

Program Assessment Plan
Bachelor of Science in Environmental Science
Bachelor of Science in Environmental Resources

1. Program Overview

The B.S. Environmental Science (ENVS) and the B.S. Environmental Resources (ENRE) provide students with rigorous interdisciplinary training in Earth science, chemistry, and ecology. Program graduates are well-prepared (i) for entry-level employment in resource agencies such as the Department of Environmental Conservation, the Department of Natural Resources, and the US Geological Survey and (ii) to enter graduate programs in environmental science and related fields. The degrees use the natural laboratory available to students in Southeast Alaska both through laboratories and hands-on field exercises and through guided research projects with program faculty. All ENVS and ENRE students are required to complete either an internship or an individual research project within their degree.

The ENVS and ENRE degrees share a number of required courses, primarily in Earth science and geographic information systems. However, the two degrees are fundamentally different in their aims. The ENVS degree is focused on developing a rigorous, quantitative understanding of the physical, chemical, and ecological processes in Earth's surface and near-surface environments. This entails course work in chemistry, physics, and Earth science (e.g. hydrology and physical geology). In contrast, the ENRE degree is focused on understanding the Earth from a geographic and resource management perspective.

2. Program Student Learning Outcomes (SLOs)

By the time that they have completed their degree, students in the ENVS and ENRE program can:

1. Describe the fundamental Earth system components, their organization, and how they interrelate,
2. Collect and quantitatively analyze environmental data,
3. Convey technical concepts in environmental science to other scientists and the public,
4. Explain how environmental science is incorporated into different professional fields,
5. Relate environmental science to broader societal issues and solutions, and
6. Conduct research in an environmental field and/or provide support for environmental resource management.

3. Assessment Strategy

Students are assessed on the first five learning outcomes based on specific assignments completed in classes that are required for the ENVS and ENRE degrees. Assessment of the sixth learning outcome is based on the number of ENVS students who successfully complete research and internship opportunities in a field related to their major. For learning outcomes 1-5, the specific assignments that are assessed for program students are detailed in the table below. Student performance for each learning outcome is rated by program faculty on a scale of 1-6. There are three categories within this range: 1-2 represents "Does Not Meet Expectations", 3-4 represents "Meets Expectations", and 5-6 represents "Exceeds Expectations". The sixth learning outcome is evaluated both quantitatively and qualitatively based on the number and type of student research and internship experiences in a given academic year. Graduating students are also required to submit an exit interview survey (see Appendix), which is used when considering future programmatic changes.

UAS Competencies										
Conceptual Basis for SLO	SLO	Communication	Quantitative Skills	Information Literacy	Computer Literacy	Professional Behavior	Critical Thinking	Assessment Tool	Assessment Method	Course
Knowledge	#1		X	X	X		X	Modeling Exercises	Evaluation of student comprehension of model outcomes relevant to Earth system processes	Earth's Climate System (ENVS S422) / Glaciology (ENVS S302)
Analysis	#2		X				X	Hydrology Lab	Evaluation of accuracy of data collection and depth of analysis	Hydrology (GEOL S302)
Communication	#3	X		X	X	X	X	GIS Research Project/Poster	Evaluation of how results of GIS analyses were presented and visualized	Intro. GIS (ENVS S338)
Application	#4	X				X	X	Presentations	Evaluation of student comprehension of presentations from practitioners	ENVS Seminar (ENVS S492)
Consequences	#5			X			X	Case Study	Evaluation of geoscience principles of natural hazards/resources; Grade distribution	Natural Hazards (ENVS S213) / Mineral, Energy, and Renewable Resources (GEOL S320)

6. Additional Program Information

In addition to tracking student learning outcomes, faculty productivity is tracked in terms of grants awarded, number of publications, and collaborations with local, state, and federal agencies. This productivity is a critical aspect of the program since these activities foster partnerships that allow us to provide students with unique research and internship opportunities and clear pathways to careers in environmental science and environmental resources.

Appendix: Exit Interview Questions

1. What attracted you to the ENVS program at UAS?
2. How many years did you spend in the ENVS program?
3. What were the strongest or most effective aspects of the ENVS program?
4. Can you think of specific ways that we could improve the ENVS program for future students?
5. Are there any courses that were not offered that you feel would have strengthened the program?
6. Did you feel that you received effective academic advising in the course of completing your ENVS degree?
7. Did you feel courses were available when you wanted to take them?
8. Did you participate in an undergraduate research project while you were in the ENVS program?
If so, in what capacity?
9. What are your career or graduate school plans after you leave the program?
10. Are there ways that the ENVS program could have better prepared you for your expected career?
11. Any other comments?