Undergraduate Curricular Program Assessment Plan

Program Name: Environmental Science
Applicable Major(s)/Degree(s): Environmental Science B.S.
Date: 2/1/2018

Section 1: Program Learning Outcomes and Assessment Methods

This table summarizes all program learning outcomes and related details for each outcome. Program learning outcomes identify what students will know and do as a result of completing the program.

Program Learning Outcome(s)	Campus SLO Alignment	Assessment Year	Assessment Methods/Measures	Performance Indicators
1. Apply foundational knowledge from environmental science disciplines to address environmental resources and the impacts of human activities on resources.	2	2019	Exam questions, problem sets, In-class exercises	To be determined based on baseline data
2. Demonstrate knowledge of the policy framework underlying environmental monitoring, assessment, and remediation.	1	2020	Exam questions, Class discussions, In-class exercises	To be determined based on baseline data
3. Define and solve complex environmental problems.	3	2020	Lab exercises, problem sets, Exam questions	To be determined based on baseline data
4. Collect, analyze, and interpret environmental data.	2	2020	Lab exercises	To be determined based on baseline data
5. Communicate scientific ideas effectively in written form.	6a	2018; 2021	Refer to WRIT 31xx assessment plan	Refer to WRIT 31xx assessment plan
6. Work effectively in multidisciplinary teams.	9	2020	Group project peer evaluations	To be determined based on baseline data
7. Demonstrate preparedness for careers in the environmental sciences or further education through graduate studies.	9	2018; 2021	Exit surveys, data on job placement, internship reports	TBD on exit interviews, internship reports, and job placement in field or graduate school

Section 2: Program Assessment Data Analysis and Results

In this section, information is provided regarding who conducts the program's assessment, who compiles assessment data, who reviews assessment results, and general ways the program uses assessment results to improve teaching and learning. Information includes ways in which students and individuals/groups outside of the program are involved in the program's assessment process, if applicable.

Program data are compiled for each class by the faculty member who teaches that class. Exit survey data will be collected and compiled by administrative staff and the program assessment liaison (PAL). The PAL compiles the class-by-class data for each learning outcome and brings it to the curriculum committee and then the full faculty for discussion. The faculty as a whole will then have a chance to provide feedback on the annual learning outcome results. From that feedback, the PAL will assemble the report, and the faculty can discuss potential changes to improve student learning.

Faculty have started meeting with students twice a year at advising times. We will start using these opportunities to ask what is working well and what their thoughts are in terms of required courses, elective offerings, changes to programmatic structure, etc. The program has recently undergone revision to the required courses in the Environmental Sciences major, based on feedback from students and faculty discussions (the new structure of the major is presented in Section 3). As part of this effort, the afore-mentioned departmental curriculum committee was formed initially to discuss and revamp the curriculum in this major, and the department is continuing the committee.

Section 3: Alignment of Courses to Program Learning Outcomes

This table lists courses required for the program effective Fall 2019 and shows the alignment with the program learning outcomes.

- Courses are listed in order by course level, beginning with 1xxx courses.
- * denotes required courses.
- Course-to-program learning outcome alignment is noted as: I=Introduced; R=Reinforced; E=Emphasized
- Courses used as part of Program Assessment are noted by: P = Program Assessment Reporting.

Course Number	Course Title	Program Learning Outcomes						
		1	2	3	4	5	6	7
	Foundational math and science courses: *Physics 1 and 2, *Chemistry 1 and 2, *Calculus 1 and 2, *Biology 1 and 2, *Ecology + Ecology Lab, *Environmental Chemistry (or Quantitative Analysis)	I		I	I		I	I
WRIT 3150	*Advanced Writing					E, P		R
1110	*Geology & Earth Systems (or equivalent introductory course)	I		I	I		I	I
2010	*Surface Processes	R	I	R	E, P^	I	R	R
2110	*Earth History and Climate	R		R	R	R	R	R
3201	*Mineral Resources	E, P	R	E	R	R	R	R
3202	*Energy Resources	E, P	R	E	R	R	R	R
3203	*Surface and groundwater hydrology	E, P	R	E	R		R	R
4201	*Environmental Assessment	E	E, P	E, P	E, P	E	E, P	R
	*Pollution Course	E		E	R			
	*Advanced Water Elective	R		R	R			
	*Advanced Electives	R		E	R			R

^This course is required of the Environmental Science and Geological Sciences programs. Course assessment data is submitted on the Environmental Sciences assessment reports, but is used to inform decisions for both programs.