

# **Environmental Studies Curriculum Redesign Proposal**

## **Rationale**

The new curriculum accomplishes three main objectives: (1) It ensures all students receive a genuinely interdisciplinary and integrative grounding in the three primary areas of environmental studies: natural sciences, social sciences, humanities and arts; (2) It builds in more structured opportunities for reflection on the learning experience and immersion in both community projects and nature; (3) It balances disempowering analysis of environmental problems with empowering visions of environmentally sustainable future societies and strategies for creating them.

## **New Program Elements**

Features of the new curriculum aimed at accomplishing these two objectives include:

- Environmental Sustainability Pathway (a student-defined series of electives)
- Nature Immersion + Campus and Community Projects (2-unit requirement)
- Student e-portfolios
- New courses:
  - Environmental Sustainability Cornerstone Seminar
  - Recovering the Commons
  - Quantitative Skills for Environmental Sustainability
  - Methods and Approaches in Environmental Sustainability

## **Environmental Sustainability Pathway**

The most significant feature of the curriculum is the “Environmental Sustainability Pathway.” All students in the major follow the same sequence of eight courses over their first two years, culminating in the Environmental Sustainability Cornerstone Seminar, or “Cornerstone Seminar,” in Spring of the Sophomore year. The Cornerstone Seminar gives students the opportunity to reflect on their learning experience, receive training in preparing an e-portfolio to document their intellectual growth, and prepare a proposal for the 20-unit academic path they intend to follow to complete the major requirements over their final two years.

Students develop their Environmental Sustainability Pathway proposal during the Cornerstone Seminar through intensive reflection, dialogue and research with their peers and instructor on the range of topics and problems within the environmental and

sustainability fields, and on the types of knowledge and skills relevant to a student's self-identified interest area. Templates will be provided to students as examples of logical course groupings around topics relevant to environmental sustainability.

Students submit their Pathway Proposal at the end of the Cornerstone Seminar, fulfilling a major course requirement. The proposal includes an overview of the problem or topic area on which they have chosen to focus and a list of five courses the student proposes to take to further their understanding of the problem or topic area. The proposal also includes a "statement of purpose" in which students explain why they have chosen a particular focus, and how the courses in their proposal will prepare them to pursue a career in their chosen area.

Students spend their junior and senior years completing their chosen path before enrolling in the Environmental Sustainability Senior Capstone Seminar, or "Capstone Seminar." During the Capstone Seminar, e-Portfolios are polished and presented and students engage in a community-based project requiring integration of the wide range of knowledge and skills acquired across the curriculum.

### **Nature Immersion + Campus and Community Projects**

The new curriculum presents opportunities to integrate environmental knowledge with immersion experiences in the natural world and applied campus and community projects. Learning in nature as well as in the urban human habitat are essential features of the major. All majors will be required to take at least one course fulfilling the "Nature Immersion + Campus and Community Projects" requirement. Qualifying courses will be added over time. Current courses fulfilling this requirement include:

- ENVA/ANTH 280 Culture, Environment and Tourism: Sitka, Alaska
- ENVA 301 Buck Mountain Experimental Station Intensive
- ENVA 390 Special Topics
- ENVA 397 Environmental Studies Internship
- Courses in the proposed Sierras to San Francisco Semester Away Program
- Study Abroad courses (upon approval of Chairs)

In addition, all of the new required courses described below will have built into them nature immersion and/or community-based learning experiences.

## **Student e-Portfolios**

e-Portfolios are widely used in higher education to enhance the student learning experience through reflection and self-assessment. A digital repository, usually in the form of a website, an e-Portfolio documents a student's intellectual growth and development. e-Portfolios empower students to take greater ownership of the learning process and to link personal learning goals to career aspirations and goals. The e-portfolio will be a tool students can utilize for both reflecting on their learning experiences and conveying their skills, expertise and knowledge to potential employers.

Students will be introduced to the e-Portfolio requirement during the Cornerstone Seminar in the sophomore year, a major requirement of which is the creation of a personalized e-Portfolio. Students will receive hands-on website design instruction and opportunities for reflection, investigation and dialogue on a range of potential themes and focus areas before settling on a structure and format for their e-Portfolios. Students will also document the Environmental Sustainability Pathway, created during Cornerstone Seminar, in their e-Portfolios. This will enhance academic advising as advisors can follow a student's progress along their path and keep students focused on their objectives. Advisors will also consult with students on what to add to their portfolios as they make their way through the Pathway. Completion and evaluation of each student's e-Portfolio will take place during the Capstone Seminar in the senior year.

Finally, the Environmental Studies Program will assess its effectiveness in achieving student learning goals by evaluating e-portfolios.

## **New Required Courses and Teaching Rotation**

*ENVA 255 Quantitative Skills for Environmental Sustainability* (Fall, 4 units) prepares students to interpret and prepare graphs and tables of environmental information and use statistical tools to determine significance levels of environmental variables such as pollution. Students will learn two types of environmental problem solving: estimating tools and statistical data analysis tools. Other skills include learning to characterize environmental problems with simple mathematical models, find necessary data and make assumptions, estimate quantitative answers, examine data patterns (distributions and significance testing), determine relationships among data (regression and correlation), and check data quality. The course will address such problems as air quality, water quality, toxic waste, energy and environment, and climate change. Prerequisite: Math placement of MATH 103 or higher

Rotation

Spring 2014: Tom MacDonald

Spring 2015: Tom MacDonald

*ENVA 310 Recovering the Commons* (Fall, 4 units) fills the need for a required course grounded in in the humanities and arts while also providing empowering and forward looking tools for conceptualizing commons as opportunities for human creativity and abundance, a shift away from the dominant perception of commons as places where selfishness and greed lead inevitably to scarcity. The course employs a broad definition of the “commons” to explore the critical questions, histories, mythologies, analyses and social movements having to do with the commons. The aim of this exploration is to give students mastery of how to analyze the presence of the commons in their everyday lives. Prerequisite: ENVA 109

Rotation

Fall 2013: Vijaya Nagarajan

Fall 2014: Gerard Kuperus

*ENVA 311 Environmental Sustainability Cornerstone Seminar* (Spring, 4 units) brings students together to meet with the other students in their cohort to reflect on the major issues, themes, and problems encountered in their course of study so far. Students will start their career development and receive training in how to create and manage their e-portfolio over the next two years. They will also engage in discussions of what their hopes and aspirations are (both for their academic experience over the next two years but also for their lives, families, communities, and the planet). These reflections will be facilitated by a faculty member and occasional guest speakers from environmental career fields who can share their own reflections on the path they followed. The final component of the seminar is the proposal for the Environmental Sustainability Pathway, the five elective courses they will take towards completion of the major. Prerequisite: ENVA 109 (transfer students may be admitted without the prerequisite)

Rotation

Fall 2013: Melinda Stone

Fall 2014: David Silver

*ENVA 355 Methods & Approaches in Environmental Sustainability* (Spring, 4 units) is a new project-based methods course in which students learn and apply a range of methods employed by scholars in environmental studies as well as by environmental professionals. Projects will engage students with community partners in the collection of data related to a community problem or need. Prerequisite: ENVA 255. Transfer students may substitute another MATH core for the ENVA 255 prerequisite with Chair's approval.

Rotation

Spring 2014: Steve Zavestoski

Spring 2015: Steve Zavestoski

*ENVA 367 Environmental Justice* (Spring, 4 units) This existing course will now become required of all majors. Completion of a student's D3 (Ethics) University core requirement is a prerequisite for the class. The course examines how environmental 'goods' like clean air and water and environmental 'bads' like hazardous waste and industrial pollution come to be unequally distributed in societies, often along lines of race, class, and gender. In addition to ethical dimensions of unequally distributed environmental assets and burdens, the course examines the political economy of environmental pollution and theories of race to try to understand the origins of environmental injustices. Finally, the course explores the emergence of the environmental justice movement and analyzes the challenges it faces and the strategies it employs towards the goal of environmental justice. Prerequisite: Completion of Core D3 (Ethics) requirement

Rotation

Fall 2013: Gerard Kuperus

Fall 2014: Gerard Kuperus

## Curriculum Overview, Course Sequence, and Hypothetical 4-Year Schedule

The following tables convey the requirements and sequences for the new curriculum (Table 1) and a hypothetical 4-year course schedule for a major (Table 2).

<b>Table 1. Environmental Studies Curriculum Overview</b>					
<i>Course</i>	<i>Number</i>	<i>Prereqs</i>	<i>Offered</i>	<i>Core</i>	<i>Units</i>
Environment & Society	ENVA 109		Fall	E	4
Introduction to Environmental Science	ENVS 110		Fall	B2	4
Ecology & Human Impacts	ENVS 210	110	Spring		4
Air & Water	ENVS 212	ENVS 110	Fall		4
Quantitative Skills for Environmental Sustainability	ENVA 255		Spring	B1	4
Nature Immersion	ENVA 290	ENVA 109	Any		2
Recovering the Commons	ENVA 310	109	Spring		4
Environmental Sustainability Cornerstone Seminar	ENVA 311	ENVA 109	Spring		4
Methods and Approaches in Environmental Sustainability	ENVA 355	ENVA 255	Spring		4
Environmental Justice	ENVA 367	Recommen dCore D3	Spring		4
Student-designed ENVA Pathway					16
Capstone Seminar in Environmental Sustainability	ENVA 450	ENVA 367	Spring	SL	4
<b>TOTAL</b>					<b>58</b>

## **Environmental Studies Summary of Requirements**

### ***ENVA-related University Core Requirements to Complete (16 units):***

Core E: Environment & Society (ENVA 109) (4 units)

Core B2: Introduction to Environmental Science (ENVS 110) (4 units)

Core B1: Quantitative Skills for Environmental Sustainability (ENVA 255) (4 units)

Service Learning: Capstone Seminar in Environmental Studies (ENVA 450) (4 units)

### ***Environmental Studies Requirements (26 units):***

Ecology & Human Impacts (ENVS 210) (4 units)

Air & Water (ENVS 212) (4 units)

Nature Immersion (ENVA 290) (2 units)

Recovering the Commons (ENVA 310) (4 units)

Environmental Sustainability Cornerstone Seminar (ENVA 311) (4 units)

Methods and Approaches in Environmental Sustainability (ENVA 355) (4 units)

Environmental Justice (ENVA 367) (4 units)

### ***Environmental Studies Pathway (16 units)***

Defined in student's proposal developed in Environmental Studies Cornerstone Seminar.

**Table 2. Hypothetical 4-Year Course Schedule (hypothetical)**

<b>Fall Year 1 (16 units)</b>	<b>Spring Year 1 (16 units)</b>
<ol style="list-style-type: none"> <li>1. Environment &amp; Society (109) (E)</li> <li>2. Intro to Environmental Science (110) (B1)</li> <li>3. Rhetoric and Composition (A1)</li> <li>4. First Semester Language</li> </ol>	<ol style="list-style-type: none"> <li>1. Ecology &amp; Human Impacts (210)</li> <li>2. Rhetoric and Composition (A2)</li> <li>3. Quantitative Skills for Environmental Sustainability (ENVA 255) (B2)</li> <li>4. Second Semester Language</li> </ol>
<b>Fall Year 2 (16 units)</b>	<b>Spring Year 2 (16 units)</b>
<ol style="list-style-type: none"> <li>1. Air &amp; Water (212)</li> <li>2. Ethics (D3)</li> <li>3. Recovering the Commons (ENVA 310)</li> <li>4. Third Semester Language</li> </ol>	<ol style="list-style-type: none"> <li>1. Environmental Sustainability Cornerstone Seminar (311)</li> <li>2. Methods and Approaches in Environmental Sustainability (355)</li> <li>3. Literature (C1)</li> <li>4. Philosophy (D1)</li> </ol>
<b>Fall Year 3 (16 units)</b>	<b>Spring Year 3 (16 units)</b>
<ol style="list-style-type: none"> <li>1. Pathways course 1</li> <li>2. Environmental Justice (367) (CD)</li> <li>3. Religion (D2)</li> <li>4. Free Elective</li> </ol>	<ol style="list-style-type: none"> <li>1. Pathways course 2</li> <li>2. Pathways course 3</li> <li>3. Fine and Performing Arts (F)</li> <li>4. History (C2)</li> </ol>
<b>Fall Year 4 (16 units)</b>	<b>Spring Year 4 (16 units)</b>
<ol style="list-style-type: none"> <li>1. Pathways course 4</li> <li>2. Free Elective</li> <li>3. Free Elective</li> <li>4. Free Elective</li> </ol>	<ol style="list-style-type: none"> <li>1. Capstone Seminar in Environmental Studies (450)</li> <li>2. Free Elective</li> <li>3. Free Elective</li> <li>4. Free Elective</li> </ol>
To be taken at any time:	Nature Immersion (290) (2 units)