405/505. Social Change and Social Movements.** Lecture and discussion 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Analysis of the nature and causes of social change, major social movements, and their impact upon contemporary society.

**SOC 409W. Sociological Theory.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S. The development of sociological thought during the nineteenth and twentieth centuries. Analysis of major contributions to the development of systematic thinking in contemporary sociology. (This is a writing intensive course.)

**SOC 415. Sociology of Work and Occupations.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. The study of the social processes involved in the production, distribution, and consumption of goods and services within various political economic systems. Includes the study of occupations and the nature of work.

**SOC 421/521. Deviant Behavior.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or permission of the instructor. A study of various definitions and forms of deviant behavior, theoretical explanations of causes of deviant behavior and the impact of deviant behavior on society and the individual. (cross-listed with CRJS 421/521)

**SOC 423/523. Women, Health and Healing.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours of human behavior way of knowing courses or permission of the instructor. An examination of women's experiences with health and illness and women's roles in the health-care system as patients and care providers from a feminist sociological perspective.

**SOC 426/526. The Sociology of Minority Groups.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. The study of the process of and responses to the oppression of racial, religious, ethnic, and national minorities in a variety of countries within a historical and comparative perspective. Special emphasis given to American minorities and especially African Americans.

**SOC 427/527. Violence Against Women.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or completion of the human behavior way of knowing or permission of the instructor. A critical analysis of violence against women as an institution of social control. Examines violence in the context of social and political inequality and feminist critique. Issues explored include pornography, prostitution, sexual harassment, incest, battering and rape. (cross-listed with CRJS 427/527)

**SOC 436. Capstone Research Project.** Lecture 3 hours; 3 credits. Prerequisites: SOC 337, STAT 130M and senior status. Students will work in groups to plan, design, and carry out a research project. Final papers which report the results of the study will be presented in a formal research seminar. The projects will reflect knowledge gained from undergraduate work and training received in STAT 130M and SOC 337.

**SOC 438. Sociology of Education.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or permission of the instructor. Sociological theory and research investigating contemporary education as a social institution.

**SOC 440/540. Health, Illness, and Society.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in the human behavior way of knowing or permission of the instructor. The study of social and social-psychological factors related to health, illness, and treatment with a focus on social epidemiology, the medical industry, and health, illness, and sick-role behavior.

**SOC 441/541. Drugs and Society.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or permission of the instructor. The study of sociological and social psychological explanations of drug-using behaviors and of legal and medical control of drugs. Topics include changes in the legal status of drugs, cross-cultural and historical variations in the control and use of drugs, and social epidemiology of drug use in contemporary society. (cross-listed with CRJS 441/541)

**SOC 444. Community Justice.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S. This is a service learning course designed to study how the emerging field of community justice, a neighborhood-based strategy, can reduce crime and improve public safety by investing in social, human and cultural capital. (cross-listed with CRJS 444)

**SOC 446/546. Social Issues Across the Life Cycle.** Lecture 3 hours; 3 credits. Prerequisite: 6 hours in sociology or permission of the instructor. This course focuses on age stratification across the life cycle. An analysis of social forces and issues affecting lives at various stages of the life cycle is offered.

**SOC 452. Diversity in Criminal Justice Organizations.** Lecture 3 hours; 3 credits. Prerequisite: SOC 201S or CRJS 215S or permission of the instructor. This course examines the impact of diversity, culture, and ethnic origin in criminal justice organizations. The course is designed to better prepare students to meet the challenge of diversity in criminal justice organizations. (cross-listed with CRJS 452)

**SOC 495/595, 496/596. Topics in Sociology.** 3 credits each semester. Prerequisite: SOC 201S or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule, and will be more fully described in information distributed to all academic advisors.

**SOC 497/597, 498/598. Tutorial Work in Special Topics in Sociology.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

## Special Education — SPED

**SPED 313. Fundamentals of Human Growth and Development: Birth through Adolescence.** Lecture 3 hours; 3 credits. Prerequisite: Junior standing. This course will contribute to an understanding of the physical, social, emotional, and intellectual development of children and adolescents and the ability to use this understanding in guiding learning experiences. The interaction of children and adolescents with

economic, social, racial, ethnic, religious, physical and intellectual differences will be explored. Developmental issues related to giftedness or disability and the impact of family disruptions, child abuse and substance abuse are included.

**SPED 400/500. Foundations of Special Education: Legal Aspects and Characteristics.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. The course provides an introduction and overview of the field of special education from the perspective that it is a subsection of general education and that the field is in transition by virtue of philosophical, legislative and programmatic changes. Legal aspects, regulatory requirements, and critical analyses of research are addressed. This course includes a broad overview of the expectations associated with the identification, characteristics, and education of students with disabilities.

**SPED 402/502. Instructional Design I: Learner Characteristics and Assessment.** Lecture 3 hours; 3 credits. Prerequisite: SPED 400/500. The intent of this course is to provide pre-service teachers with: (a) knowledge of the characteristics of students with mild disabilities who are accessing the general curriculum, K-12, including, but not limited to, LD, BD, and EMR, and (b) the ability to develop knowledge and skill in the selection, administration, scoring and interpretation of standardized/norm-referenced assessments of exceptional learners. Administering formal and informal assessment tools and the development of an IEP are emphasized. The use of assessment data to improve instruction and student performance is discussed.

**SPED 403/503. Directed Field Experience in Special Education.** Lecture 2 hours; 2 credits. Practicum of 45 hours required. Prerequisites: SPED 400/500 and 402/502 and passing scores on PRAXIS I or equivalent. Corequisite: SPED 483/583. This course provides variable hours of direct participation in a community or educational setting with individuals with special needs. The course includes specific skills of program planning, implementation, evaluation and classroom management.

**SPED 404/504. Medical Aspects of Disabling Conditions.** Lecture 3 hours; 3 credits. Prerequisites: SPED 400/500 and junior standing. This course reviews medical conditions present among individuals with disabilities and implications for classroom instruction.

**SPED 406/506. Students with Diverse Learning Needs in the General Education Classroom.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course introduces general education teachers to the legal aspects and educational needs of at-risk students and those with disabilities. Emphasis is on characteristics of special needs children and procedures for effective academic, behavioral, and social integration of these children in the general education classroom.

**SPED 411/511. Classroom and Behavioral Management Techniques for Students with Diverse Needs.** Lecture 3 hours; 3 credits. Co- or prerequisite: SPED 400/500. This course will address classroom management techniques and individual interventions based upon behavioral, cognitive, affective, social, and ecological theory and practice. The course will focus on the field of applied behavior analysis, including best practices in the areas of data collection, program selection, program implementation, and data analysis. Positive behavior management and supports and

functional behavioral assessment will be emphasized.

**SPED 415/515. Instructional Design II: Curricular Procedures and Individualized Education Planning.** Lecture 3 hours; 3 credits. Practicum of 45 hours is required. Prerequisites: SPED 400/500, 402/502, and passing scores on PRAXIS I or equivalent. The intent of this course is to provide preservice teachers with: (a) knowledge of research-based instruction for K-12 students with disabilities and those who are gifted; (b) knowledge and skill in using data collection to make decisions about student progress, instruction, program, accommodations and teaching methodology for exceptional learners, and (c) knowledge and skill in planning, developing and implementing individual educational plans and group instruction for diverse exceptional learners who are accessing the general education curriculum and the standards of learning.

**SPED 417/517. Collaboration and Transitions.** Lecture 3 hours; 3 credits. Co- or prerequisite: SPED 400/500. This course addresses the complex issues surrounding families and children with disabilities and transitions across the lifespan, as well as effective collaboration with families and professionals to support inclusion and/or effective early intervention services, educational programs and transition services for students at-risk and students with disabilities. Emphasis is on successful professional collaboration and effective relationships in educational, transition, and family settings.

**SPED 432/532. Characteristics of Students with Visual Impairments.** Lecture 1 hour; 1 credit. Prerequisite: SPED 400/500. Provides an overview of the characteristics of and services to persons with visual impairments, including the impact of visual impairment on infants' and children's growth and development, child and adolescent emotional and social development, and family interaction patterns. Considers the educational, conceptual, psycho-social, and physical implications of a visual impairment.

**SPED 433/533. Braille Code.** Lecture 3 hours; 3 credits. Co- or prerequisites: SPED 400/500 and 432/532. This course provides instruction in the development, use, and application of the Braille literary code and its implications for educational/literacy programs for students with visual disabilities. Students will develop the skills to read and write contracted and uncontracted Braille, while acquiring instructional methodologies for teaching children who are blind to read and write. Sources of Braille materials for educational purposes are identified.

**SPED 434/534. Medical and Educational Implications of Visual Impairments.** Lecture 3 hours; 3 credits. Co- or prerequisites: SPED 400/500 and 432/532. Provides an introduction to anatomy and physiology of the visual system and the educational implications of visual pathology. Topics include anatomy of the human eye, normal visual development, pathology of the eye, examination procedures for the identification of visual pathology, and the effects of pathology on visual learning and development.

**SPED 435/535. Orientation and Mobility.** Lecture 2 hours; 2 credits. Co- or prerequisites: SPED 400/500 and 432/532. Provides the foundation for understanding the components and essence of orientation and mobility. Establishes how the need for independent travel in the blind population created the field of O&M. Explores the philosophy and history of orientation and mobility including cane instruction, dog guides and methods

of travel. Addresses techniques in developing orientation skills and basic mobility instruction. Motor and concept skill development are emphasized.

**SPED 436/536. Curriculum and Assessment of Students with Visual Impairments.** Lecture 3 hours; 3 credits. Co- or prerequisites: SPED 400/500 and 432/532. Provides students with knowledge and understanding of the educational assessment of students with visual impairments and additional disabilities including deaf-blindness. Students will practice assessing and planning educational programs for students with visual impairments. Addresses assessment of technology for students with visual impairments. Examines determination of learning needs and appropriate learning media, relationship of assessment, IEP development, and placement.

**SPED 437/537. Assistive Technology for People with Sensory Impairments.** Lecture 2 hours; 2 credits. Co- or prerequisites: SPED 400/500 and 432/532. This course is designed for professionals and/or students interested in serving the visually impaired/blind population or hearing impaired/deaf population. It is designed to heighten the awareness of participants to specific technology and resources available to enhance and improve the ability of individuals with visual and hearing impairments to succeed in school, daily living activities and employment. Knowledge and awareness components of this course will be delivered via distance education.

**SPED 469/569. Communication/Language Development and Intervention Strategies.** Lecture 3 hours; 3 credits. Prerequisite: SPED 400/500. This course examines symbolic and non-symbolic communication/language development and acquisition. Emphasis is on routine-based communication training, communication/language facilitation strategies, augmentative communication systems, and informal/functional communication/language assessment procedures for early childhood special education students and students with severe/profound disabilities.

**SPED 483/583. Field Experience Seminar in Special Education.** Lecture 1 hour; 1 credit. Prerequisites: SPED 313, 400/500, 402/502. Co-requisite: SPED 403 for 483. Explores issues, problems, concerns and processes related to teaching and entering the profession of teaching. Passing scores on the Virginia Communication and Literacy Assessment (VCLA) and Virginia Reading Assessment (VRA) will be required by the end of the course.

**SPED 486/586. Teacher Candidate Internship for Special Endorsement.** 3-12 credits. Five days per week; full semester. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, passing scores on PRAXIS I or equivalent, passing scores on the VCLA, VRA, and the appropriate PRAXIS II content examination, and permission of the director of teacher education services. Available for pass/fail grading only. (qualifies as a CAP experience)

**Sport Management — See Human Movement Sciences**

**Statistics — See Mathematics and Statistics**



## **STEM (Science, Technology, Engineering, and Mathematics) Education & Professional Studies**

### **STEM Education and Professional Studies — SEPS**

**SEPS 100. Sales Techniques.** Lecture 3 hours; 3 credits. This is an introductory course that emphasizes the concept of determining customer needs, wants, and desires and matching them to products and services for a long-term sales relationship. The course is not intended for students pursuing majors in the College of Business and Public Administration.

**SEPS 102. Advertising and Promotion.** Lecture 3 hours; 3 credits. This is an introductory course designed to teach the fundamental product and service promotion processes of planning and producing advertising and promotion campaigns. The course is not intended for students pursuing majors in the College of Business and Public Administration.

**SEPS 208. Buying.** Lecture 3 hours; 3 credits. Prerequisites: SEPS 100 and 102 or permission of the instructor. Designed for marketing education and fashion students, the course explores the buyer's responsibilities, customer wants and needs, vendors and merchandising sources, buying plans, merchandising control and use of technology in merchandising. Not intended for students pursuing majors in the College of Business and Public Administration.

**SEPS 220. The Fashion Industry.** Lecture 3 hours; 3 credits. Course is designed for marketing education and fashion students. It covers fashion as a force which alters patterns of change and growth in the fashion industry to include designers, manufacturers, buyers, retailers, and customers. Students explore the latest trends in style and materials.

**SEPS 234. Survey of Dress and Costume.** Lecture 3 hours; 3 credits. Whether high fashion or low, glitz or grunge, from revolutionary politics to the new machine age, war and depression to growth and prosperity, fashion dress and costume goes hand-in-hand with history. This course examines the evolution of dress and costume and finds innovation at every turn.

**SEPS 297. Observation and Participation.** 1 credit. Prerequisite: sophomore standing. Students observe middle and/or high school classes for 30 clock hours. Assist teachers and students in practical settings. Relate principles and theories of education and specialty content to actual practice in the classrooms and schools. Attend seminars related to contemporary school practices. (qualifies as a CAP experience)

**SEPS 302. Workforce Supervision.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Explores the skills and knowledge required of successful supervisors – leading, motivating, setting goals, delegating, budgeting, interviewing, negotiating, counseling, coaching, conducting meetings, and handling grievances.

**SEPS 303. Social Aspects of Clothing.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of instructor. A study of the social meaning of appearance, how it is established, how it is interpreted, and the importance of the social and cultural contexts in which these processes occur.

**SEPS 312. Technical Illustration and Design for Fashion.** Lecture 1 hour; laboratory 5 hours; 3

credits. Prerequisite: junior standing or permission of the instructor. Students learn technical illustration and design principles and techniques that are required of professionals in the fashion industry. Activities include traditional processes and computer aided design (CAD) techniques.

**SEPS 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval by the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria, and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience is to take place. (qualifies as a CAP experience)

**SEPS 389. Education and Training of Adults.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. An in-depth overview of education and training of adults. Attention is given to adult learning theory and strategies for facilitating the learning process. Aspects of the course will focus on helping students understand and visualize jobs and careers in adult education and training.

**SEPS 395. Topics in Occupational Education.** 1-3 credits. Prerequisite: permission of the instructor. The department offers selected topics designed to permit small groups of qualified students to work on subjects of mutual interest.

**SEPS 400/500. Instructional Systems Development.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Students learn how to design and develop classroom instructional materials including career and technical education and training curricula and programs for youths and adults. Skills in this area include the selection and use of materials, including media and computers and evaluation of pupil performance. Training specialist students learn to develop instructional materials using the instructional systems design process. Career and technical education students learn to plan instruction, to implement competency-based and standards-based education, and to modify and use the Virginia career and technical education curriculum guides.

**SEPS 401/501. Foundations of Career and Technical Education.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to teach career and technical education majors to plan, develop, and administer a comprehensive program of career and technical education for high school students and adults. Students also develop an understanding of the historical and sociological foundations underlying the role, development and organization of public education in the United States.

**SEPS 402/502. Instructional Methods in Occupational Studies.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Designed to develop a student's ability to use basic instructional techniques and methods applicable to career and technical education, and adults in business, government, and industrial organizations. It involves videotaped micro-teaching demonstrations.

**SEPS 403/503. Methods in Career and Technical Education.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A practical study and application of recommended methods of teaching career and technical education to high school students. Video-taped micro-teaching

demonstrations are included. The course should be taken the semester prior to student teaching.

**SEPS 405. Directed Work Experience.** 3 credits. Prerequisite: senior standing. Student must be employed the summer prior to his/her senior year in an emphasis-related job approved by the instructor. The student work is supervised by a job supervisor and the course instructor in a cooperative effort. Must complete a job package that describes all aspects of the organization. (qualifies as a CAP experience)

**SEPS 408/508. Advanced Classroom Issues and Practices in Career and Technical Education.** Lecture 3 hours; 3 credits. Prerequisite: admission to an approved teacher education program. An overview of classroom issues and practices for prospective career and technical teachers. The course covers classroom management and safety, communication processes, reading in the content area and child abuse and neglect recognition and intervention. Students learn the legal requirements and alternative teaching strategies for serving students with special needs. Students visit schools for a 30-hour student observation. PRAXIS II and VCLA are course completion requirements.

**SEPS 409/509. Fashion Market Trip.** Lecture 3 hours; 3 credits. Prerequisite: SEPS 208. This is the study of planning and conducting a fashion buying trip to one of the major fashion markets in the United States like the Las Vegas Magic Trade Show. The students envision themselves as buyers in action and learn how trend forecasting and creative presentations help market fashion products and services to trade customers and consumers.

**SEPS 410/510. The Foreign Fashion Market Trip.** Lecture 3 hours; 3 credits. Prerequisite: SEPS 208. Students plan and conduct a fashion buying trip to a foreign market in Europe or Asia, and learn how to buy merchandise in the global marketplace. The course requires students to go on the trip as well as attend the pre- and post-trip classes.

**SEPS 411/511. Fashion Show Production.** Lecture 3 hours; 3 credits. Prerequisite: SEPS 220. Students plan and produce a fashion show. They examine each behind-the-scenes step from concept to execution as they organize and stage a show that is profitable, entertaining, and aesthetically pleasing.

**SEPS 415. Advanced Merchandising.** Lecture 3 hours; 3 credits. Prerequisites: SEPS 208 and ACCT 201. This course is designed for marketing education and fashion students. It includes advanced merchandising math concepts used in the merchandising industry. Topics include pricing and re-pricing merchandise, creating and analyzing six-month plans, maintaining inventory control, and solving problems that are typically experienced in the merchandising field.

**SEPS 422. Fashion Product Development.** Lecture 3 hours; 3 credits. Prerequisites: SEPS 208 and 220. Students work step-by-step through the preproduction processes of apparel product development: planning, forecasting, fabricating, developing silhouettes and specifications, pricing, and sourcing. The course demonstrates how these processes must be coordinated to get the right product to retail when consumers want it and at a price they are willing to pay.

**SEPS 423/523. Visual Merchandising and Display.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course is designed to introduce students to the

best practices and effective strategies in visual merchandising. It will provide the basic framework with which prospective merchandisers plan and construct visual displays that enhance the selling of merchandise and ideas.

**SEPS 424/524. Fashion, Textiles, and Construction Analysis.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course explores information related to new technological advances in the textile/apparel industry and determines consumer preferences and concepts of fashion product quality. It includes the development of standards for judging qualities of merchandise. Fabrics are examined to determine the value they provide to the apparel and accessories customer.

**SEPS 425. Fashion Accessories.** Lecture 3 hours; 3 credits. Prerequisite: SEPS 220. This course is a detailed analysis of women's and men's fashion accessory categories including the major categories of accessories, the materials used in the production of a variety of accessories, and an overview of the accessories business.

**SEPS 430/530. Technology Applications in Training.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course is designed to prepare training professionals to plan and conduct training using technological applications. The course covers instructional technology skills, computer systems, and software that trainers need so that they can teach basic computer and information skills in business, industry and government.

**SEPS 431/531. Web-Based Organization for Fashion.** Lecture 3 hours; 3 credits. Prerequisite: STEM 112. This course provides the basic communications foundations needed to conceive, plan, develop, implement, and maintain a Web-based organization for fashion. Upon completion, students will understand what is required to plan, launch and maintain a successful online venture, limited only by the willingness of the student to explore these technological advances.

**SEPS 450/550. Assessment, Evaluation and Improvement.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course prepares training and educational professionals to plan for and conduct assessments to use in planning instructional programs, evaluate individual learning, monitor student progress, measure program effectiveness and efficiency, and evaluate the return on investments of training courses and programs.

**SEPS 480. Senior Project: Merchandise Retailing.** Lecture 3 hours; 3 credits. A senior capstone course in which fashion and business knowledge and skills are applied to plan and implement a merchandise retailing business. Students must submit a professional quality written report and present results to a panel of consultants.

**SEPS 481. Occupational Career Transition.** Lecture 3 hours; 3 credits. Prerequisite: STEM 251G. To provide the senior-level student majoring in Occupational and Technical Studies with the skills and techniques necessary to bridge the gap from college to career. Focus is on the generation of a professional portfolio and experiential learning that will transfer into today's job market.

**SEPS 484/584. Student Teaching Mentored.** 6-12 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, and permission of the director of teacher education services. Passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and passing scores on the appropriate PRAXIS II content examination

required. Classroom placement in school systems for students to apply content and methodologies. The student is mentored by a school mentor and university faculty. This course is for newly hired teachers on provisional contracts.

**SEPS 485. Student Teaching.** Five days per week, full semester; 12 credits. Prerequisites: completion of the approved teacher education program in the major area, departmental approval, passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores, passing scores on the appropriate PRAXIS II content examination, and permission of the director of teacher education services. Available for pass/fail grading only. (qualifies as a CAP experience)

**SEPS 495/595. Topics in Occupational Education.** 1-3 credits each semester. Prerequisite: permission of the instructor. The department offers selected topics designed to permit small groups of qualified students to work in subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

**SEPS 496/596. Topics in Career and Technical Education.** 1-3 credits each semester. Prerequisite: permission of the instructor. The department offers selected topics designed to permit small groups of qualified students to work in subjects of mutual interest which, due to their specialized nature, may not be offered regularly.

**SEPS 497/597. Independent Study in Occupational Education.** 1-6 credits. Prerequisite: permission of the instructor.

**SEPS 498. Independent Study in Occupational Education.** 1-6 credits. Prerequisite: permission of the instructor.

## Science, Technology, Engineering, and Mathematics-STEM

**STEM 110T. Technology and Your World.** Lecture and application 3 hours; 3 credits. An overview of the resources and systems of technology. Emphasis is on the impacts that technology has on individuals and their careers. Discussion and activities explore the evolution of technology, its major systems and their impact on individuals and their careers.

**STEM 112. Communication Design.** Lecture 1 hour; laboratory 5 hours; 3 credits. A course that explains communication design principles and product development techniques. Activities include traditional processes and computer aided design (CAD) techniques.

**STEM 221. Industrial Materials.** Lecture 1 hour; laboratory 5 hours; 3 credits. A study of materials used by industry to produce products. Emphasis is on the study of ceramics, plastics, composites, and biotechnological materials. Students learn materials identification, use and processing.

**STEM 231. Materials and Processes Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. A study of the production processes used with metallic and forest product materials. Industrial resources, their location, extraction, and processing into standard stocks are also covered. Students learn properties, uses and processing of metal and wood materials.

**STEM 241. Energy Systems: Basic Electricity.** Lecture 1 hour; laboratory 5 hours; 3 credits. A study of direct and alternating current and its use in contemporary technology. Activities include experiments and projects to supplement the theory of electricity.

**STEM 242. Technological Systems Control.** Lecture 1 hour; laboratory 5 hours; 3 credits.

Students will develop an understanding of systems control technology for application to energy and power, manufacturing, processing and transportation systems. Emphasis will be placed on research and development, creativity and experimentation, and trouble shooting in designing control systems.

**STEM 251G. Computer Literacy: Communication and Information.** Lecture 1 hour; laboratory 5 hours; 3 credits. This course is designed to provide competence in basic computer literacy. Emphasis will be placed on using communication and information technologies to produce communication products from their inception to delivery. Class discussions, telecomputing, and information retrieval assignments will be used to create real-world applications of the processes presented and their impact on a global society.

**STEM 305. Curriculum for Technology Education.** Lecture and discussion 3 hours; 3 credits. Prerequisites: STEM 251G and junior standing. National and state trends in instructional content are analyzed. Basic historical, philosophical and sociological foundations of education are studied. Course content, activities, and facilities are planned. Competency-based and standards-based educational methods are stressed.

**STEM 306. Methods for Technology Education.** Lecture and discussion 3 hours; 3 credits. Prerequisites: STEM 251G and junior standing. A practical study and application of recommended methods for teaching technology education. Students plan and present micro-lessons; videotaped micro-teaching demonstrations are included. They also learn to organize student organizations and plan for laboratory management.

**STEM 320. Manufacturing and Construction Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: STEM 112, 221, 231 or permission of instructor. A study of production processes used in manufacturing and construction systems. Students will research and design manufactured products for mass production and constructed products for building. The social, cultural, environmental and economic impacts of manufacturing and constructed products on society are discussed.

**STEM 321. Manufacturing Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: STEM 112, 221, 231 or permission of instructor. A study of the production processes used in manufacturing systems. Emphasis is placed upon planning, organizing and principles of manufacturing. Students research and design enterprise systems for mass production. Emphasis is on manufacturing design requirements and the social, cultural, and economic impacts of manufactured products on society and the environment.

**STEM 322. Construction Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: junior standing or permission of instructor. A study of the production processes used in construction systems. Emphasis is placed upon planning, organizing and constructing correlated projects and activities in the study of construction.

**STEM 323. Production Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisites: STEM 112, 231, 251G, or permission of instructor. A study of automated production processes used by industry. Emphasis is placed on equipment integration and system automation. Students learn to use computer, CAD, CAM, robotic and vision

equipment to design, control, and monitor automated systems.

**STEM 330. Medical, Agricultural, and Bio-related Technologies.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of department. A course for technology education majors that studies technological systems related to medical and food processing technologies. Students learn the basis of these technologies and complete activities that integrate the content with processes and products found in our technological world.

**STEM 343. Energy and Power Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: permission of instructor. A study of applied energy systems that have a significant role as prime movers of sources of energy. Emphasis is placed on force, work, rate, resistance and energy for prospective teachers of Principles of Technology.

**STEM 350. Communication Technology Processes.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: STEM 112. The study of communication design principles and techniques for technology education. Emphasis is placed on the skills and equipment used in design, production, and distribution of communications. Print and electronic media are explored through lithography, video, web-based, and specialty processes of communication.

**STEM 351. Communication Technology.** Lecture 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. A study of the development and impact of communication technology. Emphasis is placed on the integration of technical skills to produce information-based products such as print and telecommunications media.

**STEM 360. Transportation Technology.** Lecture and discussion 1 hour; laboratory 5 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. Study of the development of transportation and the application of its systems to the movement of people and cargos. Areas of concern include vehicle systems design and support systems.

**STEM 370T. Technology and Society.** Lecture 3 hours; 3 credits. Prerequisites: junior standing or permission of the instructor. A multidisciplinary course designed to provide insight into the fundamental, historical, and contemporary nature of technology as an area of human knowledge. Attention is given to the positive and negative aspects of technology and how they affect society. (This is a writing intensive course.)

**STEM 382. Industrial Design.** Lecture 3 hours; 3 credits. Prerequisites: junior standing. Students will analyze and design products representative of today's industrial technological society. Emphasis will be placed upon design methodology, aesthetic value, and design thinking.

**STEM 386. Architecture.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course designed to apply principles of space planning, architectural construction techniques, and energy-efficient building methods as they apply to residential and commercial structures.

**STEM 417. Exploring Technology and Modern Industry.** Lecture 3 hours; 3 credits. Prerequisites: STEM 251G and junior standing or permission of the instructor. A course designed to explore technological systems and new developments in technology education. Emphasis is on middle schools.

**STEM 433/533. Developing Instructional Strategies PreK-6: Mathematics.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301 or 290 and 430/530. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children's development of attitudes, behaviors, and concepts in mathematics in grades PreK-6 in support of NCTM national instructional standards and the Virginia Standards of Learning.

**STEM 434/534. Developing Instructional Strategies PreK-6: Science.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301 or 290 and 430/530. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children's development of attitudes, behaviors, and concepts in science in grades PreK-6 in support of AAAS national instructional standards and the Virginia Standards of Learning.

**STEM 453/553. Developing Instructional Strategies for Teaching in the Middle/High School: Mathematics.** Lecture 3 hours; 3 credits. Corequisite: TLED 483. Prerequisites: TLED 301 or 290, 430/530, SPED 313 or TLED 677, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in mathematics, grades 6-12, in support of national instructional standards and the Virginia Standards of Learning; 35 hours of teaching practicum required. (Additional prerequisites for MCTP students are ECI 608 and 616.)

**STEM 454/554. Developing Instructional Strategies for Teaching in the Middle/High School: Science.** Lecture 3 hours; 3 credits. Corequisite: TLED 483. Prerequisites: TLED 301 or 290 and 430/530, SPED 313 or TLED 677, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in science, grades 6-12, informed by national instructional standards and the Virginia Standards of Learning; 35 hours of teaching practicum required. (Additional prerequisites for MCTP students are ECI 608 and 616.)

**STEM 471/571. Communication Industries.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 471. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative communication industries from the local region. (qualifies as a CAP experience)

**STEM 472/572. Construction Industries.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 472. A course designed to provide career and technical education teachers, industrial technologists,

counselors, and administrators an opportunity to observe and enhance their knowledge of representative construction industries from the local region. (qualifies as a CAP experience)

**STEM 473/573. Manufacturing Industries.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 473. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative manufacturing industries from the local region. (qualifies as a CAP experience)

**STEM 474/574. Service Industries.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 474. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative service industries from the local region. (qualifies as a CAP experience)

**STEM 475/575. Transportation Industries.** Lecture 3 hours; 3 credits. Prerequisite: junior standing and industrial technology major for 475. A course designed to provide career and technical education teachers, industrial technologists, counselors, and administrators an opportunity to observe and enhance their knowledge of representative transportation industries from the local region. (qualifies as a CAP experience)

**STEM 486/586. Middle School Student Teaching for Technology Education.** 6 credits. Prerequisites: STEM 305, 306, SEPS 408, 450, SPED 313 and TLED 408 or SEPS 508, 596, 788, STEM 730, TLED 608, 616, READ 680 for graduate students. Passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and passing scores on the appropriate PRAXIS II content examination are required. Classroom placement for student teaching in a middle school technology laboratory. Students apply content and methodology under the supervision of a cooperating teacher and university faculty member. Available for pass/fail grading only. (qualifies as a CAP experience)

**STEM 488. High School Student Teaching for Technology Education.** 6 credits. Prerequisites: STEM 305, 306, SEPS 408, 450, SPED 313, TLED 408, passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores, and passing scores on the appropriate PRAXIS II content examination. Classroom placement for student teaching in a high school technology laboratory. Students apply content and methodology under the supervision of a cooperating teacher and university faculty member. Available for pass/fail grading only. (qualifies as a CAP experience)

## Teaching and Learning Education — TLED

**TLED 290. Education for the 21<sup>st</sup> Century.** Lecture 3 hours; 3 credits. This course is designed for use with dual enrollment classes that are approved by the Darden College of Education and are using the Teachers for Tomorrow curriculum. The course introduces the historical, philosophical, and sociological foundations and contemporary issues of American public education, and includes the use and analysis of assessment data and the construction and interpretation of assessments. Students are expected to independently register for and take the Praxis I examination while enrolled in this course. Students in PreK-6 programs will

complete a 15 hour observation/participation experience in a primary setting (preK-3) and a 15 hour observation/participation experience in an upper elementary (4-6) setting; students in 6-12 or 6-8 programs will complete a 30 hour observation/participation experience in an appropriate 6-12 setting. (qualifies as a CAP experience).

**TLED 301. Foundations and Introduction to Assessment of Education.** Lecture 3 hours; 3 credits. Prerequisite: sophomore standing. Introduces the historical, philosophical, and sociological foundations and contemporary issues of American public education. Includes the use and analysis of assessment data and the construction and interpretation of assessments. Students are expected independently to register for and take the Praxis I examination while enrolled in this course. Students in PreK-6 programs will complete a 15 hour observation/participation experience in a primary setting (preK-3) and a 15 hour observation/participation experience in an upper elementary (4-6) setting; students in 6-12 or 6-8 programs will complete a 30 hour observation/participation experience in an appropriate 6-12 setting. (qualifies as a CAP experience)

**TLED 303. Orientation to Teacher Education.** Prerequisite: junior standing or permission of instructor. Introduces students interested in teacher education to the University, College of Education, and the profession of teaching. (Learning Community students only)

**TLED 360. Classroom Management and Discipline.** Lecture 2 hours; 2 credits. Prerequisite: TLED 301. Examines theories, research, and practices involved in classroom management, motivation, and discipline. Explores techniques for organizing and arranging classroom environments that are most conducive to learning.

**TLED 369. Classroom Management and Practicum.** 3 credits. Prerequisites: passing scores on PRAXIS I or State Board of Education-approved SAT or ACT scores and acceptance into teacher education. This course prepares prospective PK-3/Special Education teachers to observe and participate in the PK-3 classroom setting and to be responsive to the intellectual, physical, emotional and social needs of PK-3 learners. Attendance at all seminars is mandatory. (qualifies as a CAP experience)

**TLED 395. Topics in Education.** Lecture 1-3 hours; 1-3 credits. Prerequisite: junior standing. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

**TLED 406/506. Teaching in the Multicultural Classroom.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. Explores the teaching strategies, materials and understandings needed in developing responsive classroom environments for children from diverse cultural, ethnic, economic and linguistic backgrounds.

**TLED 408. Reading and Writing in Content Areas.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301, 430/530, SPED 313. Examines and promotes understanding and use of comprehension/composing skills in all content areas, including a repertoire of questioning strategies, summarizing and retelling strategies, and strategies in literal, interpretive, critical and evaluative comprehension/composing across the curriculum, grades 6-12.

**TLED 430/530. PK-12 Instructional Technology.** Lecture 3 hours; 3 credits.

Prerequisite: TLED 301. Classroom technology and learning strategies are explored through research and synthesized through projects and a research paper (530 students only). The course uses contemporary productivity tools and Internet resources to develop and evaluate classroom management techniques and K-12 standards-based curriculum materials. The course addresses the NETS Teachers Standards and the Technology Standards for Instructional Personnel (TSIP).

**TLED 432/532. Developing Instructional Strategies PreK-6: Language Arts.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301 or 290, 430/530 and 468/568. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children's development of attitudes, behaviors, and concepts in language arts in grades PreK-6 in support of NCTE national instructional standards and the Virginia Standards of Learning.

**TLED 435/535. Developing Instructional Strategies PreK-6: Social Studies.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301 or 290 and 430/530. Following a theory into practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote children's development of attitudes, behaviors, and concepts in social studies in grades PreK-6 in support of NCSS national instructional standards and the Virginia Standards of Learning.

**TLED 451/551. Developing Instructional Strategies for Teaching in the Middle/High School: English.** Lecture 3 credits. 3 credits. Corequisite: TLED 483. Prerequisites: TLED 301 or 290, 430/530, SPED 313 or TLED 677, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in English, grades 6-12, informed by national instructional standards and the Virginia Standards of Learning; 35 hours of teaching practicum required. (Additional prerequisites for MCTP students are ECI 608 and 616.)

**TLED 455/555. Developing Instructional Strategies for Teaching in the Middle/High School: Social Studies.** Lecture 3 hours; 3 credits. Corequisite: TLED 483. Prerequisites: TLED 301 or 290, 430/530, SPED 313 or TLED 677, passing scores on PRAXIS I or equivalent SAT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Following a theory/research-into-practice philosophy, students explore, develop, and use instructional strategies, materials, technologies, and activities to promote the development of attitudes, behaviors, and concepts in social studies, grades 6-12, informed by national instructional standards and the Virginia Standards of Learning; 35 hours of teaching practicum required. (Additional prerequisites for MCTP students are ECI 608 and 616.)

**TLED 468/568. Language Acquisition and Reading for Students with Diverse Learning Needs.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course provides an overview

of normal language development and language disorders which impact the acquisition of language based curriculum skills such as listening, speaking, reading, and written expression. Emphasis is on instructional techniques to assist individuals with disabilities achieve reading and comprehension skills. Effective reading strategies and curricula for individuals with disabilities will also be reviewed.

**TLED 474/574. Foundations and Contemporary Issues in Early Childhood Education.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course introduces students to objectives, curricula, and organization of early childhood education as it is practiced throughout the United States and other countries. Foundations of education programs and current research and practices related to the education of young children will be addressed with an emphasis on sociological, cultural, historical, and philosophical factors.

**TLED 476. Practical Applications in the World of Children.** 3 credits. Prerequisite: junior standing. Supervised involvement of the student in Old Dominion University's Child Study Center classrooms where the student observes and gains experience working with master's-level teachers while planning and executing developmentally appropriate activities for young children from age six weeks to six years.

**TLED 478/578. Integrating Instruction Across the Curriculum PreK-6.** Lecture 3 hours; 3 credits. Prerequisites: at least two of TLED 432/532, TLED 435/535, STEM 433/533, and STEM 434/534. Following a theory into practice philosophy and building on the instructional strategies for specific disciplines, students explore, develop, and use advanced instructional materials, technologies, and activities to promote interdisciplinary and multidisciplinary instruction across the curriculum in grades PreK-6 in support of national standards and the Virginia Standards of Learning.

**TLED 479/579. Classroom Management and Practice PreK-3; PreK-6.** Lecture 3 hours; 3 credits. Prerequisites: TLED 301 or 290, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, acceptance into teacher education, no grade less than C- in content area and professional education core, minimum major and overall GPA or at least 2.75 and at least two of the following courses: TLED 432/532, 435/535, 478/578, STEM 433/533, 434/534. Course prepares prospective PreK-3 and PreK-6 teachers to provide instruction and management addressing the intellectual, physical, emotional and social needs of PreK-6 learners founded in empirically based practice. The field based component (70 hours) includes participation in PreK-6 classrooms in the Child Study Center and in the public schools. Attendance at seminars and debriefing sessions is required.

**TLED 483/583. Seminar in Teacher Education.** Lecture 1 hour; 1 credit. Corequisite: students enrolling in TLED 451/551, STEM 453/553, STEM 454/554 and TLED 455/555 must also enroll in TLED 483/583. Prerequisite: admitted to approved teacher education program. This course explores issues, problems, concerns, and processes related to teaching and entering the profession of teaching. Passing score on PRAXIS II in licensure content area, passing scores on the Virginia Communication and Literacy Assessment (VCLA), and where appropriate passing scores on

the Virginia Reading Assessment (VRA) are required to pass this course.

**TLED 485. Teacher Candidate Internship.** Five days per week; full semester; 12 credits. Prerequisites: completion of an approved program in teacher education, successful completion of exit writing examination, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Available for pass/fail grading only. Internship in school. (qualifies as a CAP experience)

**TLED 486/586. Student Teaching for Special Endorsement.** Five days per week; 7-8 weeks; 3-6 credits. Prerequisites: Collegiate Professional Certificate and/or completion of an approved program in teacher education, successful completion of exit writing examination, passing scores on PRAXIS I or equivalent SAT or ACT scores as established by VA State Board of Education, passing scores on the appropriate PRAXIS II content examination, departmental approval, permission of the director of teacher education services, no grade less than C- in content area and professional education core, minimum major and overall GPA of at least 2.75. Available for pass/fail grading only. Internship in school. (qualifies as a CAP experience)

**TLED 492/592. Integrating Mathematics and Science Across the Curriculum, PK-3.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course has a theory-into-practice goal. The focus for this class will be to develop and use teaching strategies and techniques in the content area of mathematics and science, which are based on Piaget's theory of constructivism and are compatible with the NCIM & NSE Standards and the Virginia SOLs. Practical ways of encouraging thinking about math and science by young children, PK-3, and the natural integration of these subjects across the early childhood curriculum will be emphasized.

**TLED 493/593. Integrating Children's Literature, Language Arts and Social Studies Across the Early Childhood Curriculum.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This course offers a review of literary materials suitable for nursery, kindergarten and early elementary school children. Social issues affecting children and early childhood literature related to these issues, the use of teaching strategies and techniques in the content areas of history, geography, economics and civics which are based on Piaget's theory of constructivism, the National Council of Teachers of English and the National Council for the Social Studies standards, and the Virginia SOLs are emphasized.

**TLED 495/595. Topics in Education.** Lecture 1-4 hours; 1-4 credits. Prerequisite: junior or graduate standing. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

**TLED 496/596. Topics in Education.** Lecture 1-3 hours; 1-3 credits. Prerequisite: junior or graduate standing. Cannot be applied to a Master of Science in Education degree in the Department of Educational Curriculum and Instruction. Explores contemporary problems and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

**TLED 497/597, 498/598. Topics in Education.** Hours to be arranged: 1-3 credits. Prerequisite: junior or graduate standing. Allows the student to engage in independent study of issues and trends in education. Emphasis is placed upon topics related to curriculum, instructional strategies, and evaluation.

## Theatre and Dance

### I. Dance Courses—DANC

**DANC 185A. Dance and Its Audience.** Lecture and discussion 3 hours; 3 credits. Designed to acquaint students with the components of theatrical dance performance, its historical and ethnic origins, its role as a creative expression of peoples and societies and its relationship to other art forms. Through films, videos, live performances, guest speakers, readings and discussions, students consider philosophical approaches to language, communication, aesthetics and style of choreography.

**DANC 195, 196. Topics in Dance.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described by academic advisors.

**DANC 201. Ballet Technique 1.** Studio 4 hours; 2 credits. Introduction to classical ballet technique.

**DANC 211. Modern Dance Technique 1.** Studio 4 hours; 2 credits. Introduction to modern dance technique.

**DANC 231. Ballroom Dance 1.** Laboratory 2 hours; 1 credit. This class will introduce students to basic American and Latin ballroom dance. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus on rhythm, technique, leading and following is also included. This class is open to single students and couples.

**DANC 232. Ballroom Dance 2.** Laboratory 2 hours; 1 credit. This class is a continuation of basic American and Latin ballroom dance. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. The class is open to single students and couples.

**DANC 233. Ballroom Dance 3.** Laboratory 2 hours; 1 credit. Prerequisite: DANC 231 or 232 or permission of the instructor. This class is a continuation of American and Latin ballroom dance 2. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. This class is open to single students and couples.

**DANC 234. Ballroom Dance 4.** Laboratory 2 hours; 1 credit. Prerequisite: DANC 231, 232 or 233 or permission of the instructor. This class is a continuation of American and Latin ballroom dance 3. Basic steps of the foxtrot, waltz, swing, tango, cha cha and rumba will be covered. Focus will be on rhythm, technique, leading and following. This class is open to single students and couples.

**DANC 235. Yoga 1.** Laboratory 4 hours; 2 credits. Introduction to Hatha Yoga as a tool for reducing stress and increasing flexibility. Students will acquire a basic understanding of the practice of Hatha Yoga in its complete form including yoga postures, breathing exercises and meditation. Focus will be on spinal fitness, health, centering and breath to enhance quality of life.

**DANC 236. Yoga 2.** Laboratory 4 hours; 2 credits. Prerequisite: DANC 235 or permission of the instructor. Continuation of Hatha Yoga as a tool for reducing stress and increasing flexibility. Students will acquire a basic understanding of the practice of Hatha Yoga in its complete form including yoga postures, breathing exercises and meditation. Focus will be on spinal fitness, health, centering and breath to enhance quality of life.

**DANC 241. Pilates Mat Class I.** Laboratory 2 hours; 1 credit. The Pilates method of body conditioning is an exercise system focused on improving flexibility and strength for the total body without building bulk. It is a series of controlled movements engaging the body and mind supervised by an extensively trained teacher. It promotes physical harmony and balance while providing a refreshing and energizing workout. Currently the Pilates method is used internationally by individuals at all levels of fitness as well as by dance companies, sports teams, fitness enthusiasts and physical therapists.

**DANC 242. Pilates Mat Class 2.** Laboratory 2 hours; 1 credit. Prerequisite: DANC 241 or permission of the instructor. The Pilates method of body conditioning is an exercise system focused on improving flexibility and strength for the total body without building bulk. It is a series of controlled movements engaging the body and mind supervised by an extensively trained teacher. It promotes physical harmony and balance while providing a refreshing and energizing workout. Currently the Pilates Method is used internationally by individuals at all levels of fitness as well as by dance companies, sports teams, fitness enthusiasts and physical therapists. This course will continue the concepts introduced in Pilates Mat Class 1.

**DANC 251. Tap Dance I.** Laboratory 2.5 hours; 1 credit. Introduction to tap dance styles including classic, hoof and rhythm. Fundamental movements such as time steps, grab-offs, riffs, etc. will be incorporated using counterpoint rhythms and challenges. Students will gain an understanding of tap dance as an American art form.

**DANC 252. Tap Dance II.** Laboratory 2.5 hours; 1 credit. Prerequisite: DANC 251 or permission of the instructor. Continuation of tap dance styles including classic, hoof and rhythm. Fundamental movements such as time steps, grab-offs, riffs, etc. will be incorporated and developed using counterpoint rhythms and challenges. Students will gain an understanding of tap dance as an American art form.

**DANC 260. Introduction to Dance Technique.** Laboratory 2.5 hours; 1 credit. Introduction to Dance Technique will serve as an elective course for students interested in beginning their dance training in the spring semester. The class will focus on basic universal dance vocabulary and will prepare students both physically and mentally to enter Ballet I, Modern Dance 1 or Jazz Dance 1 in the fall semester.

**DANC 295, 296. Topics in Dance.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be fully described by academic advisors.

**DANC 302. Ballet Technique 2.** Studio 4 hours; 2 credits. Prerequisite: DANC 201 or permission of the instructor. Continuation of classical ballet technique.

**DANC 303. Ballet Technique 3.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 302 or

permission of the instructor. Continuation of ballet technique at an intermediate level.

**DANC 312. Modern Dance Technique 2.** Studio 4 hours; 2 credits. Prerequisite: DANC 211 or permission of the instructor. Continuation of modern dance technique.

**DANC 313. Modern Dance Technique 3.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 312 or permission of the instructor. Continuation of modern dance technique at an intermediate level.

**DANC 321. Jazz Dance 1.** Studio 2.5 hours; 1 credit. Prerequisite: DANC 201 or 211 or 260 or permission of instructor. Introduction to jazz dance technique.

**DANC 322. Jazz Dance 2.** Studio 2.5 hours; 1 credit. Prerequisite: DANC 321 or permission of the instructor. Continuation of jazz dance technique.

**DANC 350. Dance Improvisation.** Laboratory 4 hours; 2 credits. Prerequisites: DANC 201, 211 or permission of the instructor. An exploration of movement invention through structured exercises, games and problems. Emphasis will be on the creative development of the individual dancer as a performer and choreographer.

**DANC 360. Rhythmic Analysis.** Laboratory 2 hours; 1 credit. Prerequisites: DANC 201, 211 or permission of the instructor. A study of basic music theory specifically designed for the dancer. Emphasis will be on score reading, accompaniment for dance, note values and rhythms as they directly relate to choreography in a classroom as well as in the rehearsal studio. Students will perform movement studies based on rhythmic structures.

**DANC 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and Career Management, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and Career Management prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

**DANC 368. Internship.** 3 credits. Prerequisite: approval of department chair and Career Management, if necessary, prior to registration. Available for pass/fail grading only. A structured work experience with or without remuneration; a paper, a log and portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

**DANC 369. Practicum.** 1-3 credits. (qualifies as a CAP experience)

**DANC 370. Dance Composition 1.** Lecture and laboratory 3 hours; 2 credits. Prerequisite: DANC 211 and 350 or equivalent (312, 313, 414, 415, 416). Designed for dance majors or minors, this course is a study of the elements and craft of choreography through practical and written experience. Time, space and dynamics will be explored through assigned movement studies. Projects are designed for the creative development of personal movement repertoire and compositional skills for the dancer, choreographer and dance educator.

**DANC 387. Dance Repertory and Performance 1.** 1 credit. Prerequisite: permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

**DANC 388. Dance Repertory and Performance 2.** 1 credit. Prerequisite: DANC 387 or permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

**DANC 389W. Dance History from 1900 until the Present.** Lecture 3 hours; 3 credits. Prerequisite: a grade of C or better in ENGL 211C or equivalent. Designed for dance majors or minors, this course focuses on the lives and contributions of dance artists who have most influenced the history of dance as art since the turn of the 20th century. The class explores the many facets of dance and its relationship to other art forms. This writing intensive course includes a major research project and presentation on a specific dance history topic. (This is a writing intensive course.)

**DANC 391. African-American Perspectives in Dance.** Lecture 3 hours; 3 credits. Prerequisite: DANC 185A or permission of the instructor. This course focuses on the contributions of African-Americans to the world of American dance and concert dance. The influence of African dance and dances of the Caribbean Islands will also be explored.

**DANC 393. Anatomy and Kinesiology for Dance.** Lecture 3 hours; 3 credits. Prerequisites: DANC 201, 211 or permission of the instructor and concurrent enrollment in a dance technique class. Designed for dance majors or minors, this course is an analysis of human motion through a study of anatomy and principles of kinesiology in relation to dance techniques.

**DANC 395, 396. Topics in Dance.** 1-3 credits each semester. Prerequisite: permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described by academic advisors.

**DANC 404. Ballet Technique 4.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 303 or permission of the instructor. Continuation of ballet technique at an intermediate level.

**DANC 405. Ballet Technique 5.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 404 or permission of the instructor. Continuation of ballet technique at an advanced level.

**DANC 406. Ballet Technique 6.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 405 or permission of the instructor. Continuation of ballet technique at an advanced level.

**DANC 414. Modern Dance Technique 4.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 313 or permission of the instructor. Continuation of modern dance technique at an intermediate level.

**DANC 415. Modern Dance Technique 5.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 414 or permission of the instructor. Continuation of modern dance technique at an advanced level.

**DANC 416. Modern Dance Technique 6.** Studio 2-8 hours; 1-4 credits. Prerequisite: DANC 415 or permission of the instructor. Continuation of modern dance technique at an advanced level.

**DANC 423. Jazz Dance 3.** Studio 2.5 hours; 1 credit. Prerequisite: DANC 322 or permission of the instructor. Continuation of Jazz dance technique at an intermediate/advanced level.

**DANC 424. Jazz Dance 4.** Studio 2.5 hours; 1 credit. Prerequisite: DANC 423 or permission of the instructor. Continuation of Jazz dance technique at an intermediate/advanced level.

**DANC 470. Dance Composition 2.** Lecture 1 hour; laboratory 2 hours; 2 credits. Prerequisite: DANC 370 and permission of the instructor. This

course builds on the skills developed in Dance Composition 1, including the exploration of time, space and dynamics, with a focus on constructing fully realized group and solo dance compositions.

**DANC 488. Advanced Repertory and Performance.** 1 credit. Prerequisite: DANC 388 or permission of the instructor. Additional fees may be charged. (qualifies as a CAP experience)

**DANC 489. Principles of Teaching Dance.** Lecture 1 hour; laboratory 2 hours. 2 credits. Prerequisite: permission of the instructor. This course will cover basic methods of movement education as applied to the teaching of ballet, modern dance, jazz, and movement for children. An understanding of anatomical structure and mechanics will be utilized in the analysis of student performance in dance class. Specific objectives for dance exercises will be explored. Practical experiences in the planning, organization and structure of technique classes of various styles are designed to prepare students as dance educators. (qualifies as a CAP experience)

**DANC 490. Pedagogy for Dance Educators.** Lecture 1 hour; laboratory 4 hours; 3 credits. Prerequisite: must pass Praxis I or equivalent and be admitted into the Teacher Education program. Methods and instructional theories and strategies of movement education as applied to the teaching of ballet, modern dance, jazz, and movement for children. Practical experience in the structure, organization and assessment of dance arts programs for the K-12 public school setting.

**DANC 495/595, 496/596. Topics in Dance.** 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the course schedule and will be more fully described by academic advisors.

**DANC 497/597, 498/598. Tutorial Work in Special Topics in Dance.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

**DANC 499. Senior Project.** 1 credit. Prerequisite: senior standing as dance major and approval of the department chair. Completion of a major research project during a student's senior year on a topic of particular interest to the student. Topics to be selected under the direction of an instructor with conferences as appropriate. (qualifies as a CAP experience)

## **+II. Theatre Arts Activity Courses—THEA (+Designated for Activity Credit)**

**THEA 173. Theatre Activities.** 1 credit. Participation in University theatre activities as assigned by the instructor. May be repeated consecutively as THEA 174+, 273+, 274+, 373+, 374+, 473+. (qualifies as a CAP experience)

**THEA 474+. Theatre Activities: Performance.** 1 credit. Prerequisite: permission of instructor. Participation in University theatre productions as a performer. Available through audition only. (qualifies as a CAP experience)

## **III. Theatre Courses—THEA**

**THEA 152. Acting One.** Lecture 3 hours; 3 credits. Develops and explores creative potential

through exercises, improvisations, performance games, and original performances created by the class. Emphasis is on qualities of spontaneity, concentration, ensemble awareness, imagination, and rhythmic and spatial form.

**THEA 195, 196. Topics in Theatre.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described by academic advisors.

**THEA 225. Introduction to Production Technology.** Lecture 3 hours; 3 credits. Fundamentals of construction, lighting and production techniques in contemporary theatre and film. Students will apply acquired skills to active productions for ODU theatre and film productions. (cross-listed with COMM 225)

**THEA 227A. Honors: Film Appreciation.** Lecture 2 hours; laboratory 2 hours; 3 credits. Open only to students in the Honors College. Special section of THEA 270A, which focuses both on the contextual and close text analysis of masterworks as they have influenced film art and industry. Special emphasis is placed on basic research, communication, and critical thinking skills as they relate to the film experience. (cross-listed with COMM 227A)

**THEA 230. Drama for Production.** Lecture 3 hours; 3 credits. A practitioner-oriented examination of drama from its origins to the present. Particular emphasis is placed on plays from around the world that are associated with changes in theatre practice. Required for majors.

**THEA 241A. The Theatre Experience.** Lecture and discussion 3 hours; 3 credits. An introductory audience-oriented examination of the elements of theatre and their historical development through study of plays and performances; emphasis will be directed to actually experiencing live theatre. Attendance at performances is required.

**THEA 244. Introduction to Production Design.** Lecture 3 hours; 3 credits. An introduction to principles, methods, and materials used in designing theatrical production.

**THEA 246. Introduction to Stage Combat.** Lecture 3 hours; 3 credits. This course trains performers in techniques for creating believable and safe stage combat. Techniques will involve falling, landing, hand-to-hand combat and various weapons, resulting in fully staged fights by the end of the course.

**THEA 248. Introduction to Stage Makeup.** Lecture 3 hours; 3 credits. Develops skills and techniques for design and application of stage makeup.

**THEA 252. Acting Two.** Lecture 3 hours; 3 credits. Prerequisite: THEA 152. Basic introduction to principles of acting, which may be applied to stage and media, and application of various techniques through exercises, improvisations, and performances of short scenes.

**THEA 270A. Film Appreciation.** Lecture 2 hours; laboratory 2 hours; 3 credits. This class will focus on both contextual and close text analysis of masterworks as they have influenced film art and industry. Students in this course are expected to develop basic research, communication, viewing and critical thinking skills as they apply their knowledge to the analysis of the film experience. (cross-listed with COMM 270A)

**THEA 271. Introduction to Digital Filmmaking.** Lecture 3 hours; 3 credits. This course will introduce the beginning student to the elements of digital filmmaking from the script to

the screen. Students will learn the basics of cameras, lights, sound, editing and post productions as well as scripting and storyboarding. This is a hands-on production course. (cross-listed with COMM 271)

**THEA 295, 296. Topics in Theatre.** 1-3 credits each semester. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule, and will be more fully described by academic advisors.

**THEA 320. Auditioning Technique.** Lecture 3 hours; 3 credits. Prerequisite: THEA 252. Course will examine practical audition skills and provide an orientation to the tools of procuring professional auditions, including head shots and resumes. Emphasis will be placed on effectively selecting and preparing pieces for stage, film and television.

**THEA 321. Production Management for Television and Stage.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course will assist students in understanding the elements of production management both in television and on stage. The course emphasizes organizational and communication skills; technical production knowledge; professional rehearsal and performance protocol according to the rules of AEA, AFTRA and SAG as well as basic production budgeting and scheduling. (cross-listed with COMM 321)

**THEA 325. Sound Design for Stage and Camera.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. This class will introduce the concepts and techniques of sound design and sound effects for the stage and camera. Students will learn design of sound element in both a live and recorded environment as well as learn the current equipment and software in digital sound reproduction. (cross-listed with COMM 325)

**THEA 330. The Short Script.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course introduces the principles of screenwriting using the short script as a basis for the exploration. The intent of the course is to introduce concepts of format, characterization, plot, dialogue and narrative style for the short script. (cross-listed with COMM 330)

**THEA 341. Lighting Design for Stage and Film.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 370 or permission of instructor. A production course introducing students to the world of light and shadow, mood and composition by surveying lighting design, its technologies for stage and camera, and such principles as basic electrical theory and stage/studio/location design aesthetics. (cross-listed with COMM 341)

**THEA 343. History of Theatre: Beginnings to the Renaissance.** Lecture 3 hours; 3 credits. Prerequisite: THEA 230, junior standing, or permission of the instructor. A cultural-epoch examination of world theatre as it developed through dramatists, directors, designers, and actors from its beginning to the eighteenth century.

**THEA 344. History of Theatre: Classic Baroque to the Present.** Lecture 3 hours; 3 credits. Prerequisite: THEA 230, junior standing, or permission of the instructor. A cultural-epoch examination of world theatre as it developed through dramatists, designers, and actors from the eighteenth century to the present.

**THEA 345. Scenographic Design.** Lecture 3 hours; 3 credits. Prerequisite: THEA 244. This course will explore advanced principles of design

for the stage in the application of scenery. The process will include the application of various artistic styles to stage production.

**THEA 346. Screenwriting I.** Lecture 3 hours; 3 credits. Prerequisite: junior standing. A course that exposes the student to the fundamental narrative screenwriting principles taught through text reading, film viewing and analysis, class discussions, and writing assignments. (cross-listed with COMM 346)

**THEA 347. Movement for the Actor.** Lecture 3 hours; 3 credits. Prerequisite: THEA 252 or permission of the instructor. An examination through exercises and assignments of principles for developing a disciplined, flexible body for character creation.

**THEA 348. Acting for the Camera.** Lecture 3 hours; 3 credits. Prerequisite: THEA 252. Course will examine the process of building characters for the camera, and the ways in which the conventions of the stage are adapted for the film or video audience. (cross-listed with COMM 348)

**THEA 349. Costume Design for Stage and Camera.** Lecture 3 hours; 3 credits. Prerequisite: THEA 244. This course explores the design aesthetic, historical context, and contemporary impact on performance of the costume garment and its accessories. Students will explore the application of design principles in a practical experience. (cross-listed with COMM 349)

**THEA 350. The Spoken Text.** Lecture 3 hours; 3 credits. Prerequisite: THEA 252 or permission of the instructor. An introduction to the basic structures of verbal style through performance of the works of a variety of classical and contemporary writers. Students will become comfortable with linguistic techniques suitable to a range of performance situations.

**THEA 352. Acting Three.** Lecture 3 hours; 3 credits. Prerequisites: THEA 152 and 252. Study of and experimentation with various theories concerning the preparation of roles and special performance characteristics of different styles, types of drama. Considerable attention is directed toward scene study.

**THEA 360. Voice for the Stage I.** Lecture 3 hours; 3 credits. Prerequisite: THEA 252. This course will explore facets of vocal production, speech and expression necessary for an engaging performance on stage. Through exercises and text work, the student will learn healthy vocal production, elements of clear speech and techniques for improving vocal range and expressiveness.

**THEA 367. Cooperative Education.** 1-3 credits (may be repeated for credit). Prerequisite: approval of the department and the Career Management Center, in accordance with the policy for granting credit for Cooperative Education programs. Available for pass/fail grading only. Student participation for credit based on the academic relevance of the work experience, criteria and evaluative procedures as formally determined by the department and the Cooperative Education program prior to the semester in which the work experience takes place. (qualifies as a CAP experience)

**THEA 368. Internship.** 3 credits. Prerequisite: approval of program director. Available for pass/fail grading only.

**THEA 369. Internship for the BFA.** 3 credits. Prerequisite: approval of director of program, BFA Director. Available for pass/fail grading only. A structured work experience with or without remuneration; a paper, a log and

portfolio of work time plus satisfactory evaluations by supervisor and cooperating faculty member are required. (qualifies as a CAP experience)

**THEA 370. The Video Project.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 271 or permission of the instructor. A studio course that presents an opportunity for the student to explore production through the “eye” of the camera. The course is organized to allow the students to experience the entire process of developing a project for the camera (from scripting through filming to editing and finishing detail). (cross-listed with COMM 370)

**THEA 371. History of Animation.** Lecture 3 hours; 3 credits. Prerequisite: junior standing or permission of the instructor. This course traces the evolution of the animated film worldwide, from the silent to the modern era. The purpose of the course is to provide students with a broad chronological and international overview of animated film masterworks. (cross-listed with COMM 371)

**THEA 375. Television Production.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 271, junior standing or permission of the instructor. The purpose of this course is to explore and understand the basic process of producing television from script to presentation. (cross-listed with COMM 375)

**THEA 380. The Video Documentary I.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 271 or permission of the instructor. This course offers the student an opportunity to explore the world of documentary filmmaking. By using the camera as a research tool in developing evidence in support of a thesis, the student is better able to understand documentary filmmaking. Students will develop projects leading toward the completion of a short documentary film or video. (cross-listed with COMM 380)

**THEA 385. Cinematography.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 370. Introduces students to the fundamentals of the videographed digital image. The course explores live-action photography, compositing, filters, digital formats, motion control, and grip equipment. The concepts of the course are applied to fiction and nonfiction cinema. (cross-listed with COMM 385)

**THEA 395, 396. Topics in Theatre.** 1-3 credits each semester. Prerequisites: junior standing and permission of the instructor. A study of selected topics designed for nonmajors, or for elective credit within a major. These courses will appear in the course schedule and will be more fully described by academic advisors.

**THEA 441/541. American Theatre.** Lecture 3 hours; 3 credits. Prerequisite: THEA 230, junior standing, or permission of the instructor. A study of dramatic theories and theatre practices as they relate to the development and growth of theatrical art in the United States.

**THEA 442/542. Principles of Directing.** Lecture 3 hours; 3 credits. Prerequisites: THEA 230, 244 and 252 or permission of the instructor. An examination and practical application of principles of stage direction as influenced by play script, acting talent, set and lighting design, and the technical facilities of production organizations.

**THEA 445/545. Experimental Theatre.** Lecture 3 hours; 3 credits. Prerequisite: THEA 230 or permission of the instructor. An in-depth study of avant-garde theatre scripts and performance techniques from 1900 to the present.

**THEA 446. Directing for the Camera.** Lecture 3 hours; 3 credits. Prerequisite: THEA

370 or COMM 370. This course seeks to provide students with fundamental principles and practical techniques of directing the narrative fiction film: script development and analysis, production planning, shot composition and framing, and working with actors and crew. (cross-listed with COMM 446)

**THEA 447/547. Women in Theatre.** Lecture 3 hours; 3 credits. Prerequisite: THEA 230 or permission of the instructor. A study of the contributions women have made to the theatre as actresses, directors/managers, designers, and playwrights, and of their creative problems and methodologies.

**THEA 449W/549. Script and Performance Analysis.** Lecture 3 hours; 3 credits. Prerequisites: THEA 230, 244, 252 or permission of the instructor. Approaches script analysis from a directorial perspective through the written examination of action, character, language, music, and spectacle, as well as the play’s production history and historical context, to discover how plays might be staged for the contemporary audience. Plays in production will be examined from a critical perspective with attention to artistic interpretation in the areas of direction, design, and performance. (This is a writing intensive course.)

**THEA 452/552. Acting Four.** Lecture 3 hours; 3 credits. Prerequisites: THEA 152, 252, and 352. An advanced scene study class exploring issues of style and period pertinent to portraying characters on stage.

**THEA 460. Voice for the Stage II.** Lecture 3 hours; 3 credits. Prerequisites: THEA 252 and 360. Course will continue the study of vocal production, speech and expression necessary for on stage performance of both classical and modern text. Techniques for producing effective dialects will be introduced as well as the application of dialect towards character development.

**THEA 471W/571. International Film History.** Lecture 2 hours; laboratory 2 hours; 3 credits. Prerequisites: THEA/COMM 270A, junior standing or permission of the instructor. An examination of world cinema as a technology, a business, an institution, and an art form from its inception to the present. Emphasis is on the narrative fiction film, its technological and aesthetic development, economic organization, and socio-cultural context. Representative classic and contemporary works will be screened and analyzed. (cross-listed with COMM 471W/571) (This is a writing intensive course.)

**THEA 472. Acting Five.** Lecture 3 hours; 3 credits. Prerequisites: THEA 152, 252, and 352. An examination and advanced study of techniques relevant to specialized theatre performance. This course will allow advanced students the opportunity to explore a variety of work including experimental theatre, avant garde works, mediated performance and visual based theatre.

**THEA 479W/579. American Film History.** Lecture 2 hours, laboratory 2 hours; 3 credits. Prerequisites: THEA/COMM 270A, junior standing or permission of the instructor. An examination of American motion pictures as an art form, a business and an institution from its inception to the present. Primary attention is accorded to the narrative fiction film, its technological and aesthetic development, economic organization and social impact. This course highlights the many connections between film history and American culture. (cross-listed with COMM 479W/579) (This is a writing intensive course.)

**THEA 480/580. The Video Documentary II.** Lecture 3 hours; 3 credits. Prerequisite: THEA/COMM 380. A production/studio course designed to complement the work developed in Theatre 380: The Video Documentary I. Discussion/presentation topics range from production field work to post-production editing. The final third of the semester will be devoted to compiling the rough footage in post production. (cross-listed with COMM 480/580)

**THEA 482. Screenwriting II.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 346. Students explore visual storytelling through the theories guiding character development, narrative construction, thematic layers, scene analysis, and many more. Students participate in a variety of critical and writing exercises to enhance their knowledge of the craft of screenwriting. (cross-listed with COMM 482)

**THEA 483. Advanced Video Project.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 370. This course introduces students to the processes and techniques of a narrative film production. Students experience pre-production, production, and post-production phases in creating a product to be entered in regional and national competitions. (cross-listed with COMM 483)

**THEA 485. Film and Television Genres.** Lecture 3 hours; 3 credits. Prerequisite: COMM/THEA 270A or COMM 260. This course is designed to examine the conventions and meanings of various film and television genres within their broader aesthetic, socio-historical, cultural, and political contexts. Each time the class is offered it will focus in depth on a different genre, such as the gangster, the Western, the musical, the comedy, science fiction, among others. (cross-listed with COMM 485)

**THEA 486/586. Advanced Filmmaking.** Lecture 3 hours; 3 credits. Prerequisites: THEA 346, 370, 385, 446 and 483. Offers the advanced film/video maker an opportunity to produce a project beyond the scope of previous classroom projects. Students are permitted into the course solely by instructor approval and only after demonstration of superior skills in subordinate courses and acceptance of a submitted screenplay. (cross-listed with COMM 486/586)

**THEA 489. Methods of Teaching Theatre.** Lecture 3 hours; 3 credits. Corequisite: THEA 490. Prerequisite: junior standing. Focuses on conceptual foundations of theatre education including its history, and on methods and materials for classroom instruction and theatrical rehearsals and performances.

**THEA 490. Theatre Education Practicum.** 1 credit. Corequisite: THEA 489. Prerequisite: junior standing and permission of the College of Education. Designed to be taken concurrently with THEA 489, this course provides students with an opportunity to further develop their understanding of theatre instruction by personal observation and participation in the classroom setting. Students will evaluate that practical experience in relation to theoretical issues and methods presented in THEA 489. (qualifies as a CAP experience)

**THEA 495/595, 496/596. Topics in Theatre.** 1-3 credits each semester. Prerequisite: appropriate survey course or permission of the instructor. The advanced study of selected topics designed to permit small groups of qualified students to work on subjects of mutual interest which, due to their specialized nature, may not be offered regularly. These courses will appear in the



course schedule and will be more fully described by academic advisors.

**THEA 497/597, 498/598. Tutorial Work in Special Topics in Theatre.** 1-3 credits each semester. Prerequisites: senior standing and approval of the department chair. Independent reading and study on a topic to be selected under the direction of an instructor. Conferences and papers as appropriate.

**THEA 499. Senior Project.** 1 credit. Prerequisite: senior standing as theatre major and approval of department chair. Completion of a paper during a student's senior year related to a major project in the student's interest area. Topic to be selected under the direction of an instructor with conferences as appropriate.

## Women's Studies — WMST

Undergraduate departmental courses cross-listed with Women's Studies include, for example, Psychology of Women, Communication Between the Sexes, Women in American History, Sociology of Women, Women in the Visual Arts, Sociology of Sexuality, and Violence Against Women. Courses open to both graduate and undergraduate students include Women Writers; Language, Gender and Power; and Hispanic Women Writers.

**WMST 201S. Introduction to Women's Studies.** Lecture and discussion 3 hours; 3 credits. Corequisite: qualified to enroll in ENGL 110C. An introduction to the interdisciplinary field of women's studies, drawing on materials from the social sciences. Topics include the social construction of gender, cross-cultural variations in women's lives, media representations, work, health, women's roles in politics, and sexuality.

**WMST 226S. Honors: Women in A Changing World.** Lecture 3 hours; 3 credits. Prerequisite: ENGL 110C. Open only to students in the Honors College. A special honors version of WMST 201S.

**WMST 302W. Dimensions of Diversity: Intersectionality Among Women.** Lecture 3 hours; 3 credits. Prerequisites: six semester hours in literature, history, social science and/or performing arts courses. This course explores women's experiences at intersections of gender, race, and class within society, in general, and specifically within the various women's movements that have taken place in the 19<sup>th</sup> and 20<sup>th</sup> centuries, charting the development of feminism. Additionally, the course examines the need for the discipline of Women's Studies to sponsor change for women. (This is a writing intensive course.)

**WMST 368. Internship.** 3-6 credits. Prerequisites: at least one WMST course, junior standing and instructor approval required. Course provides an opportunity to gain experience working in organizations and government agencies. Students' work should engage with women's issues at the local, regional, national, and/or global levels. Students must work for at least 50 hours per course credit. (qualifies as a CAP experience)

**WMST 377. Extracurricular Studies.** Lecture 2 hours; discussion 1 hour; practicum 1 hour; 3 credits. Prerequisites: three semester hours in WMST or WMST crosslisted course and permission of the instructor. An undergraduate seminar on feminist pedagogical issues and theory offered in conjunction with a practicum providing experience in the facilitation of small sections of the introductory women's studies course.

**WMST 390T. Women and Technology Worldwide.** Lecture 3 hours; 3 credits. Prerequisite: three semester hours in the social sciences or history. An exploration of women as designers and users of technology and the impact of technology on women's lives across the world. Variations in women's experiences by race, class, and culture will be stressed, along with particular focus on global developments that shape the context of women's and men's lives.

**WMST 395, 396. Topics in Women's Studies.** 1-3 credits each semester. Prerequisite: sophomore standing or permission of the instructor. A study of selected women's studies topics. These courses will usually be interdisciplinary. All topics will be described on the women's studies website and will be more fully described in material distributed to all academic advisors.

**WMST 400/500. U.S. Women's Activism.** Lecture 3 hours; 3 credits. Prerequisite: WMST 201S. This course historicizes U.S. women's social, political, and rhetorical activism over the last 200 years, tracing their entry into and shaping force upon public life. The course examines the development of women's activism in the nineteenth century, the twentieth-century women's (or feminist) movement, and its current status, particularly in relation to postfeminism and a "third" wave.

**WMST 401W/501. Women: A Global Perspective.** Lecture 3 hours; 3 credits. Prerequisites: WMST 201S. An analysis of the global forces that impact women's lives throughout the world. Particular emphasis is placed on the status of women in the developing world, international institutions that protect women's rights, and efforts to promote gender equality worldwide. (This is a writing intensive course.)

**WMST 414/514. Motherhood: Texts and Images.** Lecture 3 hours; 3 credits. Prerequisites: ENGL 211C or 221C or 231C. This course examines the role of the mother, the experience of mothering and the institution of motherhood through a number of disciplinary and theoretical lenses. It considers how motherhood functions to women's advantage or disadvantage in professional and economic areas as well as the mother's ideological construction in public discourse, imagery, non-fiction, and film. (cross listed with ENGL 414/514)

**WMST 460W/560. Feminist Theory.** Lecture and discussion 3 hours; 3 credits. Prerequisite: WMST 201S or WMST 302W. A study of the renaissance in feminist theory since the 1960s through close readings of key documents and texts. The course covers a variety of feminist perspectives as expressed in both theory and practice. (This is a writing intensive course.)

**WMST 470/570. Feminist Research Methods.** Lecture 3 hours; 3 credits. Prerequisite: WMST 460W/560. This course explores the ethics, practice, and multiple forms of conducting feminist research. Narrative research methods are practiced through hands-on oral herstory assignments. Throughout the course, the process of knowledge construction is interrogated from a feminist perspective.

**WMST 490. Capstone Course.** Lecture 3 hours; 3 credits. Prerequisites: WMST 201S or 302W, 460W, plus six semester hours of other WMST or cross-listed core courses. Seminar intended for women's studies majors in the final semester(s) of study, consisting of an individualized or group senior project, such as a

research paper, an oral history, an internship, or a service learning project.

**WMST 495/595, 496/596. Topics in Women's Studies.** 3 credits each semester. Prerequisite: junior standing or permission of the instructor. Advanced seminars on selected topics. The subject matter will usually be interdisciplinary. These seminars will be more fully described on the women's studies website and in material distributed each semester to all academic advisors.

**WMST 497/597, 498/598. Independent Study.** 1-6 credits. Prerequisite: at least one women's studies course. Independent study of an interdisciplinary women's studies topic, or a reading plus internship project to be selected under the direction of a women's studies faculty member. Conferences and papers as appropriate. Tutorial work, either library-based or field work, must be approved by the instructor and the women's studies chair before a student may enroll in the course. No more than three credits of tutorial work may be counted within the basic requirements for the women's studies minor or major.

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**Robert L. Ash** (1976; 1967). Professor of Mechanical and Aerospace Engineering. B.S., Kansas State University; M.S., Ph.D., Tulane University; P.E. Designated as an Eminent Scholar.

**Larry P. Atkinson** (1985; 1985). Professor of Ocean, Earth, and Atmospheric Sciences and Slover Professor of Oceanography. B.S., M.S., University of Washington; Ph.D., Dalhousie University (Canada). Designated as an Eminent Scholar.

**Erland James Baesler** (1996; 1990). Associate Professor of Communication and Theatre Arts. B.A., M.A., San Jose State University; Ph.D., University of Arizona.

**Beth Backes** (2009; 2009). Lecturer of English. B.S., Central Missouri State University; M.A., Old Dominion University.

**John Blake Bailey** (2011; 2010). Mina Hohenberg Darden Professor of English. B.A., Tulane University; M.A., University of New Orleans.

**Kathleen J. Bailey** (2009; 2009). Lecturer of Nursing. B.S.N., Medical College of Virginia/Virginia Commonwealth University; Primary Care Nurse Practitioner Certificate, University of California – San Diego; M.A., Webster University; M.S.N., State University of New York – Stony Brook.

**Cheryl S. Baker** (2003; 1993). Senior Lecturer of Communication Disorders and Special Education. B.S., M.S., Ph.D., Old Dominion University.

**Ian Balitsky** (2005; 1996). Professor of Physics. M.S., St. Petersburg State University (Russia); Ph.D., St. Petersburg Nuclear Physics Institute (Russia).

**Catherine M. Banks** (2007; 2005). Research Assistant Professor, Virginia Modeling, Analysis and Simulation Center. B.A., B.A., Christopher Newport University; M.A., Ph.D., Old Dominion University.

**Han P. Bao** (1992; 1992). Professor of Mechanical and Aerospace Engineering and Mitsubishi Ksaei Professor of Engineering Manufacturing. B.S., M.S., Ph.D., University of New South Wales (Australia); PE.

**Barbara Bartkus** (2003; 1997). Associate Professor of Management. B.S., M.B.A., Hawaii Pacific University; Ph.D., Texas A&M University. Designated as a University Professor.

**Ian K. Bartol** (2009; 2003). Associate Professor of Biological Sciences. B.S., University of Michigan; M.S., Ph.D., The College of William and Mary/Virginia Institute of Marine Science.

**David R. Basco** (1986; 1986). Professor of Civil and Environmental Engineering. B.S.C.E., M.S.C.E., University of Wisconsin; Ph.D., Lehigh University; P.E.

**Deborah B. Bauman** (1988; 1982). Assistant Dean of the College of Health Sciences and Associate Professor of Dental Hygiene. B.S.D.H., M.S., Old Dominion University.

**Helmut Baumgart** (2005; 2005). Professor of Electrical and Computer Engineering and Virginia Micro-Electronics Consortium Endowed Professorship in Microelectronics. B.S., University of Heidelberg (Germany); M.S., Purdue University; Ph.D., University of Stuttgart and Max Planck Institute of Solid State Research (Germany).

**Sebastian Bawab** (2009; 1992). Professor of Mechanical and Aerospace Engineering. B.S., M.S., State University of New York - Buffalo; Ph.D., The Ohio State University.

**Frederick S. Bayersdorfer** (1997; 1997). Instructor of Art and Assistant Dean for Arts, College of Arts and Letters. B.F.A., M.A., Old Dominion University.

**Okta Baysal** (1992; 1982). Dean of the Frank Batten College of Engineering and Technology and Professor of Mechanical and Aerospace Engineering. B.S., Technical University of Istanbul; M.S., University of Birmingham (U.K.); Ph.D., Louisiana State University; P.E. Designated as an Eminent Scholar.

**Craig A. Bayse** (2007; 2001). Associate Professor of Chemistry and Biochemistry. B.S., Roanoke College; Ph.D., Texas A&M University.

**Stephen J. Beebe** (2007; 2007). Research Professor, Frank Reidy Research Center for Bioelectrics. B.S., Ohio University; Ph.D., Medical College of Ohio.

**Joshua G. Behr** (2010; 2001). Research Associate Professor, Virginia Modeling, Analysis and Simulation Center. A.B., M.A., California State University - Fullerton; Ph.D., University of New Orleans.

**Lee A. Belfore II** (2003; 1997). Associate Professor of Electrical and Computer Engineering. B.S., Virginia Polytechnic Institute and State University; M.S.E., Princeton University; Ph.D., University of Virginia; PE.

**Richard S. Benjamin** (1995; 1989). Associate Dean of the College of Health Sciences and Associate Professor of Nursing. B.S.N., Armstrong State College; M.S.N., Medical College of Georgia; M.P.H., University of Pittsburgh; Ph.D., University of Texas.

**Linda K. Bennington** (2007; 2001). Senior Lecturer of Nursing. B.S., M.S., West Virginia University; B.S.N., M.S.N., Old Dominion University.

**Ali Beskok** (2006; 2006). Professor of Mechanical and Aerospace Engineering and Batten Endowed Professor of Computational Engineering. B.S.M.E., Middle East Technical University (Turkey); M.S.M.E., Indiana University-Purdue

\* The listing reflects the faculty as of June 1, 2011. The dates in parentheses indicate the following: the first date, the year in which the present rank was attained; the second date, the year when the individual was first appointed to the faculty; a third date, the year of reappointment.

University - Indianapolis; M.S.E., Ph.D., Princeton University.

**Janet M. Bing** (1996; 1982). Professor of English. A.B., Coe College; A.M., Stanford University; Ph.D., University of Massachusetts. Designated as a University Professor.

**Jens F. Bischof** (2001; 2001). Lecturer of Ocean, Earth, and Atmospheric Sciences. B.S., M.S., Ph.D., Christian Albrechts University (Germany).

**Ivanette L. Blanco** (2010; 2010). Assistant Professor of Art. B.F.A., Oklahoma State University; M.F.A., University of Oklahoma.

**James D. Blando** (2010; 2010). Assistant Professor of Community and Environmental Health. B.S., Rutgers University; M.H.S., Johns Hopkins University; Ph.D., Rutgers University

**James. P. Bliss** (2001; 2001). Associate Professor of Psychology. B.S., M.S., Ph.D., University of Central Florida.

**Shirley C. Blow-Brockman** (1983; 1983). Lecturer in the Writing Center. B.A., M.A., Norfolk State University.

**Robyn Bluhm** (2008; 2008). Assistant Professor of Philosophy and Religious Studies. B.A., B.Sc., Laurentian University (Canada); M.A., McMaster University (Canada); Ph.D., The University of Western Ontario (Canada).

**Jonna Linkous Bobzien** (2010; 2008). Assistant Professor of Communication Disorders and Special Education. B.S., M.S.Ed., Ph.D., Old Dominion University.

**Alexander B. Bochdanský** (2010; 2004). Associate Professor of Ocean, Earth and Atmospheric Sciences. M.S., University of Vienna (Austria); Ph.D., Memorial University of Newfoundland (Canada).

**Przemysław Bogacki** (1996; 1990). Associate Professor of Mathematics and Statistics. M.S., Adam Mickiewicz University in Poznan (Poland); Ph.D., Southern Methodist University.

**Linda Bol** (2008; 2000). Professor of Educational Foundations and Leadership. B.A., M.A., California State University at Fresno; Ph.D., University of California at Berkeley.

**Stella B. Bondi** (2008; 2007). Assistant Professor of Engineering Technology. B.S., M.E.M, Ph.D., Old Dominion University.

**Timothy B. Bostic** (2010; 2006; 2010). Assistant Professor of English. B.B.A., George Washington University; B.A., M.A., Old Dominion University; Ph.D., Virginia Commonwealth University.

**Martha G. Bountress** (1982; 1976). Instructor and Clinical Speech Pathologist in Communication Disorders and Special Education. B.S., M.S., North Texas State University.

**Nicholas G. Bountress** (1986; 1975). Professor of Communication Disorders and Special Education. B.S., Central Connecticut State College; M.S., Southern Connecticut State College; Ed.D., North Texas State University.

**Shannon R. Bowling** (2006; 2004). Associate Professor of Engineering Management/Systems Engineering. B.S., Bluefield State College; M.S., East Tennessee State University; Ph.D., Clemson University.

**Christopher M. Boyle** (2008; 2008). Instructor of Computer Science. B.S., Old Dominion University; M.S., Virginia Polytechnic Institute and State University.

**Carole B. Brady** (1989; 1989). Instructor, Child Study Center. B.S., M.S.Ed., Old Dominion University.

**John D. Branch III** (2001; 1995). Associate Dean of the Darden College of Education and

Associate Professor of Human Movement Sciences. B.A., Furman University; M.S., Ph.D., University of South Carolina.

**Charlene D. Brassington** (2008; 2007; 2008). Lecturer of Community and Environmental Health. B.S., The Pennsylvania State University; M.S., Old Dominion University.

**Sandra Breeden** (1996; 1996). Lecturer, College of Health Sciences. B.S., M.Ed., Indiana University; M.A. Webster University.

**William Henry Brenner** (2001; 1970). Professor of Philosophy and Religious Studies. A.B., College of St. Thomas (Minnesota); A.M., Ph.D., University of Virginia.

**Bradley T. Brick** (2009; 2009). Assistant Professor of Sociology and Criminal Justice. B.S., University of Wisconsin – La Crosse; M.A., Georgia State University; Ph.D., University of Missouri – St. Louis.

**Miriam Bridges** (2008; 2008). Business Reference Librarian and Librarian I. B.A., Elizabeth City State University; M.L.H.R., The Ohio State University; M.L.S., University of Maryland – College Park.

**J. Christopher Brill** (2009; 2009). Assistant Professor of Psychology. A.A., University of Cincinnati; B.A., Northern Kentucky University; M.A., University of West Florida; Ph.D., University of Central Florida.

**Melissa Bristow** (2008; 2008). Lecturer of Philosophy and Religious Studies. B.A., M.A., Old Dominion University.

**Colin Paul Britcher** (2002; 1985). Professor of Mechanical and Aerospace Engineering. B.S., M.S., Ph.D., Southampton University (England).

**Megan E. Britt** (2010; 2010). Lecturer of Teaching and Learning. B.A., Boston College; M.A.T., Union College.

**Kenneth G. Brown** (1989; 1982). Professor of Chemistry and Biochemistry. A.B., Syracuse University; Ph.D., Brown University.

**Nina W. Brown** (1994; 1968). Professor of Counseling and Human Services. B.S., Virginia State College; M.S. in Ed., Old Dominion College; Ed.D., College of William and Mary. Designated as an Eminent Scholar.

**Ann Bruhn** (2011; 2010). Assistant Professor of Dental Hygiene. B.S.D.H., M.S.D.H., Old Dominion University.

**Janet Brunelle** (2006; 1998). Senior Lecturer of Computer Science. B.S., M.S., Old Dominion University.

**Heather Bryant** (2010; 2010). Lecturer of Art. B.F.A., Old Dominion University, M.F.A., Norfolk State University/Old Dominion University.

**Lindal Buchanan** (2008; 2008). Assistant Professor of English. B.A., The University of Mississippi; M.A., The University of New Orleans; Ph.D., The University of Louisiana at Lafayette.

**Stephen L. Büeltman** (2007; 2003). Assistant Professor of Physics. University Physics Diploma, Ph.D., Bielefeld University (Germany).

**Glenn A. Bunton** (2006; 1998). Systems Librarian for Internet Technologies and Librarian III. B.A., Miami University; M.S.L.S., M.S., University of North Texas.

**David J. Burdige** (1999; 1985). Professor of Ocean, Earth, and Atmospheric Sciences. B.A., Swarthmore College; Ph.D., Scripps Institute of Oceanography, University of California at San Diego. Designated as an Eminent Scholar.

**Dana D. Burnett** (2006; 1972). Professor of Educational Foundations and Leadership. B.S., Allegheny College; M.S., Ph.D., Indiana University.

**Megan M. Burnham** (2010; 2010). Assistant Professor of Accounting. B.S., Virginia Polytechnic Institute and State University, M.Acc., The College of William and Mary; Ph.D., Virginia Polytechnic Institute and State University; CPA.

**Carroll M. Butler, Jr.** (2006; 1997; 2006). Senior Lecturer of Communication Disorders and Special Education. B.S., M.S.Ed., Old Dominion University.

**Mark J. Butler** (2000; 1988). Professor of Biological Sciences. B.A., Wittenburg University; M.S., Ohio State University; Ph.D., Florida State University. Designated as an Eminent Scholar.

**Ann Campbell** (2001; 1996). Senior Lecturer of Nursing. B.A., Old Dominion University; B.S.N., Norfolk State University.

**Lan Cao** (2011; 2005). Associate Professor of Information Technology/Decision Sciences. B.E., Donghua University (China); M.S., Georgia Institute of Technology; M.S., Ph.D., Georgia State University.

**Michael C. Carhart** (2009; 2004). Associate Professor of History. B.A., Bethel College; M.A., The Pennsylvania State University; Ph.D., Rutgers, The State University of New Jersey.

**Diane Cyr Carmody** (2001; 1996). Associate Professor of Sociology and Criminal Justice. B.A., M.A., Ph.D., University of New Hampshire. Designated as a University Professor.

**Kent E. Carpenter** (2005; 1996). Professor of Biological Sciences. B.S., Florida Institute of Technology; Ph.D., University of Hawaii.

**Michelle Carpenter** (2009; 2009). Instructor of Marketing. B.A./B.S., Miami University (Ohio); M.A., University of Louisiana – Monroe; M.B.A., Old Dominion University.

**Jimmie Carraway** (1992; 1985; 1992). Senior Lecturer of Information Technology/Decision Sciences. B.S., M.B.A., Old Dominion University.

**Robert W. Case** (2002; 1996). Associate Professor of Human Movement Sciences. B.S., Brockport State College; M.A., Michigan State University; Ph.D., Ohio State University.

**Mecit Cetin** (2008; 2008). Assistant Professor of Civil and Environmental Engineering. B.S., Bogazici University (Turkey); M.S., Ph.D., Rensselaer University.

**N. Rao Chaganty** (1998; 1982). Professor of Mathematics and Statistics. B. Stat., M. Stat., Indian Statistical Institute; M.S., Ph.D., Florida State University.

**Catherine Chamberlayne** (2009; 2009). Lecturer of Mathematics and Statistics. B.S., Virginia Commonwealth University; M.S., Virginia Polytechnic Institute and State University.

**Paul J. Champagne** (1993; 1980). Professor of Management. A.B., Providence College; A.M., University of Hartford; Ph.D., University of Massachusetts.

**Thomas E. Chapman** (2009; 2009). Assistant Professor of Political Science and Geography. B.A., Michigan State University; M.A., University of Toledo; Ph.D., Florida State University.

**Allison T. Chappell** (2011; 2005). Associate Professor of Sociology and Criminal Justice. B.S., East Carolina University; M.A., Ph.D., University of Florida.

**Shanan L. Chappell** (2011; 2011). Research Assistant Professor, Center for Educational Partnerships. B.A., Virginia Wesleyan College; M.Ed., Regent University; Ph.D., Old Dominion University.

**Dean C. Chatfield** (2006; 2006). Assistant Professor of Information Technology/Decision Sciences. B.S., Rensselaer Polytechnic Institute;

M.B.A., M.S., Ph.D., The Pennsylvania State University.

**Sushil K. Chaturvedi** (1991; 1978). Professor of Mechanical and Aerospace Engineering. B.S., Indian Institute of Technology (India); M.S., Case Institute of Technology; Ph.D., Case Western Reserve University.

**Yeong-Jer Chen** (2011; 2011). Research Assistant Professor, Frank Reidy Research Center for Bioelectronics. B.S.E.E., M.S., Ph.D., Texas Tech University.

**Yi-Fan Chen** (2008; 2008). Assistant Professor of Communication and Theatre Arts. B.A., National Cheng-Kung University (Taiwan); M.A.J., M.A., Marshall University; Ph.D., Rutgers University.

**Andrey Chernikov** (2010; 2010). Research Assistant Professor of Computer Science. B.S., M.S., Kabardino-Balkar State University (Russia); Ph.D., The College of William and Mary.

**Nikos Chrisochoides** (2010; 2010). Professor of Computer Science. B.Sc., Aristotle University (Greece); M.Sc., Ph.D., Purdue University.

**Konstantin P. Cigularov** (2010; 2010). Assistant Professor of Psychology. B.S., University of Economics (Bulgaria); M.S., East Central University; Ph.D., Colorado State University.

**Eva G. Clarke** (2006; 1992; 2006). Senior Lecturer of Psychology. B.S., M.S., Old Dominion University.

**Jennifer K. Clayton** (2009; 2009). Visiting Assistant Professor of Educational Foundations and Leadership. B.A., James Madison University; M.Ed., Rutgers University; Ed.S., Ph.D., Old Dominion University.

**Michael L. Clemons** (1999; 1993). Associate Professor of Political Science and Geography. B.A., M.A., University of Maryland-College Park; Ph.D., Atlanta University.

**Sheri R. Colberg-Ochs** (2009; 1997). Professor of Human Movement Sciences. B.A., Stanford University; M.A., University of California at Davis; Ph.D., University of California at Berkeley.

**Christopher B. Colburn** (1993; 1987). Associate Professor of Economics. B.A., M.A., University of Texas at Arlington; Ph.D., Texas A&M University.

**Faye E. Coleman** (1984; 1978). Associate Professor of Medical Laboratory and Radiation Sciences. B.S., Hampton Institute; M.S.M.T., St. John's University.

**Carol Considine** (2005; 1999). Associate Professor of Engineering Technology. B.S., Virginia Polytechnic Institute and State University; M.S., University of California at Berkeley.

**David P. Cook** (2003; 1997). Associate Professor of Information Technology/Decision Sciences. B.S.B.A., M.B.A., Bowling Green State University; Ph.D., University of Kentucky.

**Desmond C. Cook** (1996; 1981). Professor of Physics. B.Sc. (Honors), Ph.D., Monash University (Australia). Designated as a University Professor.

**John B. Cooper** (1999; 1993). Associate Professor of Chemistry and Biochemistry. B.S., The Citadel; Ph.D., North Carolina State University.

**Samuel F. Coppage** (1989; 1983). Associate Professor of Information Technology/Decision Sciences. B.S., Virginia State College; M.S., Ph.D., New York University.

**Rose Ann Corbin** (2005; 2003). Lecturer of Mathematics and Statistics. B.A., Grand Valley

State University; M.A., Western Michigan University.

**Joseph P. Cosco** (2004; 1997; 1994). Associate Professor of English. A.B., Dartmouth College; M.A., Columbia University; Ph.D., The College of William and Mary.

**Matilda W. Cox** (2006; 1994). Senior Lecturer of English. B.A., M.A., Old Dominion University.

**Laurie M. Craigen** (2007; 2007). Assistant Professor of Counseling and Human Services. B.S., College of the Holy Cross; M.Ed., Ed.D., The College of William and Mary.

**Shawn S. Crawford** (2002; 2002). Instructor, Governor's School for the Arts. B.F.A., University of Mississippi; M.F.A., Carnegie Mellon University; M.F.A., University of Memphis.

**Filip D. Cuckov** (2009; 2009). Visiting Assistant Professor of Electrical and Computer Engineering. B.S., M.S., Ph.D., Old Dominion University.

**Kimberly A. Curry-Lourenco** (2007; 2001). Senior Lecturer of Nursing. B.S.N., M.S.N., M.S.Ed., Old Dominion University.

**Gregory A. Cutter** (1994; 1982). Professor of Ocean, Earth, and Atmospheric Sciences. B.A., Revelle College, University of California at San Diego; Ph.D., University of California at Santa Cruz.

**Martha M. Daas** (2008; 2002). Associate Professor of Foreign Languages and Literatures. B.A., University of Michigan; M.A., Ph.D., University of Texas - Austin.

**Kenneth Glenn Daley** (1979; 1965). Professor of Art. B.F.A., Philadelphia (Museum) College of Art; M.F.A., School of Art and Architecture of Yale University. Designated as a University Professor.

**Charles B. Daniels** (2008; 2008). Lecturer of Engineering Management and Systems Engineering. B.S., University of the State of New York; M.S., The George Washington University.

**Mona Danner** (2007; 1993). Professor of Sociology and Criminal Justice. B.A., University of Missouri-Kansas; M.A., Sam Houston State University; Ph.D., The American University.

**Dennis A. Darby** (1988; 1974). Professor of Ocean, Earth, and Atmospheric Sciences. B.S., M.S., University of Pittsburgh; Ph.D., University of Wisconsin at Madison.

**Michele Leonardi Darby** (1984; 1974). Professor of Dental Hygiene. B.S., M.S., Columbia University. Designated as an Eminent Scholar and University Professor.

**Daniel M. Dauer** (1987; 1975). Professor of Biological Sciences. B.S., Old Dominion University; Ph.D., University of South Florida. Designated as an Eminent Scholar. Joint appointment with the Department of Ocean, Earth, and Atmospheric Sciences.

**Donald D. Davis** (1987; 1982). Associate Professor of Psychology. B.S., M.S., Central Michigan University; Ph.D., Michigan State University.

**Shari A. Davis** (2010; 2001). Senior Lecturer of Mathematics and Statistics. B.A., M.S.Ed., Queens College, City University of New York.

**Sharon R. Davis** (2009; 2002). Senior Lecturer of STEM Education and Professional Studies. B.S., M.S.Ed., Old Dominion University.

**Frank Patterson Day, Jr.** (1986; 1974). Professor of Biological Sciences. B.S., University of Tennessee; M.S., Ph.D., University of Georgia. Designated as an Eminent Scholar.

**Diana L. Deadrick** (1997; 1993). Associate Professor of Management. B.S., West Virginia

Institute of Technology; M.B.A., Ph.D., Virginia Polytechnic Institute and State University.

**Anthony W. Dean** (2009; 2001). Associate Professor of Engineering Technology. B.S., Old Dominion University; M.B.A., The College of William and Mary; Ph.D., Old Dominion University.

**Diane de Beixedon** (1980; 1974). Associate Professor of Art. A.B., Southern Illinois University; M.F.A., University of Georgia.

**Andrea DeBruin-Parecki** (2009; 2007). Associate Professor of Teaching and Learning. A.B., University of California at Berkeley; M.A.; Ph.D., University of Michigan.

**Jean R. Delaven** (2009; 2009). Professor of Physics and Director of the Center for Accelerator Science. Ingénieur, Ecole Nationale Supérieure d'Arts et Métiers (France); M.S., Ph.D., California Institute of Technology; M.B.A., University of Chicago.

**Robert Del Corso** (2008; 2008). Lecturer of History. B.A., John Carroll University; M.A., Naval Postgraduate School; M.R.E., Loyola University.

**Gianluca DeLeo** (2006; 2006). Assistant Professor of Medical Laboratory and Radiation Sciences. M.B.A., St. Louis University; M.S., Ph.D., University of Genoa (Italy).

**Ayodeji O. Demuren** (1996; 1990). Professor of Mechanical and Aerospace Engineering. B.Sc., Ph.D., Imperial College London (England).

**Declan De Paor** (2008; 2008). Research Professor of Physics. B.Sc., National University of Ireland, Dublin; M.Sc., Ph.D., National University of Ireland, Cork.

**Valerian John Derlega** (1984; 1971). Professor of Psychology. A.B., City College of New York; Ph.D., University of Maryland.

**Chandra R. de Silva** (1998; 1998). Professor of History. B.A., University of Ceylon; Ph.D., University of London (United Kingdom).

**Joseph L. DeVitis** (2010; 2010). Visiting Professor of Educational Foundations and Leadership. B.A., M.Ed., Johns Hopkins University; M.A., Bowie State University; Ph.D., University of Illinois at Urbana-Champaign.

**Shirshak K. Dhali** (2006; 2006). Professor of Electrical and Computer Engineering. B.Tech., Indian Institute of Technology (India); M.S., Ph.D., Texas Tech University; PE.

**Norou Diawara** (2006; 2006). Assistant Professor of Mathematics and Statistics. B.A., University of Cheick Anta Diop (Senegal); M.S., University of LeHarve (France); M.S., University of South Alabama; Ph.D., Auburn University.

**Rafael Diaz** (2008; 2008). Research Assistant Professor, Virginia Modeling, Analysis and Simulation Center. B.S., Jose Maria Vargas University (Venezuela); M.B.A., Ph.D., Old Dominion University.

**Daniel L. Dickerson** (2009; 2004). Associate Professor of STEM Education and Professional Studies. B.S., University of North Carolina at Chapel Hill; M.S., Ph.D., North Carolina State University.

**Gail K. Dickinson** (2006; 2004). Associate Professor of Teaching and Learning. B.S., Millersville University; M.S.L.S., University of North Carolina at Chapel Hill; Ph.D., University of Virginia.

**Fred C. Dobbs** (2006; 1993). Professor of Ocean, Earth, and Atmospheric Sciences. A.B., Franklin and Marshall College; M.S., University of Connecticut; Ph.D., Florida State University.

- Gail Dodge** (2006; 1995). Professor of Physics. B.A., Princeton University; M.S., Ph.D., Stanford University.
- Patricia M. Doherty** (1995; 1991). Lecturer of Accounting. B.S., Old Dominion University; M.B.A., Golden Gate University.
- Carol A. Doll** (2007; 2007). Professor of Teaching and Learning. B.A., Michigan State University; M.L.S., Western Michigan University; Ph.D., University of Illinois at Champaign-Urbana.
- John R. Donat** (1997; 1991). Associate Professor of Chemistry and Biochemistry. B.S., Humboldt State University; Ph.D., University of California at Santa Cruz. Joint appointment with the Department of Ocean, Earth, and Atmospheric Sciences.
- J. Mark Dorrepaal** (2003; 1976). Professor of Mathematics and Statistics. B.Sc., University of Windsor (Canada); M.Sc., Ph.D., University of Toronto.
- John A. Doukas** (1989; 1989). Professor of Finance and William B. Spong, Jr. Endowed Professor of Business. B.A., Athens University (Greece); M.Sc., Stirling University (U.K.); Ph.D., New York University. Designated as an Eminent Scholar.
- Michael J. Doviak** (1983; 1975). Associate Professor of Mathematics and Statistics. A.B., Alfred University; A.M., Bucknell University; M.Stat., Ph.D., University of Florida.
- Suzanne D. Doviak** (1999; 1980; 1999). Lecturer of Mathematics and Statistics. B.A., State University of New York at Buffalo; B.A., M.A., Old Dominion University.
- Elizabeth Anne Dowling** (2002; 1990). Associate Professor of Human Movement Sciences. B.G.S., M.S., Virginia Commonwealth University; Ph.D., University of Virginia.
- Joyce Marie Downs** (2011; 2010). Assistant Professor of Dental Hygiene. B.S.D.H., M.S.D.H., Old Dominion University.
- Chad M. Driscoll** (2010; 2010). Lecturer of Nursing. B.S.N., St. Louis University; M.H.S., La Roche College.
- Jozef Dudek** (2006; 2006). Assistant Professor of Physics. M.Phys., D. Phil., University of Oxford (United Kingdom).
- Mary H. Duggan** (2004; 2000). Assistant Professor of Educational Foundations and Leadership. B.A., Virginia Polytechnic Institute and State University; M.S.Ed., M.S.Ed.; Ph.D., Old Dominion University.
- Jill Dustin** (2004; 1998). Associate Professor of Counseling and Human Services. B.S., Northern Kentucky University; M.A., Ph.D., University of Cincinnati. Designated as a University Professor.
- Karen Eagle** (2010; 2010). Instructor of STEM Education and Professional Studies. B.S., James Madison University; M.S.Ed., Old Dominion University.
- Steven J. Earle** (1999; 1999). Instructor, The Governor's School for the Arts. B.F.A., University of North Carolina at Charlotte; M.F.A., Virginia Commonwealth University.
- David C. Earnest** (2009; 2004). Associate Professor of Political Science and Geography. B.A., Stanford University; M.A., Ph.D., The George Washington University.
- Uduzei Felix Edgal** (2007; 2007). Assistant Professor of Engineering Technology. B.S., University of Lagos (Nigeria); M.S., Ph.D., University of Wisconsin - Madison; PE.
- Gary R. Edgerton** (1994; 1994). Professor of Communication and Theatre Arts. B.A., College of the Holy Cross; M.A., Ph.D., University of Massachusetts. Designated as an Eminent Scholar.
- Patricia Edwards** (2006; 2006). Lecturer of Art. B.F.A., Rhode Island School of Design; M.F.A., State University of New York at New Paltz.
- Abdelmageed A. Elmustafa** (2010; 2005). Associate Professor of Mechanical and Aerospace Engineering. B.S., M.S., South Dakota State University; M.S., Ph.D., University of Wisconsin - Madison.
- Hani E. Elsayed-Ali** (1997; 1992). Professor of Electrical and Computer Engineering and Director of the Applied Research Center. B.S., University of Miami; M.S., Ph.D., University of Illinois-Urbana. Designated as an Eminent Scholar.
- A. James English** (2002; 1988). Associate Professor of Community and Environmental Health. B.S., Lebanon Valley College; M.S., Old Dominion University.
- Mujde Erten-Unal** (1999; 1993). Associate Professor of Civil and Environmental Engineering. B.S., Middle East Technical University (Turkey); M.S., Ph.D., University of Missouri-Rolla.
- Nestor Escobales** (2010; 2010). Lecturer of Engineering Technology. B.S., Polytechnic Institute of Puerto Rico; M.S., University of Illinois - Urbana-Champaign; PE.
- Elizabeth Esinhart** (1998; 1994). Senior Lecturer of Political Science. B.A., Mount Holyoke College; J.D., Duke University School of Law. Designated as Director of Interdisciplinary Studies/Teacher Preparation Programs, College of Arts and Letters.
- Peter Eudendach** (2010; 2003). Associate Professor of Art. B.A., Providence College; B.F.A., Massachusetts College of Art; M.F.A., The Ohio State University.
- Rodney L. Evans** (2007; 1992; 2007). Lecturer of Philosophy and Religious Studies. B.A., Old Dominion University; M.A., Ph.D., University of Virginia.
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# INDEX

## A

AA/EEO Statement .....	3, 33
Academic Advising, Mission Statement .....	62
Academic Advising, Undergraduate Students .....	25, 62, 63
Academic Calendar .....	iv, 56
Academic Common Market .....	59
Academic Credit for Extracurricular Activities .....	66
Academic Dishonesty Procedures .....	17
Academic Enhancement .....	62
Academic Enhancement, courses .....	202
Academic Evaluation, Interim .....	67
Academic Information, Resources and Policies .....	62
Academic Testing .....	62
Accelerated Degree Programs .....	33, 57, 86, 93, 98, 99, 103, 104 110, 118, 122, 125, 149, 150, 151, 167, 169, 172, 179, 183, 190, 199
Accommodation, Students with disabilities .....	7
Accounting, courses .....	202
Accounting, major .....	129, 130
Accreditations .....	4
Acting, major .....	96
Activity Credits .....	66
Adjusted Resident Credit .....	71
Administrative Leadership and Ethics for Professional Roles Interdisciplinary Minor .....	118
Administrative Officers .....	299
Administrative Withdrawal .....	60
Admission, Business Administration Undergraduate Program .....	126
Admission, College of Education .....	135, 136
Admission, College of Engineering and Technology .....	33, 151
Admission, College of Health Sciences ...	166, 168, 171, 172, 175, 176
Admission, Economics major (BA) .....	124
Admission, Freshman .....	33
Admission, guaranteed entry programs .....	33
Admission, International Students .....	36
Admission, reactivation .....	36
Admission, Second baccalaureate degree .....	35
Admission, Transfer Students .....	34
Admission, Undergraduate Nondegree .....	35
Advanced Placement Credit .....	34, 63
Biology .....	186
Chemistry .....	188
College of Business and Public Administration .....	128
College of Education .....	138, 143
College of Engineering and Technology .....	152
College of Health Sciences .....	166
Computer Science .....	189
English .....	98
Foreign Languages .....	100
History .....	103
Interdisciplinary Studies .....	110
Mathematics .....	192
Ocean and Earth Science .....	194
Philosophy .....	117
Physics .....	197

Political Science and Geography .....	121
Psychology .....	200
Registered Nurse Students .....	180
Sociology and Criminal Justice .....	121
Advising, academic .....	25, 62, 63
Aerospace and Mechanical Engineering, courses .....	264
Affiliations .....	4
African American and African Studies, major .....	86
African-American Studies, courses .....	202
African-American Studies, minor .....	87
American Studies, courses .....	203
American Studies, minor .....	84
Anthropology, courses .....	203
Appeals, grade .....	68
Appeals, tuition .....	40
Application for Admission .....	33, 34, 35, 36
Application for Financial Aid .....	42
Application for Graduation .....	57
Applied Linguistics, accelerated program .....	99
Applied Research Center .....	149
Arabic, courses .....	241
Army Reserve Officer Training Corps (AROTC) .....	134
Art Education, licensure .....	89, 148
Art Education, major .....	88
Art History, courses .....	206
Art History, major .....	87
Art Studio, courses .....	203
Art Studio, major .....	89
Articulation Agreements .....	63
Arts and Letters, College of .....	83
Arts and Letters, courses .....	207
Asian Business, Center for .....	123
Asian Studies, courses .....	207
Asian Studies, Institute of .....	86
Asian Studies, major .....	91
Asian Studies, minor .....	92
Assessment of Academic Achievement .....	72
Assignment Submissions .....	66
Athletic Foundation .....	6
Athletics .....	27
Attendance at Other Institutions .....	59
Attendance of Guests .....	66
Attendance Policy .....	66
Audit Status .....	56

## B

Baccalaureate Degree, Second .....	35, 78
Baccalaureate Degree Requirements .....	72, 73, 74
Bachelor of Arts—African American and African Studies .....	86
Bachelor of Arts—Art Education .....	88
Bachelor of Arts—Art History .....	87
Bachelor of Arts—Asian Studies .....	91
Bachelor of Arts—College of Arts and Letters .....	83
Bachelor of Arts—Communication .....	92
Corporate Communication Emphasis .....	93
Film Studies .....	93
General Communication Emphasis .....	93
International and Intercultural Communication Emphasis .....	93



Interpersonal and Small Group Communication Emphasis .....	93	Film Studies .....	93
Mass Media Emphasis .....	93	General Communication Emphasis .....	93
Persuasion and Critical Thinking Emphasis .....	93	International and Intercultural Communication Emphasis .....	93
Public Relations Emphasis .....	93	Interpersonal and Small Group Communication Emphasis.....	93
Theatre Emphasis .....	93	Mass Media Emphasis .....	93
Bachelor of Arts—Criminal Justice.....	121	Persuasion and Critical Thinking Emphasis.....	93
Bachelor of Arts—Economics .....	124	Professional Communication Concentration .....	93
Bachelor of Arts—English .....	97	Public Relations Emphasis .....	93
Creative Writing Emphasis .....	97	Bachelor of Science—Criminal Justice .....	121
Journalism Emphasis .....	97	Bachelor of Science—Geography.....	119
Linguistics Emphasis.....	97	Environment and Resources Emphasis.....	119
Literature Emphasis .....	97	Geographical Information Systems Emphasis.....	119
Professional Writing Emphasis .....	97	Urban Emphasis .....	119
Teaching Licensure Emphasis .....	97	Bachelor of Science—Human Services.....	140
Bachelor of Arts—Foreign Languages and Literatures .....	100	Bachelor of Science—Interdisciplinary Studies.....	105, 108
French Concentration .....	100	Individualized Studies .....	108
German Concentration.....	100	Music Business/Production Concentration.....	108
Spanish Concentration .....	100	Professional Writing.....	109
Bachelor of Arts—Foreign Languages and Literatures, Licensure in Pre-K through Grade 12 .....	100	Teacher Preparation Concentration .....	105
Bachelor of Arts—Geography .....	119	Work and Professional Studies Concentration .....	110
Environment and Resources Emphasis.....	119	Bachelor of Science/Master of Business Administration, five year program .....	86, 183, 190, 197, 199
Urban Emphasis.....	119	Bachelor of Science—Mathematics .....	191
Bachelor of Arts—History .....	102	Bachelor of Science—Occupational and Technical Studies .....	144
Bachelor of Arts—History with License in History/Social Sciences	102	Fashion Emphasis.....	145
Bachelor of Arts—Interdisciplinary Studies .....	108	Industrial Technology Emphasis .....	145
Bachelor of Arts—International Studies .....	110	Marketing Education Emphasis.....	144
Bachelor of Arts/Master of Arts—International Studies.....	111	Technology Education Emphasis .....	145
Bachelor of Arts—Master of Business Administration, five-year program .....	86, 125	Training Specialist Emphasis .....	146
Bachelor of Arts—Music .....	114	Bachelor of Science—Ocean and Earth Science.....	192
Bachelor of Arts—Philosophy.....	117	Earth Science Education Emphasis .....	193
General Concentration .....	117	Geology Emphasis .....	193
Political and Legal Studies Concentration.....	117	Oceanography Emphasis .....	192
Religious Studies Concentration .....	117	Bachelor of Science—Physical Education .....	141
Bachelor of Arts—Political Science .....	118, 119	Exercise Science Emphasis .....	141
Bachelor of Arts—Sociology .....	120	Sport Management Emphasis.....	141
General Sociology Emphasis.....	120	Teaching Licensure Emphasis .....	141
Social Welfare Emphasis .....	120	Bachelor of Science—Physics.....	195, 196, 197
Bachelor of Arts—Studio Art.....	89	Bachelor of Science—Political Science .....	118, 119
Bachelor of Arts—Theatre and Dance .....	94	Bachelor of Science—Psychology .....	198
Dance Concentration .....	94	Bachelor of Science—Recreation and Tourism Studies.....	142
Dance Education Concentration .....	94	Recreation and Tourism Management Emphasis .....	143
Theatre Concentration .....	95	Therapeutic Recreation Emphasis .....	143
Design Technology Emphasis .....	95	Bachelor of Science—Sociology.....	120
Digital Film Making Emphasis .....	95	General Sociology Emphasis.....	120
Performance Emphasis .....	95	Social Welfare Emphasis .....	120
Theatre Education Concentration .....	90	Bachelor of Science—Speech-Language Pathology and Audiology .....	139
Bachelor of Arts—Women’s Studies .....	121	Bachelor of Science—Women’s Studies.....	121
Bachelor of Fine Arts, Acting.....	96	Bachelor of Science in Business Administration.....	125, 126
Bachelor of Fine Arts, Fine Arts.....	89	Bachelor of Science in Business Administration—Accounting .....	129, 130
Bachelor of Fine Arts, Teaching Licensure .....	90	Bachelor of Science in Business Administration—Decision Sciences.....	130
Bachelor of Music—Composition.....	112	Bachelor of Science in Business Administration—Economics .....	130
Bachelor of Music—Music Education.....	114	Bachelor of Science in Business Administration—Finance .....	131
Bachelor of Music—Performance .....	113	Finance Track .....	131
Bachelor of Science—African American and African Studies .....	86	Insurance and Financial Services Track .....	131
Bachelor of Science—Biochemistry .....	186	Real Estate Track .....	131
Bachelor of Science—Biology .....	184	Bachelor of Science in Business Administration—Information Systems and Technology.....	131
Marine Biology Concentration .....	184		
Secondary Education Concentration .....	184		
Bachelor of Science—Chemistry.....	186		
Bachelor of Science—Communication.....	92		
Corporate Communication Emphasis .....	93		

Database Track .....	132	Catalog Year, completion of requirements.....	58
E-Business and E-Commerce Track .....	132	Center for Asian Business.....	123
Network Engineering Track.....	132	Center for Bioelectrics .....	30, 150
Bachelor of Science in Business		Center for Coastal Physical Oceanography .....	184
Administration—International Business .....	132	Center for Computational Science .....	183
East Asian Emphasis—Chinese .....	132	Center for Economic Education .....	123
East Asian Emphasis—Japanese .....	133	Center for Family Violence Education and Research .....	83
European Emphasis .....	133	Center for Insurance and Financial Services .....	123
Latin American Emphasis .....	133	Center for Major Exploration.....	25
Bachelor of Science in Business		Center for Molecular Medicine .....	183
Administration—Management .....	133	Center for Real Estate and Economic Development .....	123
Bachelor of Science in Business Administration		Center for Service and Civic Engagement .....	24
—Maritime and Supply Chain Management .....	133	Center for System of Systems Engineering.....	149
Bachelor of Science in Business		Certificate Program—Career Experience.....	152
Administration—Marketing .....	134	Certificate Program—Cytotechnology .....	174
Bachelor of Science in Civil Engineering .....	152	Certificate Program—Geographic Information Science .....	120
Bachelor of Science in Computer Engineering.....	154, 189	Certificate Program—Histotechnician .....	175
Bachelor of Science in Computer Science.....	188	Certificate Program—Industrial Training .....	147
Bachelor of Science in Dental Hygiene .....	170	Certificate Program—Occupational Safety .....	167
Bachelor of Science in Electrical Engineering .....	153	Certificate Program—Ophthalmic Technology.....	174
Bachelor of Science in Engineering Technology.....	158, 189	Certificate Program—Professional Writing .....	98
Bachelor of Science in Environmental Health.....	166	Certificate Program—Spatial Analysis of Coastal	
Bachelor of Science in Health Sciences .....	168	Environments .....	120, 195
Cytotechnology Track .....	174	Change of Major or Minor, Undergraduate Students .....	56
Histotechnology Track.....	175	Chemistry, major .....	186
Ophthalmic Technology Track .....	174	Chemistry and Biochemistry, courses .....	211
Public Health Concentration.....	168	Child Development Center.....	10, 138
Bachelor of Science in Mechanical Engineering .....	155	Child Study Center .....	10, 138
Bachelor of Science in Medical Technology .....	172, 173	Children’s Rights interdisciplinary minor .....	75
Bachelor of Science in Modeling and Simulation Engineering .....	157	Chinese, courses.....	241
Bachelor of Science in Nuclear Medicine Technology .....	173	Civil and Environmental Engineering, courses .....	212
Bachelor of Science in Nursing .....	176	Civil Engineering, major .....	152
Bachelor’s Degree, for students in medically related fields.....	183	Civil Engineering Technology, courses .....	230
Bachelor’s/Master’s Programs, Engineering and Technology.....	150	Civil Engineering Technology, major .....	158
Bachelor’s/M.D. Program, Engineering and Technology.....	151	Construction Area of Specialization.....	158
Bachelor’s/Ph.D. Programs, Engineering and Technology.....	151	Structural Design Area of Specialization .....	158
Balance of aid refunds .....	41	Surveying and Site Development Area of Specialization .....	158
Billing Cycle.....	39	Classification of Undergraduate Students .....	56
Billing Statements .....	39	Clubs .....	2, 24
Biochemistry, major .....	186	Coaching Education, minor.....	143
Bioelectrics Center .....	30, 150	Coastal Energy Research Consortium.....	30
Biological Sciences, courses .....	207	Coastal Engineering Research Institute.....	149
Biology, major .....	184	Coastal Physical Oceanography,	
Biomedical Engineering, courses .....	210	Commonwealth Center .....	184
Biomedical Engineering Interdisciplinary Minor .....	163	Cocurricular Activities .....	2, 24
Bookstore.....	31	Collections .....	39
Business Administration, admission to undergraduate program.....	126	College of Arts and Letters .....	83
Business Administration, courses .....	210	College of Business and Public Administration .....	123
Business Administration, major .....	129	College of Education .....	135
Business Administration, minor .....	128	College of Engineering and Technology.....	149
Business and Public Administration, College of.....	123	College of Health Sciences .....	166
Business and Public Administration Affiliates .....	123	College of Sciences .....	182
Business Gateway.....	150	College Requirements .....	72
		Commencement .....	57
<b>C</b>		Communication, courses .....	214
Calendar, Academic .....	iv, 56	Communication, major .....	92, 104
Campus Information Center .....	24	Communication Sciences and Disorders, courses .....	218
Campus Location.....	1	Communication Sciences Special Education, courses.....	218
Card Center.....	31	Community College Transfer Programs.....	63
Career Advantage Program .....	25, 86, 128, 149	Community Health Professions, courses.....	218
Career Experience Certificate.....	152	Community Justice, Institute for Advancement of.....	84
Career Management Center .....	24, 86, 149	Completion of Requirements, Undergraduate Students .....	58
Cashiers Office .....	39	Composition major, Music .....	112
		Computational Science, Center .....	183

Computer Competency, Nursing .....	181
Computer Engineering, major .....	154, 189
Computer Engineering Technology, option.....	159, 160, 189
Computer Requirement, Engineering and Technology.....	151, 158
Computer Science, accelerated program.....	190
Computer Science, courses.....	219
Computer Science, major.....	188
Computer Science, endorsement for Professional Education Licensure .....	189
Computing and Communications Services, office of .....	27
Computing Facilities .....	28, 190
Conduct, Standards of.....	15
Consortium Exchange Program .....	59
Continuance Policy, Dental Hygiene .....	171
Continuance Policy, Nursing.....	176
Continuance, Business Administration Undergraduate Program....	126, 127
Continuance Regulations, Electrical and Computer Engineering.....	155
Continuance Regulations, Mechanical Engineering .....	155
Continuance Regulations, Modeling and Simulation Engineering .....	158
Continuance Regulations, Undergraduate .....	69
Continuing Education, Business and Public Administration .....	123
Continuing Education, Education .....	138
Continuing Education, Engineering and Technology .....	151
Continuing Education Programs, Health Sciences.....	166
Cooperative Education: Business Administration .....	128
Computer Science.....	189
Engineering and Technology .....	150
Cooperative Education Programs .....	24
Counseling Services .....	25
Course Load, Undergraduate Students .....	58
Course Numbering .....	56, 201
Course Prefixes.....	201
Course Scheduling and Academic Calendar .....	56
Courses, General Education .....	73, 74, 77
Courses, Honors .....	58, 77, 251
Courses of Instruction .....	201
Creative Writing, emphasis .....	97
Credit by Examination.....	63
Credits Earned Under Suspension .....	70
Criminal Justice, courses .....	221
Criminal Justice, major.....	121
Cross-registration, NSU, Consortium .....	59
Cytotechnology, certificate.....	174
Cytotechnology, courses.....	223
Cytotechnology, track.....	174

## D

Dance, concentration .....	94
Dance, courses.....	294
Dance Education, concentration .....	94, 148
Dance Education, licensure only .....	95
Dean's List .....	66
Debt Collection Act.....	40
Decision Sciences, courses .....	257
Decision Sciences, major .....	130
Declaration of Major, Minor or Cluster, Undergraduate Students....	56
Deferment, Financial Aid .....	41, 52
Deferment, Veterans.....	41
Degree Completion.....	57
Degree Programs, Synopsis of .....	54

Degree Requirements, Baccalaureate .....	72, 73, 74
Degree Requirements, Undergraduate Additional.....	72
Degree Requirements, Undergraduate College .....	72
Degree Requirements, Undergraduate Major .....	72
Degree Requirements, Undergraduate University General Education..	72, 73, 74, 75, 76, 77
Delinquent Accounts.....	39
Dental Hygiene, continuance .....	171
Dental Hygiene, courses.....	224
Dental Hygiene, major .....	178
Dental Hygiene applications .....	171
Dental Hygiene Degree Completion Program .....	171
Dental Hygiene Research Center .....	172
Dental Studies, Preparation for .....	183, 187
Department Chairs .....	302
Departmental Examinations .....	63
Departmental Honors .....	58
Design Technology, emphasis.....	95
Designed World, interdisciplinary minor .....	88
Digital Film Making, emphasis .....	95
Dining Services.....	29
Diplomas .....	58
Disabilities, accommodation .....	7
Disciplinary Policies and Procedures .....	15
Discrimination Complaint Procedure .....	10
Dishonored Checks and Charge Cards .....	40
Distance Learning .....	28, 124
Diversity Institute.....	26
Domicile (State Residency) .....	39
Driver Education.....	142
Drop/Add Procedure .....	59, 60
Duplicate Courses .....	67

## E

Earth Science Education Emphasis .....	146, 147, 193
E-Business and E-Commerce, track .....	132
Economic Development Center .....	123
Economic Education, Center for .....	123
Economics, courses .....	225
Economics, major .....	124, 125, 130
Education, Darden College of .....	135
Education Tax Credits.....	41
Educational Accessibility, Office of.....	25
Educational Foundation .....	6
Educational Leadership and Services, courses .....	226
Electrical and Computer Engineering, courses.....	227
Electrical Engineering, dual degree with physics.....	195, 196, 197
Electrical Engineering, major.....	153
Electrical Engineering Technology, courses .....	231
Electrical Engineering Technology, major .....	159
Computer Engineering Technology Option.....	159, 160
Electrical Systems Technology Option .....	159, 160
Electronic Messaging Policy.....	8
Elementary/Primary Education, emphasis.....	106, 148
Emergencies and Inclement Weather .....	9
Employee Fee Waiver .....	40
Employment, Student.....	42, 86
Endorsement Areas in STEM and Professional Studies.....	147
Engineering, courses .....	229
Engineering, freshman curriculum .....	151
Engineering Admission Requirements .....	33, 151
Engineering and Technology, College of .....	149
Engineering and Technology, computer requirement.....	151, 158

Engineering Fundamentals Division .....	151
Engineering Management, courses .....	229
Engineering Technology, courses .....	230
Engineering Technology, majors .....	158, 159, 160, 161, 162
English, accelerated program .....	98
English, courses .....	234
English, major .....	97, 98
English Language Center .....	29
English Proficiency requirements, non-native speakers .....	36
Enrollment Services and Student Engagement .....	24
Enterprise Centers, Engineering and Technology .....	149
Environmental Engineering, courses (See Civil and Environmental Engineering) .....	212
Environmental Health, courses .....	239
Environmental Health, major .....	166
Environmental Issues and Management Interdisciplinary Minor .....	167
Ethics and Public Affairs, Institute .....	84
European Studies, minor .....	84
EVMS-ODU Joint Program in Medicine .....	151, 182
EVMS-ODU Joint Program in Ophthalmic Technology .....	174
Examinations .....	67
Executive Development Center .....	123
Exercise Science, courses .....	255
Exercise Science, emphasis .....	141
Exit Examination of Writing Proficiency .....	65, 72
Experiential Learning Credit Option, undergraduate .....	63
Experiential Learning Fees .....	64
Extracurricular Activities .....	2, 24
Extracurricular Activities, Academic Credit for .....	66

## F

Faculty .....	1, 306
Faculty, Emeriti .....	303
Faculty Chairs and Professorships .....	5
Family Violence Education and Research, Center .....	83
Farsi, courses .....	241
Fashion Emphasis .....	145
Fast Track Admission Policy, education .....	135
Fee Waiver, employee .....	40
Fees, Experiential Learning .....	64
Fees, Housing .....	38
Fees, Laboratory .....	38
Fees, Mandatory .....	38
Fees, Music .....	38
Fees, Noncredit Programs .....	41
Fees, Nonrecurring .....	38
Filipino American Center .....	26
Filipino-American Studies, courses .....	240
Film and Video Studies, minor .....	85
Finance, courses .....	240
Finance, major .....	131
Financial Aid, Undergraduate .....	42
Financial Aid Deferment .....	41, 52
Financial Aid Eligibility, Satisfactory Academic Progress .....	43
Financial Aid Refund .....	40
Financial Aid Termination .....	52
Financial Information .....	38
Fine Arts, major .....	89
Firearms Policy .....	9
Foreign Credentials, student admission .....	35
Foreign Language requirements .....	73
Foreign Languages and Literatures, courses .....	241, 245

Foreign Languages and Literatures, majors .....	100
Foreign Literature in English Translation, courses .....	245
Fraternities .....	24
French, concentration .....	100, 101
French, courses .....	241
Freshman Placement Examinations .....	62, 63, 65

## G

General Education and Experiential Learning .....	72
General Education courses .....	73, 74, 77
General Education Goals and Objectives .....	72
General Education Philosophy .....	72
General Education Requirements .....	72, 73, 74, 75, 76, 77
General Education Transfer Equivalents for Virginia Community College System Courses .....	80
General Education Transfer Policies .....	34, 73
General Engineering Technology, major .....	162
General Equivalency Diploma (GED) .....	33
Geographic Information Science, certificate .....	120
Geographic Information Systems, emphasis .....	119
Geography, courses .....	246
Geography, major .....	119
Geologist, professional certification .....	194
Geology, emphasis .....	193
German, concentration .....	100, 101
German, courses .....	242
Global Vision .....	2
Goals of the University .....	3
Grade Adjustments .....	69
Grade Appeals .....	68
Grade Forgiveness Policy .....	67
Grading, System of .....	60, 67
Graduate Credit for Undergraduates .....	57
Graduation, with Honors .....	58
Graduation Information, undergraduate students .....	57
Graduation Requirements, College of Business and Public Administration .....	128, 129
Grants .....	42
Graphic design concentration .....	90
Guaranteed Entry Programs .....	33
Dental Hygiene .....	171
Engineering .....	151
Nursing .....	176
Physical Therapy .....	33
Special Education .....	138
Guaranteed Practicum .....	25, 128, 149, 192, 194

## H

Harassment, general policy .....	23
Harassment, Sexual .....	12
Health and Physical Education, teaching licensure .....	141
Health and Wellness Interdisciplinary Minor .....	143
Health, courses .....	247
Health education, courses .....	253
Health Insurance .....	27
Health Sciences, admission .....	166, 168, 171, 172, 175, 176
Health Sciences, College of .....	166
Health Sciences, major .....	168
Cytotechnology Track .....	174
Histotechnology Track .....	175
Ophthalmic Technology Track .....	174
Public Health Concentration .....	168
Health Services, Student .....	26

Hebrew, courses .....	243
Higher Education Centers .....	29
History, accelerated program.....	103
History, courses .....	248
History, major .....	102, 103
History of the University .....	1
Histotechnician certificate .....	175
Histotechnology, courses.....	251
Histotechnology Track .....	175
Honor System.....	15, 17
Honors, courses .....	58, 77, 251
Honors, departmental .....	58
Honors, Graduation with .....	58
Honors College.....	50, 65
Honors Programs	
Biology .....	185
Chemistry .....	188
Computer Science.....	189
Economics .....	125
Geography .....	119
International Studies .....	111
Nursing.....	178
Ocean and Earth Science .....	194
Physics.....	197
Political Science .....	119
Psychology.....	199
Housing & Residence Life.....	26
Human Movement Sciences, courses .....	251
Human Services, courses .....	256
Human Services, major .....	140
Humanities, accelerated program .....	104
<b>I</b>	
Identification Cards .....	31
Immunization Requirements.....	26
Impact of Technology Interdisciplinary Minor.....	147
Inclement Weather and Emergencies.....	9
Industrial Cooperative Training, Endorsement Program .....	147
Industrial Technology Emphasis .....	145
Industrial Training, certificate .....	147
Information Systems and Technology, courses .....	257
Information Systems and Technology, major.....	131
Institute for Ethics and Public Affairs .....	84
Institute for Jewish Studies and Interfaith Understanding .....	85
Institute for Multidisciplinary Parallel and Vector Computations .....	50
Institute for Sustainable Development.....	150
Institute for the Advancement of Community Justice.....	84
Institute for the Study of Race and Ethnicity.....	84
Institute of Asian Studies .....	86
Institute of Micro and Nanotechnology .....	150
Instructional Design and Technology, courses .....	259
Insurance and Financial Services Center .....	123
Intellectual Property, policy.....	23
Intercultural Relations, Office of.....	26
Interdisciplinary Studies, courses .....	259
Interdisciplinary Studies, major .....	105, 108, 109, 110
Interim Suspension .....	21
Interinstitutional Study Program with NSU.....	59
International Admissions .....	36
International Baccalaureate Credit.....	34
International Business, courses.....	259
International Business, major .....	132
International Programs, Office of .....	29

International Student and Scholar Services .....	29
International Students .....	26, 29, 35, 36, 37
International Studies, accelerated degree program.....	111
International Studies, major .....	110
Italian, courses .....	243
<b>J</b>	
Japanese, courses .....	243
Japanese Studies, minor .....	85
Jewish Studies and Interfaith Understanding, Institute .....	85
Jewish Studies, courses .....	260
Jewish Studies, minor.....	85
Journalism, emphasis .....	97
<b>K</b>	
Kindergarten Program.....	139
Kiwanis Parenting Center.....	139
<b>L</b>	
Laboratory fees.....	38
Language Learning Center .....	100
Laser and Plasma Engineering Research Institute.....	149
Latin American Studies, minor .....	85
Latin, courses .....	244
Lean Institute.....	149
Learning Assessment Lab .....	53
Libraries, university .....	31
Licensure and Baccalaureate Degree Requirements, College of Education.....	135
Licensure Only Teacher Education Programs 89, 95, 96, 135, 136, 148	
Linguistics, emphasis .....	97
Literature, emphasis .....	97
Loans.....	42, 44
<b>M</b>	
Major Declaration, Undergraduate Students .....	56
Major Exploration, Center.....	25
Major Requirements .....	72
Management, courses.....	260
Management, major.....	133
Marine Biology, concentration.....	184
Maritime and Supply Chain Management, courses.....	261
Maritime and Supply Chain Management, major.....	133
Maritime Institute .....	123
Marketing, courses .....	261
Marketing, major.....	134
Marketing Education, emphasis .....	144
Marketing Teacher Education, licensure program .....	147
Mathematics, courses .....	262
Mathematics and Statistics, major.....	191
Mechanical and Aerospace Engineering, courses .....	264
Mechanical Engineering, major .....	155
Mechanical Engineering Technology, courses .....	233
Mechanical Engineering Technology, major .....	161
Manufacturing Systems Area of Specialization .....	161
Marine Systems Area of Specialization.....	161
Mechanical Systems Design Area of Specialization .....	161
Nuclear Systems Area of Specialization .....	161
Medical Laboratory and Radiation Sciences, courses .....	266
Medical Studies, Preparation for .....	183, 187
Medical Technology, admission.....	172

Medical Technology, courses .....	266	Marketing .....	134
Medical Technology, major .....	172, 173	Marketing Education .....	147
Medically Related Fields, policy for awarding bachelor's degree ...	183	Mathematics .....	192
Medicine, ODU-EVMS Joint Program .....	151, 182	Mechanical Engineering.....	164
Mid-Atlantic Regional Spaceport .....	150	Mechanical Engineering Technology .....	165
Mid-Semester Feedback .....	67	Medical Technology.....	173
Middle Eastern Studies, courses .....	268	Middle Eastern Studies.....	85
Middle Eastern Studies, minor .....	85	Military Leadership .....	134, 165
Military Leadership, minor .....	134, 165	Modeling and Simulation .....	165
Military Mobilizations.....	60	Motorsports Engineering.....	165
Military Outreach .....	28	Music .....	116
Military Science and Leadership, courses.....	268	Occupational Safety .....	167
Military Science and Leadership (AROTC) .....	134	Ocean and Earth Science.....	195
Minors, in:		Philosophy.....	117
Accounting.....	130	Applied Ethics.....	117
Administrative Leadership and Ethics for Professional Roles.....	118	Political and Legal Studies.....	117
Aerospace Engineering.....	163	Religious Studies.....	117
African-American Studies .....	87	Physics .....	197
American Studies.....	84	Political Science .....	119
Art History.....	88	Psychology .....	199
Asian Studies .....	92	Public Service .....	128
Biomedical Engineering .....	163	Real Estate .....	131
Biology .....	185	Recreation and Tourism Management.....	143
Business Administration .....	128	Sociology .....	121
Chemistry .....	188	Special Education .....	138
Children's Rights.....	75	Speech-Language Pathology and Audiology.....	139
Civil Engineering .....	163	Sport Management .....	143
Civil Engineering Technology – Construction .....	163	Statistics .....	192
Coaching Education.....	143	Studio Arts .....	89
Communication .....	93	The Designed World .....	88
Community Health .....	169	The Impact of Technology .....	147
Computer Engineering.....	163	The Urban Community.....	125
Computer Science.....	190	Theatre and Dance .....	95
Criminal Justice .....	121	Dance Specialization .....	95
Decision Sciences .....	130	Theatre Specialization .....	96
Economics .....	125, 130	Therapeutic Recreation .....	143
Electrical Engineering .....	163	Training and Development.....	147
Electrical Engineering Technology.....	164	Web Programming .....	190
Engineering Management.....	164	Women's Studies .....	122
English .....	98	World Cultures: Values and Visions .....	101
Environmental Engineering .....	164	Minors, Declaration.....	56
Environmental Health.....	167	Minors, Requirements .....	78
Environmental Issues and Management .....	167	Misconduct in Scientific Research and Scholarly Activity Policy ....	23
European Studies.....	84	Mission, University .....	2
Exercise Science.....	143	Modeling, Analysis and Simulation, Center.....	30, 150
Fashion Merchandising.....	147	Modeling and Simulation Engineering, major .....	157
Film and Video Studies .....	85	Modeling and Simulation, courses .....	269
Financial Management.....	131	Molecular Medicine, Center.....	183
Foreign Languages and Literatures.....	101	Music Business/Production Concentration,	
Geography .....	120	Interdisciplinary Studies.....	108
Global Engineering.....	164	Music, courses .....	270
Health and Wellness .....	143	Music, major .....	114
Health Education—Non-Teaching .....	143	Music Education, major .....	114
History .....	103		
Human Services .....	140	<b>N</b>	
Information Systems and Technology .....	132	Nanotechnology, Institute .....	150
Insurance and Financial Services.....	131	National Centers for System of Systems Engineering.....	149
International Business.....	132	Naval Science, courses .....	273
International Studies .....	111	Naval Science (NROTC).....	162
Japanese Studies .....	85	Navy College General Engineering Technology Program .....	162
Jewish Studies .....	85	Newspaper, student .....	24
Latin American Studies .....	85	Noncredit fees .....	41
Management .....	133	Nondegree status, undergraduate .....	35
Marine Engineering .....	164		

Non-native speakers, English proficiency requirements .....	36
Non-payment of tuition .....	39
Norfolk State University Interinstitutional Study Program.....	59
Notification of Academic Status.....	69
Nuclear Medicine Technology, courses .....	274
Nuclear Medicine Technology, major .....	173
Numbering of courses .....	56, 201
Nursing, admission.....	176
Nursing, appeals process .....	178
Nursing, clinical caution.....	177
Nursing, clinical notice.....	177
Nursing, computer competency requirements .....	181
Nursing, continuance policies.....	176
Nursing, courses .....	274
Nursing, dismissal .....	177
Nursing, honors program.....	178
Nursing, major .....	176
Nursing, practice/performance expectations.....	181
Nursing, technical standards.....	181
Nursing, transfer courses .....	176

## O

Occupational and Technical Studies, major.....	144
Occupational Safety, certificate .....	167
Occupational Safety, minor .....	167
Ocean and Earth Science, major.....	192
Ocean, Earth and Atmospheric Sciences, courses .....	276
Oceanography, emphasis .....	192
ODU-EVMS Joint Program in Medicine .....	151, 182
Off-Campus Centers .....	29
Off-Campus Housing.....	26
Officers of the University .....	299
Ombudsperson Services .....	27
Operations Management, courses .....	259
Ophthalmic Technology Certificate Program.....	174
Ophthalmic Technology, courses .....	278
Ophthalmic Technology Track.....	174
Orientation.....	64

## P

Parallel and Vector Computations, Institute .....	150
Parenting Center .....	139
Parking and Transportation Services .....	30
Pass/Fail Policy, Undergraduate .....	59
Payment Plan .....	40
Peninsula Higher Education Center .....	29
Performance, emphasis.....	95
Performance major, Music .....	113
Perkins Loan Exit Interviews.....	41
Pharmacy School, preparation .....	183
Phi Kappa Phi, national honor society.....	24
Philosophy, courses .....	279
Philosophy, major.....	104, 117, 118
Physical Education, courses.....	251
Physical Education, major .....	141
Physics, courses .....	280
Physics, dual degree with electrical engineering .....	195, 196, 197
Physics, major .....	195, 196
Placement Examinations .....	62, 63, 65
Placement Examinations, music .....	116
Political and Legal Studies Concentration, philosophy .....	117
Political Science, courses .....	282
Political Science, major .....	118

Portfolio Assessment Policy, Education.....	135
Portfolio Development .....	63, 64
Portuguese, courses .....	244
Practicum, Guaranteed .....	25, 128, 149, 192, 194
PRAXIS Exam .....	135, 136
Prehealth Advisement .....	183, 188
Preoptometry Program .....	183, 187
Prepharmacy Program.....	183
Preview, Orientation .....	64
Primary/Elementary Education, emphasis.....	106, 148
Professional Engineer Certification.....	149
Professional Writing, certificate.....	98
Professional Writing Concentration, interdisciplinary studies .....	109
Professional Writing, emphasis.....	97
Programs for Continued Learning .....	138
Psychology, awards .....	199
Psychology, courses.....	285
Psychology, major.....	198
Public Affairs and Service, courses.....	287
Public Health, concentration .....	168
Public Service minor .....	128

## R

Race and Ethnicity, Institute for the Study of.....	84
Radio Station, Student .....	24
Reactivation of admission .....	36
Real Estate and Economic Development Center .....	123
Real Estate Foundation .....	6
Records Policy, Student .....	21, 60
Recreation and Tourism Studies, courses.....	253
Recreation and Tourism Studies, major .....	142
Recreational Sports .....	26
Refund Policy, financial aid funds .....	40
Refund Policy, tuition .....	40
Refunds, balance of aid.....	41
Regional Studies Institute .....	123
Registrar, Office of.....	56
Registration .....	59
Registration Policies and Procedures .....	56
Religious Studies, courses .....	280
Religious Studies, concentration .....	117
Repeating Courses.....	69
Replacement Checks .....	41
Requirements for Undergraduate Degrees .....	72
Research and Enterprise Centers .....	30
Research and Service Centers, Sciences.....	183
Research Foundation.....	30
Research Office .....	30
Research Policies .....	23
Research Program for Undergraduates.....	65
Residence Life.....	26
Residency.....	39
ROTC .....	134, 162
Russian, courses .....	244

## S

Schedule Changes .....	59
Scholarships .....	42, 45
Science, Technology, Engineering and Mathematics, courses .....	291
Sciences, College of .....	182
Sciences, courses.....	287

Second Baccalaureate Degree.....	35, 78
Second Major .....	78
Secondary Education .....	146, 148
Senior Citizens, tuition .....	40
Service and Civic Engagement Center .....	24
Set-off Debt Collection Act.....	40
Sexual Assault Policy .....	12
Sexual Harassment, Policy and Procedures .....	12
Ship Maintenance, Repair and Operations.....	150
Smoking Policy .....	14
Social Sciences Education Licensure.....	102
Sociology, courses .....	287
Sociology, major .....	120
Sororities .....	24
Spaceport, Mid-Atlantic Regional.....	150
Spanish, concentration .....	100, 101
Spanish, courses .....	244
Spatial Analysis of Coastal Environments, certificate.....	120, 195
Special Education, courses .....	288
Special Education, emphasis .....	106
Special Education, minor.....	138
Speech-Language Pathology and Audiology, major .....	139
Speech and Hearing Clinic .....	139
Sport Management, courses.....	255
Sport Management, emphasis .....	141
Sports Medicine (see Exercise Science) .....	141
Stalking Policy.....	14
Standards of Satisfactory Academic Progress to Maintain Financial Aid Eligibility .....	43
State Residency .....	39
Statement of Policy, General .....	3
Statistics, courses.....	263
Statistics, option .....	191
STEM Education and Professional Studies, courses.....	290
Student Account Inquiry.....	39
Student Activities and Leadership Office .....	24
Student Activities Council.....	24
Student Engagement and Enrollment Services Division.....	24
Student Conduct .....	15
Student Conduct and Academic Integrity, Office of.....	27
Student Disciplinary Policies and Procedures .....	15
Student Employment Program .....	42
Student Complaint Procedure .....	14
Student Financial Aid .....	42
Student Government .....	24
Student Health Insurance .....	27
Student Health Services.....	26
Student Ombudsperson Services .....	27
Student Organizations.....	2, 24
Student Records.....	21, 60
Student Support Services Program .....	64
Student Technology Skills.....	71
Studio Art, major .....	89
Study Abroad Office.....	29
Submission of Assignments.....	66
Submission of Written Work to More Than One Class .....	71
Summer Sessions.....	60
Suspension, academic .....	70
Suspension, Credits Earned .....	70
Suspension, Interim.....	21
Sustainable Development, Institute .....	150
Synopsis of Degree Programs.....	54
System of Grading.....	60, 67
System of Systems Engineering, research institute.....	149

## T

Tax Credits, Education.....	41
Teacher Education–Primary/Elementary Undergraduate/Graduate Fifth Year Program .....	105, 148
Teacher Education, licensure .....	135, 136, 137, 141, 144, 145, 146, 147, 148
Teacher Education, Secondary Undergraduate Programs .....	146, 148
Teacher Education Services .....	138
Teacher Candidate Internship.....	137
Teacher Licensure and Education	
Art .....	88, 89, 90 148
Biology .....	146, 147, 184
Chemistry .....	146, 147, 187
Dance .....	94, 148
Earth Science .....	146, 147, 193
Elementary/Primary .....	105, 148
Endorsements .....	147, 148, 189
English .....	97, 148
Foreign Language	
French .....	101, 148
German.....	101, 148
Spanish.....	101, 148
History/Social Sciences .....	102, 148
Marketing Education.....	144
Mathematics .....	146, 147, 191
Music .....	114, 148
Physical Education.....	141
Physics .....	146, 147, 196
Primary/Elementary .....	105, 148
Secondary Education .....	146, 148
Social Sciences.....	102, 148
Special Education, General .....	106
Technology Education.....	145
Theatre .....	95, 148
Teaching and Learning Education, courses.....	292
Technology Education, emphasis .....	145
Technical Standards .....	23
Technical Standards, nursing .....	181
Technology Skills, student.....	71
Termination of Financial Aid .....	52
Testing, Academic .....	62
Testing, Assessment of Academic Achievement.....	72
Testing Center .....	62
Theatre, concentration .....	95
Theatre, courses .....	295
Theatre Education, concentration .....	95
Theatre Education, licensure only.....	96
Therapeutic Recreation, emphasis .....	143
Third-Party Payment Authorizations.....	39
Training Specialist, emphasis.....	146
Transcripts.....	21, 60
Transfer Admission Requirements.....	34
Engineering and Engineering Technology .....	33, 152
Transfer Courses, Nursing.....	176
Transfer Credit, Art Department .....	35, 91
Transfer Credit, Business and Public Administration .....	128
Transfer Credit, Foreign Institutions .....	35, 36, 37
Transfer Credit, General Education .....	34, 73
Transfer Credit, Music .....	35, 116
Transfer Credit, Undergraduate .....	34
Transfer Credit, Virginia Community College System Courses.....	80
Transfer Programs, Community College .....	63
Transfer Student Services.....	63



Transfer Students, Engineering and Technology .....	152
Transportation Research Institute .....	150
Tri-Cities Center .....	29
Tuition .....	38
Tuition, failure to pay .....	39
Tuition, payment .....	39
Tuition, Senior Citizens .....	40
Tuition Appeal Policy.....	40
Tuition Refund Policy .....	40

## U

Undergraduate Admission .....	33
Undergraduate Continuance Regulations .....	69
Undergraduate Research Program .....	65
University Communication Policy.....	8
University Degree Requirements, General Education, Undergraduate .....	72, 73, 74, 75, 76, 77
University ID Cards.....	31
Upward Bound Program .....	65
Urban Community Interdisciplinary Minor .....	125

## V

Veterans Benefits.....	52
Veterans Deferment .....	41
Virginia Beach Higher Education Center .....	29
Virginia Coastal Energy Research Consortium .....	30
Virginia Community College System Transfer Equivalents .....	80
Virginia Modeling, Analysis and Simulation Center.....	30, 150
Virginia Tidewater Consortium Exchange Program.....	59

## W

Weapons policy .....	9
Weather and Emergencies .....	9
Web Programming, minor .....	190
Webb Center.....	32
Withdrawal from Classes or University.....	59, 60
Women's Center .....	27
Women's Studies, accelerated program .....	104, 122
Women's Studies, courses .....	298
Women's Studies, major.....	104, 121
Work and Professional Studies Concentration, Interdisciplinary studies.....	110
World Cultures: Values and Visions Interdisciplinary Minor.....	101
Writing Proficiency Programs and Policies, undergraduate .....	65
Writing Sample Placement Test. ....	62, 65