

Certificate Program Guidelines for Assessment

Old Dominion University is committed to a continuous “process of systematic assessment” to “ensure the highest possible quality for all university programs” (ODU Mission). The focus of certificate assessment is on student learning outcomes, not on the individual courses within the certificate.

Certificate Program Standards of Quality and Expectations

Certificate programs “meet the same high-quality standards as its academic degree programs, while addressing the specific needs of students and professionals. Certificates may be pursued in conjunction with or independent from graduate or undergraduate degree programs” (Faculty Handbook, Policy on Certificate Programs).

Assessment of certificate programs is in compliance with the institutional effectiveness standard 8.2.A. This comes from ODU’s regional accrediting body the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

The purpose of assessment is so collect meaningful actionable data that will lead to program and student learning improvements.

Certificate Assessment Guidelines

Assessment of certificate programs is dependent upon student learning outcomes. Some certificate outcomes are directly aligned with existing degree programs outcomes while others provide are developed independently.

Creating a Certificate Assessment Plan

Certificate programs in which student learning outcomes are not associated or aligned with an existing degree will need to develop an assessment plan. This generally applies to (1) certificates that are created using primarily cross-disciplinary or stand-alone courses; or (2) certificates with student learning outcomes that are significantly different from the degree program outcomes and contain existing courses that are housed within a degree program but are repackaged for the certificate.

Embedding Certificate Assessment into an Existing Assessment Plan

Certificate programs in which student learning outcomes are associated and directly aligned with an existing degree program should embed the certificate assessment into the existing degree program assessment. To do this, align any certificate outcomes with the existing degree program outcomes. Next, review the measures to ensure that they include both certificate and degree seeking populations of students. It may be necessary to add an additional measure that captures certificate students.

Number of credit hours and enrollments do not determine whether or not a certificate needs an assessment plan. Associated licensures or professional certifications with a certificate program do not determine whether or not a certificate is assessed. Non-credit bearing courses or certificates are not included in the University’s Assessment program at this time.

Developing an Assessment Plan for Certificates

Assessment of certificates should follow University assessment guidelines and reporting procedures (<http://www.odu.edu/about/planning/assessment/cycle/weave>):

Student Learning Outcomes

3-5 student learning outcomes must be defined and program objectives should be created where appropriate. Learning outcomes represent learning that takes place across two or more courses.

- For embedded certificate assessment, at least two certificate student learning outcomes should be identified and noted to be aligned with the student learning outcomes of the existing degree program.

Measures

Direct measures of student learning must be used. Indirect measures can only be used as a secondary measure (e.g. course grades, surveys, etc.).

- For embedded certificate assessment, at least two direct measures of student learning should be used to ensure the collection and analysis of artifacts from certificate courses. These can be existing measures or an additional measure may need to be added to the degree program's assessment plan.

A certificate course may have students who are currently earning the certificate, students who are earning a degree, and/or students who may decide to pursue the certificate after taking the course. Because of this, the focus of assessment must be on the outcomes that all students will attain.

In many cases, we find that an ePortfolio can be a very beneficial way to assess certificate students.

Results

Assessment findings are reported yearly by September 30, in Weave.

Results need to be compared between learning environments if the certificate is offered fully online and fully face-to-face.

Certificate programs are asked to report assessment data every year.

- If there are no graduates in a given year, coordinators need to report this in Weave. They should enter their recruiting and marketing strategy for the upcoming year in an action plan.
- Certificate programs are asked to analyze results upon the cumulative graduation of 5 students or more.

Certificate Program Resources for Assessment

Overview

What is assessment?

An ongoing process aimed at understanding and improving performance. It involves:

- Making our expectations explicit
- Setting appropriate criteria and standards for quality
- Systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards

A good assessment process can answer three related questions:

1. What are we trying to do?
2. How well are we doing it?
3. How are we using what we discover to improve what we will do in the future?

Why assess?

Because GOOD assessment informs the teaching and learning process. Assessment information can yield useful and accurate results specific to the learning outcomes so that improvements can be made.

Assessment Plans and Reports

Assessment plans include mission, student learning outcomes, measures, and targets. Assessment reports are completed annually and, based on the assessment plan, include the results, the interpretation and use of results, as well as action plans. Components of an assessment plan are briefly described below. Please check out our website (www.odu.edu/about/planning/assessment/cycle/weave) for many more resources and examples.

Mission

Missions specify the overarching purpose of a degree program and how that purpose aligns with the mission of the college or university. The mission also articulates the primary functions and learning experiences of the program.

Question: What is the purpose and primary function of the degree program? What are the primary activities or learning experiences? How does the mission of the program align with other the mission of the department, college, university etc.?

Student Learning Outcomes

Student learning Outcomes specify what students will be able to know or do when they graduate from the program. Outcomes are written with precise and concrete action verbs that are used to indicate the level of learning that is expected (e.g. Bloom's Learning Taxonomy or Fink's Learning Taxonomy).

Question: What three things do you want your students to be able to do or know as a result of completing the certificate? What knowledge, skills, or abilities were gained as a result of the completing the certificate?

Start here: Demonstrate knowledge, skill, proficiency or understanding, learn knowledge, think critically, write well or proficiently, understand or be familiar with a particular concept, appreciate a view point.

End here: Recognize, describe, explain, solve, apply, analyze, compare, create, design, judge, critique.

Measures

Measures are the methods used to collect information and evidence of student learning. There are two kinds of measures to consider. Having multiple measures helps programs make more informed and balanced decisions.

Direct measures are tangible, visible, observable, and self-explanatory. The quality and quantity of student learning is concretely exhibited. Indirect measures are signs, high-level indicators, or perceptions of learning.

Question: What information can we provide to show evidence of student learning?

Direct Measure Examples: test grades, rubrics, portfolios of student work, capstone projects, field supervisor ratings, employer ratings, and scores and pass rates on licensure exams.

Indirect Measure Examples: course grades, surveys, focus groups, course evaluations, admission to graduate school, student self-ratings, student/alumni satisfaction with learning, as well as honors, awards, and scholarships.

Targets

Targets describe the overall achievement goals of the program. They also clarify the expectations of the programs.

Question: What standard of performance or achievement do you expect from your students? How many students should be performing at this level?

Examples

- 90% of students will “meet” or “exceed” standards for [outcome] on the assignment rubric
- 100% of students will score 70% or better on each section of the final exam
- 80% of students will score 80 points or higher on each section of the licensure test

Bloom's Taxonomy Action Verbs

Level	Definition	Sample verbs					Sample behaviors
KNOWLEDGE	Student recalls or recognizes information, ideas, and principles in the approximate form in which they were learned.	arrange define describe duplicate	identify label list match	memorize name order outline	recognize relate recall repeat	reproduce select state	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
COMPREHENSION	Student translates, comprehends, or interprets information based on prior learning.	explain summarize paraphrase describe illustrate classify	convert defend describe discuss distinguish estimate explain	express extend generalized give example(s) identify indicate	infer locate paraphrase predict Recognize	rewrite review select summarize translate	The student will explain the purpose of Bloom's taxonomy of the cognitive domain.
APPLICATION	Student selects, transfers, and uses data and principles to complete a problem or task with a minimum of direction.	use compute solve demonstrate apply construct	apply change choose compute demonstrate discover dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will write an instructional objective for each level of Bloom's taxonomy.
ANALYSIS	Student distinguishes, classifies, and relates the assumptions, hypotheses, evidence, or structure of a statement or question	analyze categorize compare contrast separate apply	change discover choose compute demonstrate dramatize	employ illustrate interpret manipulate modify operate	practice predict prepare produce relate schedule	show sketch solve use write	The student will compare and contrast the cognitive and affective domains.
SYNTHESIS	Student originates, integrates, and combines ideas into a product, plan or proposal that is new to him or her.	create design hypothesize invent develop arrange assemble	categorize collect combine comply compose construct create	design develop devise explain formulate generate plan	prepare rearrange reconstruct relate reorganize revise	rewrite set up summarize synthesize tell write	The student will design a classification scheme for writing educational objectives that combines the cognitive, affective, and psychomotor domains.
EVALUATION	Student appraises, assesses, or critiques on a basis of specific standards and criteria.	Judge Recommend Critique Justify Appraise Argue	Assess Attach Choose Compare Conclude Contrast	Defend Describe Discriminate Estimate Evaluate Explain	Judge Justify Interpret Relate Predict	Rate Select Summarize Support Value	The student will judge the effectiveness of writing objectives using Bloom's taxonomy.

Example: Graduate Certificate in Modeling and Simulation for Biological Sciences

Mission

The mission of the Graduate Certificate in Modeling and Simulation for Biological Sciences is to provide students with skills and abilities in the areas of biological data, discovery, identification, collection, simulation, visualization, and time-series analysis in order to address leading biological issues. Throughout the courses and major lab assignments, student utilize software technologies and large data sets to provide visualizations. that. The mission of the certificate aligns with the mission of the College of Sciences in our pursuit to apply scientific principles creatively and responsibly.

Student Learning Outcomes	Measures	Targets/Benchmarks
<p>Problem Solving Skills Students will be able to analyze data using modeling, simulation, or visualization applications to solve problems in biological sciences.</p>	<p><u>Direct Measure 1</u> MSIM 601 – Introduction to Modeling and Simulation – Final exam scores and sub scores</p> <p><u>Direct Measure 2</u> BIOL 772/872 – Modeling and Simulation in Life Sciences – Major lab assignment</p>	<p><u>M1: Target</u> 90% of students will score 85% or above on the final exam. Exam scores will be broken out by section for further analysis of students learning.</p> <p><u>M2: Target</u> 90% of students will “meet standards” on the analysis section of the major lab assignment. Rubric/grading outline will be used to further analyze student learning.</p>
<p><u>Verbal Communication Skills</u> Students will be able to defend ideas using verbal communication skills to address modeling or simulation techniques in biology.</p>	<p><u>Direct Measure 1</u> BIOL 772/872 – Modeling and Simulation in Life Sciences – Project Presentation</p> <p><u>Indirect Measure 2</u> Modeling and Simulation Graduate Student Showcase</p>	<p><u>M1: Target</u> 90% of students “meet standards” or higher oral presentation section of the rubric.</p> <p><u>M2: Target</u> 80% of students will earn a meets standard on the judges showcase presentation criteria.</p>
<p><u>Research Design</u> Students will be able to design a research project that appropriately integrates modeling and simulation methods of analysis within the field of biology and ecology.</p>	<p><u>Direct Measure 1</u> BIOL 772/872 – Modeling and Simulation in Life Sciences – Project Presentation</p> <p><u>Direct Measure 2</u> Major lab assignment in Elective Courses BIOL 707/807 or BIOL 732/832</p>	<p><u>M1: Target</u> 90% of students “meet standards” or higher on research design section of the rubric.</p> <p><u>M2: Target</u> 90% of students will score “meet standards” or higher on research design section of the rubric.</p>