Environmental Studies - BA
2017 - 2018 Assessment Plan

Currently status is: Report Accepted

I. ANNUAL REPORT FOR 2016 - 2017

Mission Statement

The mission of the Environment and Sustainability degrees within the School of the Earth, Ocean and Environment at the University of South Carolina is to foster understanding of complex environmental processes and issues, to promote environmentally-related research and scholarship, and to prepare students to meet environmental challenges via collaborative and multidisciplinary approaches. The Bachelor of Arts degree in Environmental Studies incorporates social, economic, policy, communications and science components into a curriculum that prepares students to address environmental concerns requiring understanding of multiple social and scientific disciplines.

Goal 1.

Students majoring in Environmental Studies will demonstrate knowledge of fundamental concepts in environmental studies.

Curriculum

Students will meet this goal by successfully completing ENVR 201 and 202, which are designed to introduce students to fundamental concepts in environmental science and studies through multidisciplinary analysis of a series of increasingly complex environmental issues. Additional courses as developed, such as ENVR 331, 460, 490 or 501, may also be used to develop these concepts.

Learning Outcome 1.

Students will demonstrate their knowledge of fundamental concepts in environmental studies.

Measures and Criteria

Students will demonstrate knowledge of fundamental concepts in environmental studies and sciences by demonstrating competency at the proficiency level which would be evidenced by understanding at least 80% of the material on the laboratory exercise on either a stream assessment, or analyzing the content of popular foods and addressing sustainable agriculture and genetically modified crops, or other laboratory exercise which allows students to demonstrate their knowledge of fundamental concepts in environmental studies.

Methods

An exercise which integrates these fundamental concepts will be used to assess the student's knowledge. The exercise may be selected from ENVR 201, 202 or 460. An example exercise is one on sustainable agriculture and genetically modified crops incorporates many of the fundamental concepts and may be used to evaluate the students knowledge of such fundamental concepts. Another possible exercise is one on stream assessments at Congaree National Park. The student will be evaluated based on their level of proficiency at understanding the concepts involved. Students may also be evaluated based on one of the other exercises in either ENVR 201, 202 or 460. Each year's results will be kept on file by the Undergraduate Program Administrator.

Results

Eleven students participated in the Hydrograph Analysis exercise in ENVR 460: Congaree National Park; Environmental Experiences- in Spring 2017. This experience required students to analyze data obtained from a field exercise measuring stream velocity, stream characteristics and discharge measurement. It also required students to analyze stream flow data over time and address the impacts on the hydrologic, ecologic and geomorphic features of the watershed. 100% of the students were at the level of at least competent and 91% were at the proficiency level.

ENVR 460 – Hydrograph Analysis exercise				

Students enrolled Spring 2016:	Mastery	Excellent	Proficient	Competent	Not Proficient
% of student n=11		64%	27%	9%	

Use of Results

Students taking ENVR 460 - Congaree National Park – Field Investigations , have not usually been exposed to such in-depth field experiences and initially have to learn to translate the knowledge they have acquired in the class room and in the laboratories to real time field scenarios. While we have met our goal of at least 80% competency, none of the students truly mastered the skills by the completion of the exercise. We understand that while the fundamental concepts are understood at a high level, translating them to demonstrating knowledge in a field setting, takes experience. We would like to see a larger percentage of students be able to gain a more in-depth field understanding, but given that 100% of the students are competent, we will not yet require an extensive field experience for all students.

Goal 2.

Students majoring in Environmental Studies will be able to utilize information from more than one discipline related to environmental studies and be able to synthesize that information to analyze interdisciplinary environmental problems.

Curriculum

Students will utilize and synthesize information from courses which are interdisciplinary and which require analysis of environmental concerns such as from our major core courses including: BIOL 301, ENVR 548 {ECON 548}, ENGL 434, GEOG 363, HIST 448, ENVR 322 {PHIL 322}, POLI 477 or POLI 478.

Learning Outcome 1.

Students will be able to utilize information from more than one discipline related to environmental studies, and be able to synthesize that information to analyze interdisciplinary environmental problems.

Measures and Criteria

80% of the students will be able to demonstrate that they are proficient at developing either a research plan that will include all of the necessary components, such as presenting a hypothesis, outlining methodology, discussing data or research evaluation and synthesis of the data to form a conclusion or proficient at constructing a well written policy brief which includes the necessary components such as background, objectives, methodology, data or research discussion and evaluation to form a conclusion. Students will be judged based on a mastery, excellence, proficiency, competency or not proficient.

Methods

This learning outcome will be assessed via a research plan or policy draft assigned in ENVR 590 - required seminar on Environmental Issues or by a research proposal developed in ENVR 460. The project will be developed by the course instructor and will be graded objectively, using a standardized scoring rubric. Scores, with identifying information removed, will be kept on file by the Undergraduate Program Administrator

Results

Students in ENVR 590 - Environmental Issues Seminar (the senior Seminar for environmental students) prepare a written research plan or policy paper related to the research to be conducted, which this year involved working with a community partner on a specific environmental concern. In AY 16-17, 40 students were enrolled in the course in Spring 2017 and completed the writing necessary to measure and evaluate Goal 2, Learning Outcome 1.

Of the 40 students in the class 24 or 60% demonstrated mastery in presenting the hypothesis, outlining methodology, discussing data, and forming conclusions, while 15 or 37.5% performed at the excellence and 2.5% were deemed to be not proficient. Therefore, 97.5% demonstrated this learning goal at the proficiency or better level.

Research Plan development Mastery Excellent Proficient Competent Not Proficient

total no. of students	24	15		1
% of students	60	37.5		2.5

Use of Results

We are most encouraged that 60% of the students mastered the goal of demonstrating knowledge of inquiry and research methods this year in ENVR 590. All of the students in this class were seniors at the time the class was taken and therefore, this is their final opportunity in the major to meet this learning outcome. Last year, none of the students demonstrated mastery, although 100% were at least proficient. In addition, this year, one student was determined not to be proficient at this key learning outcome; while not unexpected that one student would fail perform, it is disappointing that the program was not able to provide resources to allow the student to at least meet the minimum goal. In conversations with the instructor, we believe that the instructor attempted to provide the necessary resources, but the student did not take advantage of the opportunities to meet this goal.

The evaluation of students from this required class for all seniors indicated that senior students were able to develop a research plan, even if they did not have much exposure in prior classes. This suggests that we are meeting our goal of having students demonstrate this learning outcome prior to graduation. However, with more practice, they may be better equipped to develop more complete research plans and exhibit mastery at an earlier stage of their degree.

Goal 3.

Students majoring Environmental Studies will demonstrate effective written and oral skills in communicating about environmental issues.

Curriculum

Students will learn effective communication skills beginning in ENVR 201, 202; continue to develop those skills throughout the core courses; and refine those skills in other major courses such as ENVR 590, a senior capstone course that includes a written report and oral presentation, GEOL 560 a seminar class including written reports and oral presentations, ENVR 460 a field research course requiring a written research proposal and an oral presentation and others as appropriate.

Learning Outcome 1.

Students will demonstrate effective writing skills.

Measures and Criteria

80% of the students will be able to demonstrate that they are proficient at effectively communicating through a written report. The student should be able to develop the topic and discussion through the proper use of grammar and writing style, as well as present an effective introduction, discussion and conclusion. Students will be judged based on a demonstration of effort at the mastery, excellence, proficiency, competency or not proficient level

Methods

Student writing will be assessed via rubric that is used to evaluate written content, organization, style and diction.

Results

In Spring 2017, 40 senior environmental students were enrolled in ENVR 590 Environmental Issues Seminar and completed a major writing piece on an environmental issue. The students were evaluated based on the measures and criteria listed above. The results are:

	Analytical Writing Skills				
Students enrolled Spring 2017:	Mastery	Excellent	Proficient	Competent	Not Proficient
totals n=40	23	12	3		1
% of students	57.5%	30%	7.5%		2.5%

Use of Results

Most of the students in the class were seniors, and are planning to graduate between May 2017 and December 2017. The students exhibited effective written communication skills with 97% at the proficient level or above. While our goal is 80% at the proficient level, we had 87% at the Mastery and Excellence levels. Therefore, while we would strive for more students at the mastery level, we are currently meeting our learning outcome goal. In as much as the students in the BA in Environmental Studies will most likely be in careers that require more extensive writing, we are encouraged that our students are meeting this learning outcome and goal.

Learning Outcome 2.

Students will demonstrate effective oral communication skills.

Measures and Criteria

80% of the students will be able to demonstrate that they are proficient at effectively making an oral presentation. The student should be able to introduce and discuss the topic using proper grammar, use visual aids as necessary to develop the topic and present an effective introduction, discussion and conclusion. Students will be judged based on a demonstration of effort at the mastery, excellence, proficiency, competency or not proficient level.

Methods

Student presentations will be assessed using a grading rubric that scores content, organization, clarity of visual aids, and diction (word choice and enunciation).

Results

In Spring 2017, 40 senior environmental students were enrolled in ENVR 590 Environmental Issues Seminar and were required to make several presentations to the class on an environmental issue. The final presentation was selected for review for assessment purposes and the results are:

	Oral Communication Skills				
Students enrolled Spring 2017:	Mastery	Excellent	Proficient	Competent	Not Proficient
totals	27	10	2		1
% of students	67.5%	25%	5%		2.5%

Use of Results

Most of the students in the class were seniors, and are planning to graduate between May 2017 and December 2017. The students exhibited effective and strong oral communication skills. A number of ENVR courses and courses required for the major require students to make oral presentations and these skills are being developed. While this learning outcome provides that at least 80% of the BA Environmental Studies students will be proficient at oral communication skills, greater than 92% were assessed as excellent. The increased emphasis on public speaking and oral expression throughout the USC curriculum is evident in the assessment of these students.

II. FUTURE ASSESSMENT PLAN FOR 2017 - 2018

Mission Statement

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Curriculum

Students will meet this goal by successfully completing ENVR 201 and 202, which are designed to introduce students to fundamental concepts in environmental science and studies through multidisciplinary analysis of a series of increasingly complex environmental issues. Additional courses as developed, such as ENVR 331, 460, 490 or 501, may also be used to develop these concepts.

Learning Outcome 1.

Students will demonstrate their knowledge of fundamental concepts in environmental studies.

Measures and Criteria

Students will demonstrate knowledge of fundamental concepts in environmental studies by demonstrating competency at the proficiency level in an exercise in ENVR 201, 202, 460 and/or 501. To meet this competency level, at least 80% of students in Environmental Studies will be rated as Proficient or better. Students will be evaluated based on their demonstration of these concepts through a Stream Evaluation exercise. Students will be evaluated based on their ability to demonstrate these concepts in a Stream Discharge exercise in ENVR 201 or through the Stream Assessment exercise in ENVR 460. In ENVR 201, the students will be required to complete a field exercise to calculate the discharge rate of streams by measuring and calculating volumetric flux and demonstrating how the discharge is a critical element of water management and water budgets. Alternatively, students could be assessed by the Hydrograph Analysis exercise in ENVR 460 in which students are required to analyze data obtained from a field exercise measuring stream velocity, stream characteristics and discharge measurements and also analyze stream flow data over time to address the impacts on the hydrologic, ecologic and geomorphic features of the watershed.

Methods

ENVR 201, 202, and 460 are taught once per year. All students in the Environmental Studies degree programs will complete both ENVR 201 and 202 and a number of our upper level students will select to complete ENVR 460 and/or 501. Therefore, approximately 40 to 60 students will take ENVR 201 and 202 on an annual basis and up to 30 students may take ENVR 460 or 501. Data from a specific laboratory exercise, which would demonstrate knowledge of fundamental concepts, will be requested from the instructor by the undergraduate director at the end of each year. Faculty providing the data will be asked to provide a table detailing the proficiency with which the students completed the exercise. Such data may include: the total number of students, the level of proficiency (mastery, excellence, proficiency, competency or not proficient) of students and the percentage of students in each category. Several laboratory exercises incorporate the fundamental concepts, but these exercises may vary on a year by year basis as new exercises are developed. We anticipate, however, that similar stream related exercises will be reviewed annually to evaluate the students' knowledge of such fundamental concepts. Each year's results will be kept on file by the Undergraduate Program Administrator and the results of the assessment will be shared with the Undergraduate Committee for Environmental degrees. The committee will review the assessment data and make recommendations to the faculty as appropriate.

Goal 2.

Students majoring in Environmental Studies will be able to utilize information from more than one discipline related to environmental studies and be able to synthesize that information to analyze interdisciplinary environmental problems.

Curriculum

Students will utilize and synthesize information from courses which are interdisciplinary and which require analysis of environmental concerns such as from our major core courses including: BIOL 301, ENVR 548 {ECON 548}, ENGL 434, GEOG 363, HIST 448, ENVR 322 {PHIL 322}, POLI 477 or POLI 478.

Learning Outcome 1.

Students will be able to utilize information from more than one discipline related to environmental studies, and be able to synthesize that information to analyze interdisciplinary environmental problems.

Measures and Criteria

We expet that 80% of the students will be able to demonstrate that they are proficient at developing either a research plan that will include all of the necessary components, such as presenting a hypothesis, outlining methodology, discussing data or research evaluation, and synthesis of the data to form a conclusion or proficient at constructing a well written policy brief which includes the necessary components such as

background, objectives, methodology, data or research discussion and evaluation to form a conclusion. Students will be judged based on a mastery, excellence, proficiency, competency or not proficient.

Methods

Approximately 50 to 70 students will take ENVR 590 on an annual basis. Data will be requested from the instructor by the undergraduate director at the end of each year. The data requested on student research plans or policy briefs will include an evaluation of whether students are able to form an appropriate research plan/policy brief and identify sources of error in the resulting data or analyses . Faculty providing the data will be asked to provide a table detailing the proficiency with which the students developed the plan. Such data may include: the total number of students, the level of proficiency (mastery, excellence, proficiency, competency or not proficient) of students and the percentage of students in each category. Each year's results will be kept on file by the Undergraduate Director or Program Coordinator and the results of the assessment will be shared with the Undergraduate Committee for Environmental degrees. The committee will review the assessment data and make recommendations to the faculty as appropriate.

Goal 3.

Students majoring Environmental Studies will demonstrate effective written and oral skills in communicating about environmental issues.

Curriculum

Students will learn effective communication skills beginning in ENVR 201, 202; continue to develop those skills throughout the core courses; and refine those skills in other major courses such as ENVR 590, a senior capstone course that includes a written report and oral presentation, GEOL 560 a seminar class including written reports and oral presentations, ENVR 460 a field research course requiring a written research proposal and an oral presentation and others as appropriate.

Learning Outcome 1.

Students will demonstrate effective writing skills.

Measures and Criteria

We expect that 80% of the students will be able to demonstrate that they are proficient at effectively communicating through a written report. The student should be able to develop the topic and discussion through the proper use of grammar and writing style, as well as present an effective introduction, discussion and conclusion. Students will be judged based on a demonstration of effort at the mastery, excellence, proficiency, competency or not proficient level

Methods

Approximately 50 to 70 students will take ENVR 590 on an annual basis; 25 to 35 per semester. Data will be requested from each instructor by the Undergraduate Director at the end of each year. The data requested on effective written communication will result from the final class research paper that is submitted to the instructor at the end of the semester. The research paper (or research report) assessment will include elements a review of the written content, organization, style and diction. Faculty will provide a table detailing the proficiency with which the students can effectively communicate through the written final research paper. Such data may include: the total number of students, the level of proficiency (mastery, excellence, proficiency, competency or not proficient) of students and the percentage of students in each category. Each year's results will be kept on file by the Undergraduate Director or Program Coordinator and the results of the assessment will be shared with the Undergraduate Committee for Environmental degrees. The committee will review the assessment data and make recommendations to the faculty as appropriate.

Learning Outcome 2.

Students will demonstrate effective oral communication skills.

Measures and Criteria

We expect that 80% of the students will be able to demonstrate that they are proficient at effectively making an oral presentation. The student should be able to introduce and discuss the topic using proper grammar, use visual aids as necessary to develop the topic and present an effective introduction, discussion and conclusion. Students will be judged based on a demonstration of effort at the mastery, excellence, proficiency, competency or not proficient level.

Methods

Approximately 50 to 70 students will take ENVR 590 on an annual basis; 25 to 35 per semester. Data will

be requested from each instructor by the Undergraduate Director at the end of each year. The data requested on strong and effective oral communication will result from the oral presentation of the student's research at the end of the semester. The student presentation will be assessed on content organization, clarity of visual aids and diction (word choice and enunciation). Faculty will provide a table detailing the proficiency of the students' oral communication skills based on this presentation. Such data may include: the total number of students, the level of proficiency (mastery, excellence, proficiency, competency or not proficient) of students and the percentage of students in each category. Each year's results will be kept on file by the Undergraduate Director or Program Coordinator and the results of the assessment will be shared with the Undergraduate Committee for Environmental degrees. The committee will review the assessment data and make recommendations to the faculty as appropriate.