

Curricular Vehicles to Promote Environmental Literacy and Attract Students **Environmental Science and Policy**

“[W]ithout significant precautions, education can equip people merely to be more effective vandals of the earth. If one listens carefully, it may even be possible to hear the Creation groan every year in late May when another batch of smart, degree-holding, but ecologically illiterate, *Homo sapiens* who are eager to succeed are launched into the biosphere.”

David Orr (1994) *Earth in Mind*

Introduction. The need for an environmental education, one that enhances a student’s understanding of ecological processes and human interactions with the natural world, is great. Regrettably, most students graduate today without a basic understanding of the processes that maintain life on earth. If we are to address the myriad of environmental problems facing humanity, we must expose a broader range of undergraduates to environmental concepts. Minimally, such an education should: (1) reveal the overarching importance of the environment to our health and well-being, (2) enhance understanding of ecological and geochemical processes, and (3) provide examples and strategies for ameliorating human effects on the natural world.

Environmental literacy can developed through experience (e.g., course offerings, research opportunities), by example (e.g., the physical setting and operations of the campus), and by individual action (e.g., campus or civic engagement). A primary challenge, particularly at an institution that shies away from core requirements, is to encourage the majority of its students to become environmentally literate.

Objectives. While no single mechanism is likely to engage all students at Smith, environmental literacy can be promoted by the establishment of one or more of the following:

- A major in Environmental Science and Policy
- A core curriculum or Latin Honors in Environmental Literacy
- A Certificate in Environmental Literacy
- Faculty workshops to incorporate environmental literacy into traditionally non-environmental courses

Background.

(1) Environmental Science and Policy Major. Currently, the Environmental Science and Policy Program offers a minor, but not a major. As such, Smith College falls midway along the spectrum of its peers. For example, among the ‘Mellon 8’, Reed and Amherst Colleges offer no environmental degree; Wesleyan, Grinnell, and Williams Colleges offer a minor or its equivalent; and Oberlin and Pomona Colleges offer an environmental major. The number of Smith College students who minor in ES&P has grown in the last 10 years, and the demand for a major is clearly strong. Each year, more than 75% of the students in the capstone seminar in Environmental Science and Policy (EVS 300) state that they would have taken a major in ES&P had one existed. This year, more students admitted to Smith expressed interest in ES&P than they did for Chemistry, Computer Science, Geology, Neuroscience, and Physics **combined** (B. Merritt, personal communication). The upshot is that an ES&P major would likely attract students to Smith and provide a desired outlet

for their eventual academic focus. In addition, a well-structured major would permit progressive development of environmental problem-solving skills and project-based learning over the course of the student's academic tenure. Faculty members participating in ES&P have been reluctant to create a major for both pedagogical and logistical reasons. Critical examination and discussion of existing programs and models at other institutions are needed to address the pedagogical issues. Logistical constraints can be alleviated by relatively few joint or shared hires in key subject areas (e.g., economics, chemistry, ecology) and by more equitable accounting methods that credit departments that contribute to more than one major.

(2) Latin Honors or Core Curriculum in Environmental Literacy. In a March 9 article to *The Sophian*, Sara Barz '06 argued for some form of core curriculum to provide the cohesion that is currently lacking in the open curriculum. Her suggestion was to create a core curriculum that consisted of central categories (e.g., world literature), but to make it optional. The advantages would include a more structured and academically rigorous curriculum for more students. Environmental literacy crosses many disciplinary boundaries and would provide the necessary context for such a core curriculum. In addition, environmentally oriented courses currently exist to fulfill almost all of the 7 categories necessary for Latin Honors (see selections under ES&P and Landscape Studies). The advantages provided by either a core curriculum or Latin Honors in Environmental Literacy are that students are exposed to multiple facets of an environmental education, but they are not bound to an established major or minor.

(3) Certificate in Environmental Literacy. A Certificate in Environmental Literacy could be modeled after a similar cross-disciplinary Evolutionary Studies program (EVoS) at SUNY Binghamton (<http://bingweb.binghamton.edu/~evos/>). Such a certificate might require a designated course on environmental literacy (no pre-requisites) and attendance at a semester-long seminar series, in which leading environmental activists, educators, and researchers are brought in to speak. In the Binghamton model, additional courses that count toward the certificate automatically count toward one's major. At Smith, a certificate might also include some 'real-world' experience via Praxis or environmentally related community service.

(4) Faculty Workshops in Environmental Literacy. Workshops should be designed and funded to develop strategies for interested faculty to incorporate environmental concepts into courses that are not traditionally viewed through an environmental lens. Presentation of basic aspects of environmental literacy could alternate with brainstorming sessions during such a workshop. The workshop could be focused over a concentrated period at the end of a semester, as was done for a recent week long GIS workshop in May 2006, or spread over the course of a semester (e.g., Friday afternoon teaching workshop).

Anticipated Benefits. Incorporation of one or more of these options will attract students with environmental interests to Smith and enhance environmental literacy in the broader student (and faculty) population at Smith.

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