Department of Environmental Science B.Sc. in Environmental Science Program Goals and Outcomes

Program Goals

Students who complete the degree requirement will be able to:

- 1. Demonstrate knowledge and integration of the natural sciences as applied to the complexities of environmental protection and sustainability.
- 2. Critically analyze impacts, both actual and potential, of human activity on the environment with a view to their prevention and/or mitigation.
- 3. Demonstrate a working knowledge of the scientific method to identify, evaluate and recommend solutions to environmental problems.
- 4. Display an increased awareness of environmental conditions locally, regionally, nationally and globally so as to promote active participation and social justice considerations in future environmental decisions.

Learning Outcomes and Assessment Methods

	Learning Outcome	Assessment Method
1a	Explain the scientific basis for environmental problems and potential protection or solutions to these problems.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250
1b	Discuss ecological principles as they apply to environmental protection and sustainability.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250
2a	Apply statistics to describe and analyze environmental data sets.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250
2b	Analyze actual and potential impacts of human activity on the environment.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250
3a	Design and execute experiments involving environmental sampling combined with field and laboratory analysis.	Evaluation of laboratory notebooks in two courses: ENVS 212 and 410
3b	Communicate scientific findings and analyses in a professional manner through written reports and oral presentations.	Evaluation of written reports in ENVS 410

4a	Describe environmental conditions on local, regional, national, and global scales.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250
4b	Evaluate environmental problems and their potential solutions with regard to social justice considerations.	Test questions developed by faculty and embedded in midterm and final exams of four required courses: ENVS 110, 210, 212, 250

Time Frame

- 1a-2b, 4a, 4b. Students will complete the midterm and final exams for the required courses. Evaluation of the exam questions will be scheduled at semester's midpoint and/or end.
- 3a. Students will turn in laboratory notebooks for these classes by the end of the semester. Evaluation by faculty will occur at semester's end.
- 3b. Students will turn in a final report for the class by the end of the semester. Evaluation by faculty will occur at semester's end.

2008-2009: Assess outcome 1a in ENVS 110, 210, and/or 212.

Assess outcome 2a in ENVS 212 and/or 250. Assess outcome 3a in ENVS 212, 210, and/or 410.

2009-2010: Assess outcome 1b in ENVS 210

Assess outcome 2b in ENVS 110 and/or 210 Assess outcome 4a in ENVS 110 and/or 212

2010-2011: Assess outcome 3b in ENVS 210, 212, and/or 410

Assess outcome 4b in ENVS 110

Who Will Do the Assessment?

The Department Chair and appointed committee will grade exam questions for outcomes assessment, and evaluate final reports and laboratory notebooks for outcomes assessment.

How Data Will Be Used to Improve Program or Revise Curricula

The department will meet as a whole to discuss findings and collectively identify ways to improve the curriculum.