Program
Environmental Studies
College
Arts & Sciences
Year
2014

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Faculty Committee:
Two or more faculty from EVST-affiliated departments.
I. Program Overview

The goal of the Environmental Studies curriculum is to produce professionals that are scientifically trained, but also "speak the languages" of the multiple disciplines involved in environmental problem solving. The curriculum broadly exposes students to a range of allied disciplines, and then requires them to focus through elective choices and the completion of a minor. Throughout the program, students are in courses using active learning strategies where group work is an essential element. By the junior and senior years, students investigate “big” topics – water, climate, biodiversity, and urbanization – through local site visits, research projects, and interaction with local experts and institutions. This experience culminates with the common capstone, where students work in interdisciplinary teams to complete a needed local service project. While not required, most students also participate in research and/or do at least one internship during their degree program. While the entire curriculum emphasizes the acquisition and application of real-world skills, having students explore career options through research and internships is a high priority of the Environmental Studies Program.
II. Program Outcomes

The original Environmental Studies Program learning outcomes are listed below.

1. Students demonstrate awareness of the history and development of the environmental movement.
2. Students are able to discuss ecosystem structure and function and describe the impact of social systems, networks, and economic structure/underpinning.
3. Students apply different ways of "knowing" about the environment to approach problems and critically evaluate data across disciplines.
5. Students identify the integrative components of sustainability, including: social justice, economic stabilization, and environmental science.
6. Students participate in research using methodology of the field (understood to include sciences, humanities, and social sciences)
7. Students practice personal integration into an applied aspect of environmental studies through service learning projects.
8. Students tackle problems with an investigative-research "mentality," present information and findings clearly in oral and written form, and employ mapping (GIS) capability skillfully.
9. Students are able to analyze and discuss what makes people agree or disagree on contentious societal issues.

The original learning outcomes have been modified to the following:

1. Identify critical events and major changes over man’s relationship with the environment.
2. Explore the diverse disciplines and career paths contributing to environmental solutions.
3. Integrate the components of sustainability: social justice, economic stabilization, and environmental integrity.
4. Develop and use interdisciplinary group problem-solving skills
5. Collect and analyze quantitative and qualitative data using appropriate methodologies; communicate results in written and oral forms.
III. Curriculum/Program Map

Environmental Studies Major Requirements

• Introductory Sequence [all required]
  Freshman year
  EVST 1011: Introduction to Environmental Studies I
  EVST 1012: Introduction to Environmental Studies II
  Sophomore year (Fall Semester)
  EVST 2000: Environmental Studies Research and Careers
  EVST 2082C: Evolution, Ecology and Population Genetics

• Electives [6 required]
  From EVST courses cross-listed with allied disciplines of Anthropology, Biological Sciences, Communications, English, Geography, Geology, History, Journalism, Philosophy, Political Science, and Sociology

• Interdisciplinary Advanced Topics [2 required]
  EVST 4011: Water
  EVST 4012: Biodiversity
  EVST 4013: Atmosphere and Climate
  EVST 4014: Urbanization

• Capstone Service Project [Fall or Spring]
  EVST 5011 (FS) or EVST 5012 (SS)

• Internship and Research Opportunities [optional]
  EVST 5025: Undergraduate Research
  EVST 5000: Internship

• EVST majors must minor in one of the allied disciplines

• Cognate Requirements
  [one of the following quantitative sequences]
  MATH 1044 and 1045
  MATH 1061 and 1062
  STAT 1034 and MATH 1044 or 1061

  [one of the following chemistry sequences]
  CHEM 1040/1040L
  CHEM 1041/CHEM 1041L
Curriculum Mapping Matrix: Linking Program Outcomes to Curriculum

<table>
<thead>
<tr>
<th>Key</th>
<th>Required Courses and Experiences* Identified in P-1</th>
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<tbody>
<tr>
<td>E: Emerging D: Developing A: Achieved</td>
<td>EVST 1011 EVST 1012 EVST 2000 EVST 2082C EVST cross-listed Electives Allied MINOR EVST 4011 EVST 4012 EVST 4013 EVST 4014 EVST 5011 EVST 5012 EVST 5000 EVST 5025</td>
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OUTCOMES

1. Identify critical events and major changes over man’s relationship with the environment.
   - E D, A
   - A

2. Explore the diverse disciplines and career paths contributing to environmental solutions.
   - E D A
   - A
   - A

3. Integrate the major components of sustainability: social justice, economic stabilization, and environmental integrity.
   - E D D D A

4. Develop and use interdisciplinary group problem-solving skills
   - E D
   - A A

5. Collect and analyze quantitative and qualitative data using appropriate methodologies; communicate results in written and oral forms.
   - E D
   - A A A

* Please note that you are only identifying required courses and experiences that are house with in your academic unit.
## IV. Methods and Measures

### Assessment Measures Aligned with Program Outcomes

<table>
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<tr>
<th>Program Outcome</th>
<th>Assessment Tools</th>
<th>Course/ Experience</th>
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| 1. Environmental history | • In EVST1011, final class grade distributions of majors will be used to establish a baseline for first-year EVST majors  
• In EVST 1012, correct response to midterm multiple choice questions concerning US and international environmental law (and the historical changes leading to environmental management) will be used to assess student comprehension.  
• Select essays (those from students attending environmental history-related events) will be scored and compared to those of prior years.  
• Although not a program requirement, enrollment and final grades of EVST majors in elective history courses will be monitored as an indicator of student interest and preparation in this area. | EVST 1011 - E  
The freshman year of the introductory sequence is team-taught by faculty from four allied departments, biological sciences, geography, geology, and political science. The first semester (FS) is open to non-majors and is essentially “how the biotic (living) and abiotic (physical, non-living) world works” and what is going wrong. This is where the historical perspective on pollution and resource degradation is introduced. PRS and class discussion are used to engage students in the material.  
EVST 1012 - D, A  
The second semester (SS), requires the first as a prerequisite, but is only open to EVST majors. This allows for more interaction and the use of higher-level active learning pedagogies. The course assumes students have mastered environmental basics and, therefore, proceeds to address the historical, social, economic, and personal components of natural and built environments. Students are required to complete four out-of-class assignments, attend and report on two sustainability films or lectures, and participate in the weekly discussion of “what’s happening in the news environmentally” (or WHINE).  
EVST Electives - A  
*Environmental history and Environmental movement, etc.* |
| 2. Environmental disciplines and careers | • For EVST 1011 &1012, course grades for majors will be compared between semesters to gauge student ability to incorporate the Social Sciences into environmental issues.  
• In EVST 2000, final papers will be used to categorize the career paths students are interested in. Papers will be scored on a 1-10 basis (regardless of career goal) for depth of understanding. Categories and scores will be provided to the assessment team. | EVST 1011 - E and EVST 1012 - D  
The freshman sequence (described above) is truly interdisciplinary, drawing on faculty and material from STEM to Humanities. The first semester is primarily STEM, while the second introduces more of the Social Sciences and Humanities.  
EVST 2000 - A  
This seminar brings in local guest speakers that represent the range of professions and research areas of Environmental Studies. In addition, students are required to develop a resume, network with class guests, and research the career path of interest to them. |
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<tr>
<th>Environmental disciplines and careers (continued)</th>
<th>3. Integrative understanding of sustainability</th>
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<tr>
<td>• Although not a program requirement, the number of successful internships will be monitored. Annual internship data will be provided to the assessment team as: total number of placements, percentage of program majors completing internships, percentage of internships by academic stage (freshman-senior) of student, and internship location. Data on which minors are completed by graduating EVST majors will be collected, as will the percentage of students first declaring a minor in their sophomore year (during or following completion of EVST 2000).</td>
<td>• EVST 1011 &amp; 1012 course grades for majors will be compared between semesters and years to gauge student integration of environmental sciences (FS) with the social/economic aspects of sustainability introduced in the spring. • EVST 2082C lecture grades will be compared to course grades for EVST 1011 from the previous year (same cohort) and to the non-EVST majors in the cross-listed course BIOL 2082C. This will allow evaluation of consistency in performance within the major and general preparation in comparison to other departmental majors. • Elective enrollment and student grades in courses carrying sustainability in the title will be monitored as an indicator of student interest and preparation. • Advanced Topic instructors will evaluate the oral presentation and written report of each group project. The two instructors for a given year will also serve as members of the assessment team. They will select representative projects and reports.</td>
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<td>EVST 5000 - A Internships are optional and can be used as one of the six required program electives. Prior to starting an internship, an agreement between the placement supervisor and the student needs to be approved by EVST. The agreement outlines the learning outcomes, time commitment, and duties of the intern. At completion of the internship, the placement supervisor sends a letter of evaluation to the director of EVST – who then gives the student a pass or fail grade. Minor – A All students are required to minor in an affiliated discipline. These potentially include: Anthropology, Biological Sciences, Communications, English, Geography, Geology, History, Journalism, Philosophy, Political Science, and Sociology.</td>
<td>EVST 1011 - E and EVST 1012 - D The freshman sequence (described previously) covers the range of disciplines critical to sustainability. Sustainability, however, is not specifically addressed until the second semester, where it is the underlying theme of the entire class. EVST 2082C - D This lecture/lab course builds on EVST1011, significantly increasing the depth of student exposure to the structure and function of natural ecosystems and to the adaptation, evolution, and diversity of life on earth. EVST Electives - D Sustainable Development, Unsustainable Cities, etc.</td>
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<td>EVST 4011, 4012, 4013, 4014 – A Advanced topic courses are targeted at junior and senior majors. They comprehensively address water, biodiversity, climate, and urbanization. Two of these courses are offered each year, one in Fall and one in Spring semester. Instructors assume that students already have a strong foundation in these topics, so a majority of the course is spent on site visits, field sampling, and conducting a group project. A number of experts are brought in as guest lecturers and facilitators.</td>
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### 4. Group skills

- In EVST 1012, group assignments will be scored 1-25. Representative submissions will be provided to the assessment team.
- In EVST 2082C Teaching assistants will score group project presentations from 1-20.
- Advanced Topic instructors will evaluate the oral presentation and written report of each group project. The two instructors for a given year will also serve as members of the assessment team. They will select representative projects and reports.
- Capstone posters at the Undergraduate Research and Creative Works Conference will be visited by the assessment team.

### 5. Research and communication

- EVST 1012, the endangered species assignments will be scored 1-25 and representative submissions provided to the assessment team.
- EVST 2082C representative lab reports will be sampled and provided to the assessment team.
- Advanced Topic instructors will sample representative individual student essays and provide them to the assessment team.
- Capstone posters at the Undergraduate Research and Creative Works Conference will be visited by the assessment team.

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**EVST 1012 – E**

Group work and discussion is a part of the pedagogy used. One of the major written assignments is a group effort.

**EVST 2082C - D**

This required course is cross-listed with BIOL and has been described previously. Lecture is active-learning based with students assigned to permanent groups. In lecture, EVST students may be in groups with students from different departments, but are in EVST-only lab sections. In lab, students collect data in the field with their assigned group but write individual lab reports. Each group, however, conducts and presents a semester-long research project.

**EVST 4011, 4012, 4013, 4014 [Adv. Topics] – A**

As described previously, students collaborate on a group project of their choice.

**EVST 5011, 5012 [Capstone] – A**

Capstone is a service project that varies from year-to-year. Student break into groups determined by their interest and expertise (e.g. media, design, field work, analysis, economics, community activism, etc.) to comprehensively complete the project. The project is presented in poster form at the annual spring Undergraduate Research and Creative Works Conference.

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**EVST 1012 – E**

Writing and open discussion on assigned readings and on current events is a part of the pedagogy used. One of the major written assignments is to research and report on an endangered species.

**EVST 2082C - D**

**EVST 4011, 4012, 4013, 4014 [Adv. Topics] – A**

**EVST 5011, 5012 [Capstone] – A**

All of the above have significant research and communication components.
IV. Assessment Infrastructure

The Environmental Studies Program has a director and part-time administrative assistant, but is not a traditional unit with a permanent faculty. The composition of the assessment team will, therefore, vary from year to year. The director and the administrative assistant will lend continuity to the team, which will also (as a minimum) include the faculty who served as instructors in the Advanced Topic courses taught that year. Assessments will be conducted annually. Some measures will be compared over 2-5 year periods for trend analysis.

The data and materials needed for annual assessment includes:

Grades - EVST 1011, EVST 1012, EVST 2082C

Enrollment/grades in history-related electives – EVST/HIST 2024, EVST/HIST 4010
Enrollment/grades in sustainability electives – EVST/POL 3031, EVST/HIST 6026

Internship information – EVST 5000
Minors (completed) – graduation certification process

Midterm answers to history-related questions – EVST 1012
Group project presentation scores – EVST 2082C
Self identified career distribution – EVST 2000

Sampled individual essays and reports
• EVST 1012 (history event, endangered species assignment)
• EVST 2082C lab reports
• EVST 4011, 4012, 4013, 4014 (Advanced Topic) essays

Sampled group assignments and projects presentations
• EVST 1012 (persuasive paper assignment)
• EVST 4011, 4012, 4013, 4014 (Advanced Topic) presentations
• EVST 5011/5012 (capstone)

The data listed above is relatively easy to acquire. The program director and administrative assistant have full access to grades, enrollments, minors, and internships. In addition, the director teaches in EVST 1012 and EVST2082C, and the administrative assistant teaches EVST 2000. These are the courses where detailed information and samples are part of the assessment process. The remainder of the assessment involves samples from the Advanced Topics and Capstone. Since the assessment team will include the instructors for the Advanced Topics, the needed material will be readily available.

In addition to the above, EVST conducts mandatory (group or individual) exit interviews with graduating seniors. These interviews serve multiple purposes. Student feedback emerging from these interviews can be combined with annual assessments to modify the existing program and introduce new initiatives. The interviews also allow the program to solicit information on student plans for the near future, and to establish long-term alumni connections.