proposals 64 - 73

FEB 28 2005

Request for Curriculum Council Action

TO: Tom Griffiths, Acting Dean of the Faculty
CC: Frank Boyd, General Education Director

DATE SUBMITTED: 2.23.05
(Please submit 14 double-sided copies of your proposa

FROM: (Name) Abigail Jahiel (Department) Environmental Studies

1. Proposed Action (Please check all that apply):

	Title	Number	Un
[ ] New Course (No Gen Ed)		/	/
[ ] New Course (Gen Ed)		/	/
[ ] Existing Course for Gen Ed:			
		/	/
[ ] Deletion		/	/
[ ] Change title from		/	/
to		/	/
[ ] Change number from		/	/
to		/	/
[ ] May Term Course		/	/
[X] New Major/~~Minor~~	Major in Environmental Studies		
[X] Revised ~~Major~~/Minor	~~Minor in Environmental Studies~~		
[ ] Other		/	/

64
65

2a. Please check the category, if any, for which you are requesting General Education unit credit:

[ ] Analysis of Values	[ ]Formal Reasoning	[ ]The Natural Sciences
[ ] The Arts	[ ]Intellectual Traditions	[ ]Issues
[ ] Contemporary Social Institutions	[ ]Literature	[ ]Laboratory
[ ] Cultural and Historical Change	[ ]Second Language (formerly MCL)	[ ]Physical Education
		[ ] Fitness

2b. Please check the flag(s), if any, you are seeking:

[ ] Writing Intensive [ ]Global Diversity [ ]U.S. Diversity

3. Please insert here the proposed catalog course description. Course descriptions should be limited to no more than 50 words, not counting (a) title; (b) prerequisites; (c) General Education category; and (d) when offered.

See attached catalog course description of major and minor program. Over>

4. Please list any prerequisites: _____

5. When will this course first be offered? FaLL 2005

6. Please indicate how often course is offered. *Check only the single item that best describes this course. Because these are the only intervals used in the University Catalog, please do not edit or alter the list to fit a particular course. For example, if your course is offered every third year—an interval that does not appear in the Catalog--you might choose "Offered as needed" or "Offered occasionally" instead.*

[ ]Offered each semester
[ ]Offered each Fall Term
[ ]Offered each spring
[ ]Offered each May Term
[ ]Offered each semester and May Term
[ ]Offered occasionally
[ ]Offered in alternate years
[ ]Offered in alternate years, Fall Term
[ ]Offered in alternate years, Spring
[ ]Offered in alternate years, May Term
[ ]Offered annually
[ ]Offered every third semester
[ ]Offered as needed
[ ]Offered on request
[ ]Offered by arrangement

7. Is/are any other department(s) affected in any way by this request (e.g., course is cross-listed, team-taught, etc.)?
[ ] No. [X] Yes. In what way?

Chemistry and Political Science , due to respective faculty's change in course offerings.

See letters from Rebecca Roesner and Frank Boyd attached.

Signature of the Head(s) of the Affected Department(s) or School(s)

8. **WRITTEN RATIONALES:** If this proposal presents a new course (whether for General Education credit or not), an existing course for which General Education credit is now being sought, a May Term course, or a new major, minor or concentration, please attach a written rationale, following the guidelines found in the *Curriculum Development Handbook.* Please note that CC cannot evaluate incomplete proposals, so to expedite consideration of your submission, you are encouraged to read and follow the guidelines carefully.

See attached proposal s to 1. establish an ES major and 2. revise the ES minor

9. The Curriculum Council assumes that the faculty members of your department have seen and approved of this request. Please sign below if this assumption is correct:

Signature of Faculty Member Primarily Responsible for This Proposal

Signature of the Head of the Department or School

PROPOSAL TO ESTABLISH AN ENVIRONMENTAL STUDIES MAJOR AT IWU
Submitted February 23, 2005

I. Background

Environmental Studies as a Field of Study

Nationwide, Environmental Studies has grown in recognition as a unique interdisciplinary field of study. Emerging in the late-1960s early 1970s as a response to a newly perceived problem, ES programs on university campuses have since proliferated and expanded. Graduate programs and career paths in Environmental Studies are now well-established, as are undergraduate majors at many prestigious liberal arts colleges. Examples of liberal arts colleges now offering a major in Environmental Studies include Allegheny, Barnard, Bates, Bowdoin, Claremont McKenna, Colby, Colgate, Colorado College, Connecticut College, Denison, Dickenson, Furman, Harvey Mudd, Hobart and William Smith, Ithaca College, Knox, Macalester, Mills, Mount Holyoke, Oberlin, Middlebury, Occidental, Pitzer, Rice, St. Lawrence, St. Olaf, Scripps, Skidmore, Trinity, Tufts, Union, University of Richmond, Vassar, Wellesley, Wesleyan, and Wheaton.

History of Environmental Studies at IWU

At Illinois Wesleyan, a minor in Environmental Studies (ES) was approved in spring 1999 and the ES Program was formally established the following fall. The ES Program quickly grew in number of affiliated faculty, course offerings, minors, and special interdisciplinary majors.

Fourteen faculty now teach courses in the Environmental Studies Program and three additional faculty participate in program development on the ES Advisory Committee.* Two (Hoffmann and Jahiel) have partial appointments in Environmental Studies. Faculty hail from the Departments of Biology (3), Chemistry (2), Economics (1), English (1), History (1), Mathematics (1), Philosophy (1), Political Science (3), and Sociology and Anthropology (3), as well as from the School of Theatre Arts (1). Together, the Environmental Studies faculty have offered on a regular yearly or bi-yearly basis 11 courses in the natural sciences, 7 courses in the humanities, 9 courses in the social sciences and two interdisciplinary courses (an introductory course and an upper-level experiential learning seminar), as well as directed readings, independent studies and internships. In 2002-2003, the Environmental Studies Program offered ~~19~~ courses, in 2003-2004, 20 courses, and this past year 16 courses were again offered. We expect to offer 16 courses next year. (See Appendix A of course offerings over the last several years and projected offerings for 2005-06.)

20 per A.J.

With the growth in the ES program (and IWU's partnership with Columbia University's Biosphere 2 Program in 2001), student interest in Environmental Studies at IWU has continued to increase. Since its establishment, the ES Program has graduated 19 minors, and will graduate another 9 minors this spring. In addition, since spring 2001, 18 students have worked with the ES Program Directors to develop Special Interdisciplinary Contract Majors in ES. Six of these students have already graduated and another two are on track to graduate this spring.† In

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* Faculty offering courses include: Amoloza, Balser, Boyd, Brown, Frick, Gearhart, Harper, Hoffmann, Jahiel, Leekley, Sainsbury, Simeone, Springwood, and Weis. Additional faculty who serve on the advisory committee and have interest in contributing to the ES program curricularly include Drici, Jaeckle, and Lindberg.

† In 2003, April Guthrie, Stacey Kolegas, and Zac Meier, graduated with ES SIC majors. Last year, Rachel Eichelberger, Michelle Mundy, and Ericka Wills graduated with ES SIC majors. And this May, Luke Durbin and Kristin Doody will graduate with ES SIC majors. Two other recent alums who graduated as ES minors had also been interested in majoring in ES and applied for an ES SIC, Caleb Stevens and Diane Arnold; one was granted the major, but ultimately chose not to complete it; the other was denied it because she was unable to complete the WI requirement in time to graduate early. One other student, Divya Soni,

addition, since the beginning of this fall, the ES director has had more inquiries about an ES major than ever and has begun planning ES SIC majors with seven students (three first year students, two sophomores, and two juniors), most of whom have opted to wait to see if a major is approved before submitting proposals for an ES SIC.

Further indication of latent student interest in an ES major comes from IWU alums and ES minors who, upon learning about our work developing a major this past fall, have commented to the effect that "had an ES major been offered at IWU, many minors/I would have taken it" (See Appendix B: email from IWU alum Alexis Manning). In addition to increasing IWU student interest, other indicators of demand for an ES major include the fact that we are losing prospective applicants to IWU because we do not presently offer an ES major. (See Appendix C: email from one prospective student, Arley Oddo).

Clearly, as our ES program has grown, as environmental issues have become visible university concerns, and as the global state of the environment continues to be a significant societal concern, interest in an Environmental Studies major at IWU has increased. With several years of experience behind us, and with the hiring and 1/3 appointment of Steve Hoffmann to the ES program last year, we are now prepared to respond to this student interest and formally institutionalize an ES major at IWU.

Significance of Environmental Studies Major to the IWU Mission
We believe this proposal to establish an ES major at IWU is timely in another way as well. In 2003, Illinois Wesleyan University adopted a new mission statement, the last line of which states:

> "The University through its policies, programs and practices is committed to diversity, social justice and *environmental sustainability*." (Emphasis added)

It is evident that a University commitment to environmental sustainability should have as its core a commitment to educating students to work in environment-related fields and to be environmentally literate citizens. One of the best means to do this is to provide students the depth and grounding offered through a major degree.

With the confluence of faculty interest, student interest, national recognition of ES as an established field, and IWU's recent commitment toward programs supporting environmental sustainability, we believe that the University would be well-served by a full ES program, one that offers a major degree.

II. The Proposed Major

The proposed major in Environmental Studies is explained in detail in the attached Catalog Copy for the Environmental Studies Program that we intend to submit if the major is approved. In this section, we briefly summarize the major and provide some context to explain why particular options for completing the major are offered, and particular courses required.

Summary of the Major Sequence
All students majoring in ES are required to complete five specified core courses selected to provide students with a *breadth of understanding* of the *interdisciplinary* environmental field. These include introductions to environmental subjects in the natural sciences (ENST 110: Earth Systems Science and ENST 120: Environmental Issues), social sciences and humanities (ENST 100: Environment and Society), and to ethical considerations in the field (either ENST/PSCI 365:

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had worked on a proposal for an ES SIC, but failed to submit it before the spring-semester Junior-year deadline.

Ethical Dilemmas in Environmental Politics or PHIL 302: Environmental Ethics), as well as to field and lab exposure (included as a component of ENST 110: Earth Systems Science) and to work on a real-life environmental problem (in ENST 480: Creating a Sustainable Society, the senior seminar). In addition, students majoring in ES must complete six other courses, through two possible options. They can pursue a ***General Major in Environmental Studies***, a distributive degree that requires students to select an array of courses in human culture, the natural sciences, and social institutions. Alternatively, they can pursue a specialist degree in which they attain a depth of knowledge in a particular area of study through completion of a ***Concentration*** in one of five fields, including three natural science concentrations—Ecology, Environmental Chemistry, and Environmental Toxicology—and two social science concentrations—Environmental Policy and International Environmental Sustainability. Finally, all students are strongly encouraged to take an introductory statistics course. (For students concentrating in Ecology, such a course is included as one of the six requirements for the concentration.).

Rationale for the Two-path Approach to the Major

The challenge for any Environmental Studies Program—but also its great strength in educating students who are able to grasp and grapple with real environmental problems—is to provide students with an interdisciplinary breadth of understanding as well as a depth of knowledge in the field. Environmental Studies programs nationwide approach this challenge in a variety of ways. Two commonly used models are versions of the distributive model (used, for example, at Bucknell, Macalester, Mount Holyoke, and Oberlin) and the concentration (or track) model (used, for example, at Allegheny, Bates, Hobart and William Smith, Lewis and Clark, Middlebury, Sweet Briar, Tufts, and Wellesley). During Fall 2004, the IWU ES faculty spent several weeks discussing the merits of each of these approaches (and others) and ultimately concluded that, given the strengths of our program and the interests of our students, it was important to make both options available for the reasons enumerated below.

The distributive ***General Major in Environmental Studies*** is premised upon the pedagogical idea ascribed to by many in the ES field that further study within the full range of areas addressed in ES —natural sciences, social sciences and humanities—helps students develop a *depth* of understanding of the field. Students pursuing a General Major in ES complete their major by electing two courses from a list of natural science offerings, two from a list of offerings in human culture, and two from a list of offerings on social institutions; of these six courses, at least two must be at the 300-level or above. For the student who knows that she is interested in the environment, but at this point in her life has not yet decided on a particular subspecialty, the General Major provides the flexibility that allows for further exploration and intellectual growth. This path to completing the major prepares students for a range of future careers including careers in environmental advocacy, environmental education, and environmental writing and journalism. It also equips them for pursuing a Masters degree in certain Environmental Studies Masters programs (see Appendix D) or a degree in environmental law (such as at Vermont Law School). The General Major in Environmental Studies closely mirrors the distributive model we have used over the years to assist students in designing Special Interdisciplinary Majors in ES. In addition, it provides a path of study in ES for students particularly interested in the humanities (Several of our past ES SIC majors—e.g. Stacey Kolegas, April Guthrie, and Erika Wills—were double majors in a humanities field, and several ES minors have had majors in the humanities.) This is important because only two of our ES faculty are from the humanities, and we are, thus unable to offer an ES concentration in the humanities at this point in time. The General Major in ES, therefore, adds a dimension to the program which would otherwise not be available to a certain segment of the ES student constituency were we to present only the option of specialized concentrations in the field.

The five specialized ***Concentrations*** in Ecology, Environmental Chemistry, Environmental Toxicology, Environmental Policy and International Environmental Sustainability are all premised upon the traditional disciplinary model. They assume that depth in understanding derives from focused study in a subsector of the environmental field. As such, each of these five pathways to the major focuses on a specific theme and coursework relates clearly to this theme, either as a building block to understanding the subject or as an upper level exploration of it. Students pursuing this path develop a depth of knowledge that allows them to become "expert" in a subfield of the "discipline." The Concentration path is thus designed for the student with more defined interests and goals, and better prepares students for certain graduate programs, particularly those in the natural and social sciences, including not only Masters programs in Environmental Studies but disciplinary programs with a focus on an environmental subject, as for example, a PhD in Ecology or Environmental Chemistry (For more information on admissions requirements for Masters programs in Environmental Studies, see Appendix D.) In considering the science concentrations in particular we consulted with Professor Eric Pallant who for many years directed Allegheny College's well-developed Environmental Studies Program. He recounted that his students have not had difficulty getting into disciplinary science PhD programs. Though most choose not to, opting instead for the Masters degree, the few who have pursued this route have been well received by faculty elsewhere who appreciate the interdisciplinary education they have had as providing better preparation for real world encounters with scientific problems. Finally, as should be clear, the particular concentrations we propose to offer for this major are strongly supported by our curricular and faculty resource strengths in Environmental Studies. In addition, they are also well-established subfields in the field.

A Word on Course Requirements in the Concentrations

A close look at course requirements in the natural science concentrations (Ecology, Environmental Chemistry, and Environmental Toxicology) and the social science concentrations (Environmental Policy and International Environmental Sustainability) might lead some to wonder why certain courses not cross-listed as ES courses nor formally approved as ES courses are being included within the major either as requirements or electives. The simple answer is that it is common practice in Environmental Studies and Science programs around the country to include certain general, disciplinary based courses in concentrations if they are regarded as foundation courses for the area of specialty. This is especially so in the natural sciences. (For examples, see Environmental Science Major at Allegheny College at http://www.allegheny.edu/academics/envsci/catalogue.php and Environmental Chemistry concentration at http://webpub.allegheny.edu/dept/envisci/ESInfo/concentrations/Conc-EnvChem.htm). Thus, the Ecology Concentration requires that students take biostatistics to provide the necessary background for further work in ecology and conservation biology; the Environmental Chemistry Concentration requires that students take organic chemistry, quantitative analysis and instrumental analysis before pursuing topics in environmental chemistry and toxicology; and the demands of the Environmental Toxicology Concentration require students to understand organic chemistry and biochemistry as well to develop a good knowledge of toxicology. The Concentration in International Environmental Sustainability similarly requires that all students take a course on development theory (entitled Globalization and Development) in order to develop a deep understanding of global issues of international sustainability.

New and/or Revised Courses Submitted in Support of the Major

In developing the major, we have added a couple of new courses and streamlined the course numbering of several existing courses to establish logical consistency throughout the major. Appendix E provides two lists of such changes. The first, List A, is of the new courses being submitted for approval in conjunction with the major. In one case, a course that is not an Environmental Studies offering, but which is being required of those concentrating in the

International Environmental Sustainability major is seeking formal approval at this time. The second list, List B, is of existing Environmental Studies courses which are requesting number or name changes in conjunction with this proposal.

III. Responses to Questions for All New Majors
(as per Curriculum Council Guidelines for Written Rationales)

Upon what are program requirements based?
As indicated above, program requirements are supported by a survey of similar programs at other schools with a special focus on the most highly-regarded Environmental Studies Programs at liberal arts colleges.

The Concentrations have also been constructed with attention to the requirements and preferences of graduate programs in Environmental Studies.

Is staffing sufficient? What staffing will be needed to cycle through all the required courses every other year?
The proposed major does not require any additional tenure-line faculty. We have carefully considered faculty resources, and developed a proposal which is, with one minor exception, resource neutral. Two new courses are being added to meet the program requirements: ENST 480 Creating a Sustainable Society and ENST/CHEM 330 Topics in Environmental Chemistry and Toxicology, both of which will be taught by existing faculty who will slightly alter their present teaching schedule to accommodate the needs of the new ES major In addition, one Physical Science lab will be added to an existing course, Earth Systems Science, now numbered ENST 110, which will from this point be designated a physical sciences lab course rather than a physical sciences issues course; a .5 unit adjunct instructor will be hired each year to staff this lab section. These issues are discussed in greater detail below.

ENST 480 is the senior seminar required of all majors, and offered every year. The plan is for Abigail Jahiel to teach this course. Although, Abby is guaranteed only three courses a year because of her split position with her spouse, in practice, the university has consistently been able to offer Abby additional courses every year to meet the needs of the Environmental Studies, International Studies, and Political Science programs. One of these additional courses would now be ENST 480. (See attached letter of support from Frank Boyd, Chair of the Political Science Department and Abby's supervisor.)

ENST/CHEM 330 is the upper-level course required of all students electing a Concentration in Environmental Chemistry or Environmental Toxicology and offered in alternating years. Stephen Hoffmann will teach this course. To do so, Steve will offer ENST 132 and ENST 135, courses aimed at non-science majors, on a once every four-year basis instead of the previous once every two-year basis. Nevertheless, because of the agreement between Chemistry and Environmental Studies that Chemistry faculty will offer five ES courses every two years (an agreement made when Steve was hired two years ago), this change in rotation would still mean that every year one 100-level environmental chemistry course--ENST 130, ENST 132 or ENST 135--will be taught. (See Appendix F for an illustration of the Environmental Studies/Chemistry course rotations.) In addition, the Chemistry Department is in strong support of the addition of ENST/CHEM 330 as it will provide a welcome upper-level elective to their majors as well. (See attached letter of support from Rebecca Roesner, Chair of the Chemistry Department, and Steve's supervisor.)

The Lab for ENST 110 is required of all Environmental Studies majors and provides them with a field experience essential to the integrity of the major. This lab section introduces students to a range of field and lab experiences having to do with geological, hydrological, and soil science

issues. The Environmental Studies Program proposes to hire an adjunct to teach this lab component of Steve Hoffmann's course as Steve's responsibilities to the Chemistry Department and to other ES offerings do not permit him to offer the lab. The IWU administration supports the commitment of .5 units of adjunct funds per year to staff this lab not only because it is integral to the ES major, but because it benefits the General Education Program as well, by providing an extra Physical Sciences Lab course for students to fulfill their Gen Ed requirements.
The Provost, the Associate Provost, and the Dean of Faculty, as well as the General Education Director were all consulted on this matter and have agreed on a yearly basis to fund one adjunct instructor to teach the lab component for one section of ENST 110 for the next several years; they advised that in the future we seek a means to meet this need through tenured or tenure-track faculty, which we expect will be feasible.

Is there sufficient student interest?
Absolutely. This issue was addressed above under "History of Environmental Studies at IWU."

Explain how the library, computer, media or other resources are or are not adequate?
Library and media resources are adequate. We have gradually been building our ES collection over the past several years to a point where we are very pleased with the university's resources.

Are any courses required or recommended outside your department?
Yes. This issue is discussed briefly above in the section on "A Word on Course Requirements in the Concentrations." We have consulted with the Chairs of Biology, Chemistry, and Political Science who have brought these issues to their departments. All are in agreement that the demands of the new major will not place any burden on their programs.

Does the new program overlap with existing programs?
No. It simply adds a major to an already existing program. While some of the requirements in the natural science concentration tracks are courses that Biology or Chemistry students would take, the five-course, interdisciplinary core requirement, and the requirement for an additional course in human culture or social institutions within these concentrations, makes this degree offering fundamentally different from a Biology or Chemistry degree.

APPENDIX A
ENVIRONMENTAL STUDIES COURSE OFFERINGS, 2002-2006

Course Name	Fall	Spring	May
2002-2003			
ENST 270 Atmospheric Pollution	X		
CHEM 130 Chemistry of the Environment	X		
BIOL 217 Introductory Ecology	X		
ENST 100 Environment and Society	X		
ENST 270 Atmospheric Pollution	X		
ENGL 220 Thinking Like A Mountain	X		
HIST 360 Modern Brazil	X		
BIOL 164 Marine Realm		X	
ENST 227 Environmental Issues		X	
ENST/ANTH 282 Peoples and Cultures of East Africa		X	
ENST/PHIL 302 Ethics and the Environment		X	
ENST/PSCI 309 Constitutional Law III: The Politics of Regulation		X	
ENST/PSCI 361 Globalization and the Environment		X	
ENST 370 Environmental Geochemistry		X	
ENST/HIST 261 American Environmental History			X
ENST 270 Water Quality			X
ENST/BIOL 350 Tropical Ecology			X
ENST/PSCI 362 Cooperation in Environmental Policy Making			X
ENST 370 Toxic Threats to Reproduction and Child Development			X
SOC 344 Population and Environment			X
2003-2004			
ANTH 288 Consuming Passions: The Anthropology of Food	X		
BIOL 217 Introductory Ecology	X		
ECON 340 Environmental and Natural Resource Economics	X		
ENST 100.1 Environment and Society	X		
ENST 100.2 Environment and Society	X		
ENST 270 Earth Systems Science	X		
ENST 370 Creating a Sustainable Society	X		
BIOL 164 Marine Realm		X	
BIOL 320 Parasitology		X	
ENST 227 Environmental Issues		X	
ENST/PSCI 262 Ethical Dilemmas in Environmental Politics		X	
ENST 270 Introduction to Public Health and the Environment		X	
ENST/ANTH 282 Peoples and Cultures of East Africa		X	
ENST/PSCI 360 Comparative Environmental Politics		X	
ENST 375/BIO 370 Conservation Biology		X	
ENG 220 American Ground Zero			X
ENST 270 Water Quality			X
ENST 370 Toxic Threats to Reproduction and Child Development			X
ENST/BIOL 350 Tropical Ecology			X
SOC 344 Population and Environment			X

Course Name	Fall	Spring	May
2004-2005			
ANTH 288 Consuming Passions: The Anthropology of Food	X		
BIOL 217 Introductory Ecology	X		
ENGL 170 Radioactive: Writing in the Nuclear Age	X		
ENGL 220 Thinking Like a Mountain	X		
ENST 100 Environment and Society	X		
ENST 230 Earth Systems Science	X		
ENST 270 Introduction to Public Health and the Environment	X		
ENST/PSCI 262 Ethical Dilemmas in Environmental Politics	X		
HIST 360 Modern Brazil	X		
CHEM 130 Chemistry of the Environment		X	
ENST 100 Environment and Society		X	
ENST 132 Atmospheric Pollution		X	
ENST 227 Environmental Issues		X	
ENST/ANTH 282 Peoples and Cultures of East Africa		X	
ENST/PSCI 360 Comparative Environmental Politics		X	
ENST 370 Toxic Threats to Reproduction and Child Development			X
2005-2006			
BIOL 217 Introductory Ecology	X		
ECON 340 Environmental and Natural Resource Economics	X		
ENST 100.1 Environment and Society	X		
ENST 100.2 Environment and Society	X		
ENST 230 Earth Systems Science	X		
ENST/PSCI 361 Globalization and the Environment	X		
PSCI 309 Policy of Regulation	X		
BIOL 164 Marine Realm		X	
ENST 227 Environmental Issues		X	
ENST/ANTH 282 Peoples and Cultures of East Africa		X	
ENST 260/HIST 248 American Environmental History		X	
ENST/PSCI 360 Comparative Environmental Politics		X	
ENST/BIOL 370 Conservation Biology		X	
ENST/BIOL 350 Tropical Ecology			X
ENST 370 Toxic Threats to Reproduction and Child Development			X
ENST/CHEM 135 Water Quality			X

APPENDIX B

Date: Fri, 26 Nov 2004 09:09:26 -0800 (PST)
From: Alexis Manning <breakfastrunner@yahoo.com>
Subject: Re: Alexis Manning
To: Abigail Jahiel <ajahiel@titan.iwu.edu>
X-Virus-Scanned: by Barracuda Spam Firewall at iwu.edu
X-Virus-Scanned: by CLAMAV on phobos.iwu.edu

Dr Jahiel,

Good to hear from you. ....

Good luck with the formation of the enviro major. ***I would think that a significant portion of enviro minors would have wanted to become enviro majors if it had been offered.*** Happy Holidays.

Alexis

APPENDIX C

X-Original-To: ajahiel@titan.iwu.edu
Delivered-To: ajahiel@titan.iwu.edu
From: Alvaa30@aol.com
Date: Mon, 29 Nov 2004 17:18:44 EST
Subject: Re: environmental studies
To: ajahiel@titan.iwu.edu
X-Mailer: 8.0 for Windows sub 6033
X-Virus-Scanned: by Barracuda Spam Firewall at iwu.edu
X-Virus-Scanned: by CLAMAV on phobos.iwu.edu

Dr. Jahiel,

Thank you very much for getting back to me so soon. ***I'm looking at schools that already have an established program. When Illinois Wesleyan offers a major in Environmental Studies, I would be interested in learning more about your program.*** I had an opportunity to visit your school two years ago when my brother was choosing a college, and I was very impressed with your campus
Thanks Again,

Arley Oddo

APPENDIX D

REQUIREMENTS FOR GRADUATE ADMISSION AT SELECTED MASTERS PROGRAMS

Below are a list of several of the top Masters programs in the environmental field. What characterizes these programs as a whole is the broad array of undergraduate backgrounds from which students are selected. Only a few programs list specific courses required for admission, and such required courses vary significantly from program to program. We have done our best in constructing the major to consider these factors in designing program requirements. Where we have chosen not to require certain courses—such as calculus to meet Duke University's requirements—we have agreed as a faculty to inform our advisees of courses they may wish to take if they are interested in these programs.

Boston University, Center for Energy and Environmental Studies offers three possible Master's degrees:

- Master of Arts in Energy and Environmental Analysis
- Master of Arts in Environmental Remote Sensing and Geographic Information Systems
- Master of Arts in International Relations and Environmental Policy.

For all programs, the school's web page explains that "Our students have a wide range of undergraduate degrees ranging from linguistics to physics. Many students have backgrounds in environmental science, policy, or studies, biology, political science, public policy and international relations." With regard to the criteria used to make admissions decisions, the webpage states "We consider (i) GRE scores (and TOEFL for non-native English speakers), (ii) undergraduate institution and GPA, (iii) letters of recommendation, (iv) work experience, and (v) personal statement." The program also notes that many students pursuing Masters Degrees have had work experience in the field before entering the program, and that this factor helps with admissions.

Brown University, Center for Environmental Studies offers a Masters of Arts Program in Environmental Studies. The Center does not specify requirements for admission to this program, other than the general university requirements for graduate admission. However, in describing the Masters of Arts in ES, the Center notes:

"The program does not begin with traditional disciplines and search for their application to environmental problems. Instead we focus on the problems of decision and action, learning how to draw information from the disciplines that bear on these decisions. Thus as part of our program, we encourage you to become familiar with the language of science as well as the language of policy, to understand the different vantage points of each, and to integrate them.

Columbia University, Earth Institute offers a number of masters degree options, including a Masters in Conservation Biology. The ecology Evolution and Environmental Biology Program which offers this Masters degree lists the following as requirements for admission:

- A background in ecology and evolutionary biology, including undergraduate courses in introductory biology and upper-division ecology, evolution, and genetics (or equivalents).

- GRE general test. Biology Subject test strongly recommended.

Duke University's Nicholas School of the Environment and Earth Sciences offers a Masters of Environmental Management degree and a Master of Forestry degree. We were assured by the representative from the Nicholas School who visited campus that a major in Environmental Studies was a very desirable degree. She encouraged us to make sure that students interested in pursuing a degree at the Nicholas School take an introductory economics course, a statistics course, and a semester of calculus. While it is not possible to require all ES majors at IWU to take the specific courses desired by the Nicholas School, we have required all those pursuing an Environmental Policy concentration to take an economics course, and we strongly recommend that all students take a statistics course. Specific concentrations in the Masters program at the Nicholas School require additional prerequisites for admission. These include:

Coastal Environmental Management: microeconomics;

- Forest Resource Management: microeconomics, principles of ecology;
- Environmental Economics and Policy: microeconomics;
- Water and Air Resources: general economics; general courses in chemistry and physics
- Environmental Health and Security: biology (including animal or human physiology); chemistry; organic chemistry
- Global Environmental Change: introductory courses in earth sciences/geology and biology are recommended]

We were told that it is not uncommon for a student to be admitted to the Nicholas School without having taken one of the required courses, and that the student then makes this course up while at Duke.

University of Michigan, School of Natural Resources and the Environment and **The Yale School of Forestry** are two other top-ranked programs which offer Masters degrees in Environmental Studies. Neither school lists specific courses or programs as study as required for admission.

APPENDIX E

NEW AND REVISED COURSES BEING SUBMITTED IN CONJUNCTION WITH THE MAJOR

LIST A: New courses being submitted in conjunction with the major

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ENST 215 Toxic Effects on Reproduction and Child Development (previously taught as a special topics course, ENST 370)
Humans and ecosystems in the US and worldwide are regularly exposed to some 75,000 synthetic chemicals, most of which are poorly tested or untested for human health effects. This course will explore the effects of chemicals--such as heavy metals, pesticides, solvents, dioxins, PCBs, and endocrine disruptors--on reproduction and child development, and will look at intervention strategies to reduce toxic threats throughout the lifecycle

67

ENST/CHEM 330 Topics in Environmental Chemistry and Toxicology
Application of chemistry and biology fundamentals to the study of fate and behavior of chemicals in the environment, including natural chemical processes, reactivity and transport of pollutant chemicals, and exposure and toxicology of potentially toxic pollutants to humans and the biosphere. Prerequisites: Chemistry 311 and Biology 102, or consent of instructor. *Offered in alternate years, spring.*

68 Given

ENST/BIOL ???? Conservation Biology (previously taught as a special topics course, ENST 370/BIOL 375) (Note: New course number to be provided by Given Harper shortly)
Students will use ecological principles and readings about conservation law and policy as a basis to assess human impacts on biological diversity and to develop practical approaches to prevent species extinction. The course will include some assigned readings and may include off-campus lectures and field trips. Topics that will be covered include extinction as a historical and contemporary process, invasive species, global climate change, ecological economics, wetland mitigation and restoration, endangered/threatened species conservation, and watershed/ecosystem management.
Prerequisites: for ENST 370, ENST 120; for BIO 375, BIO 101-102.

69

ENST 480 Senior Seminar: Creating a Sustainable Society (WI)
An advanced analysis through a seminar format of a particular topic in environmental studies, selected in consultation with ES students in their junior year. Applying the subfield perspective they have acquired in earlier coursework, each student researches and writes a substantial paper on the topic and presents their findings orally, collectively producing a multidisciplinary analysis of the issue. Prerequisite: Majors and minors with senior standing who have completed ENST 100, ENST 110 or 120 and at least two ES-approved courses at the 300-level or above. *Offered annually.*

70

PSCI 326 Globalization and Development

LIST B: Changes in Existing Environmental Studies Courses

Given 71 **CHANGE: ENST 227** Environmental Issues TO **ENST 120 Environmental Issues CHANGE:**

Steve 72 **ENST 230** Earth Systems Science TO **ENST 110; change** General Education credit
FROM Physical Science Issues credit TO **Physical Sciences Lab credit.**

already submitted by J. Simeone prop # 63 → **CHANGE: ENST/PSCI 262** Ethical Dilemmas in Environmental Politics TO **ENST/PSCI 365**

73 **CHANGE: ENST 261/HIST** 248 American Environmental History TO **ENST/HIST 248**

APPENDIX F

PROJECTED ENVIRONMENTAL STUDIES/CHEMISTRY COURSE OFFERINGS

Year	Course #	Course Name
2005-2006	ENST 110 (presently 230) CHEM/ENST 135	Earth Systems Science (SH) Water Quality (SH)
2006-2007	ENST 110 CHEM/ENST 130 (or 132 or 135) CHEM/ENST 330 (new)	Earth Systems Science (SH) Chemistry of the Environment Topics in Environmental (SH) Chemistry and Toxicology
2007-2008	ENST 110 CHEM/ENST 132	Earth Systems Science (SH) Air Pollution (SH)
2008-2009	ENST 110 CHEM/ENST 130 (or 132 or 135) CHEM/ENST 330	Earth Systems Science (SH) Chemistry of the Environment Topics in Environmental (SH) Chemistry and Toxicology

* SH = Steve Hoffmann

Illinois Wesleyan
UNIVERSITY

February 17, 2005

Abby and the Environmental Studies group:

The Chemistry Department is supportive of your proposal for an Environmental Studies major at IWU. We recognize the increasing importance of environmental issues within society and understand that this is a growing area of intellectual endeavor. We are pleased that the growing number of IWU students with strong interests in studying the environment may soon have the opportunity to pursue one of these carefully designed ENST major tracks.

We especially appreciate your recognition of Chemistry's already tight staffing situation and your efforts to design the proposed Environmental Studies major within the constraints of our current agreement regarding course units. Chemistry will continue to offer five ES course units every two years as we first agreed to in December, 2002. We are grateful that we will not be asked to direct any additional contact hours toward Environmental Studies courses over the next few years. We understand that you plan to hire an adjunct instructor to teach the laboratory portion of ENST 110, Earth Systems Science. We welcome that person to use our laboratories and supplies as he/she works with Steve Hoffman to deliver the laboratory component of ENST 110.

Longer term, we know that you would like to offer some of the ENST science courses more frequently and that you hope to have the laboratory portion of ENST 110 taught by a full-time IWU Environmental Studies faculty member. We understand these longer-term goals, but caution that we will be unable to consider additional environmental offerings until our own staffing resources improve.

We look forward to working with you in delivering the currently proposed Environmental Studies curriculum and hope to build on our common interests during the coming years.

Sincerely,

Becky Roesner

Becky Roesner
Acting Chair, Chemistry

DEPARTMENT OF CHEMISTRY

Post Office Box 2900 • Bloomington, Illinois 61702-2900 • (309) 556-3060 • www.iwu.edu

Illinois Wesleyan
UNIVERSITY

21 February 2005

To the Members of Curriculum Council:

I am writing in support of the new major in Environmental Studies, which represents a welcome and much-needed addition to our curriculum. As members of the Council are aware, students have submitted an increasing number of petitions in recent years for Interdisciplinary Majors in Environmental Studies. Hence, there is an existing student interest in the major that will be well-served by formalizing the major requirements.

Abby and I have discussed the resource implications of the new major for Political Science. Although Abby will be picking up the ES Senior Seminar, ENST 480, and will now begin to teach ENST/PSCI 261 American Environmental Politics, she will be able to do this as part of her supplemental load. Abby is guaranteed only 3 courses per year, but over the past several years the university has provided funds for her to teach all additional courses requested by ES/IS or PSCI.

As always, I would be happy to answer any questions you might have about this petition and hope you'll accept my thanks in advance for your work.

Sincerely,

Frank Boyd
Chair, Political Science

DEPARTMENT OF POLITICAL SCIENCE

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CATALOG COPY FOR PROPOSED MAJOR, WITH REVISED MINOR
FEBRUARY 2005

ENVIRONMENTAL STUDIES

Environmental Studies addresses a broad range of issues concerning the relationship of human beings with the natural world. Understanding these issues requires that knowledge from diverse disciplines be brought together, and new modes of thinking be developed. At Illinois Wesleyan, the Environmental Studies Program is designed to provide students with a basic knowledge of the scientific concepts, the societal factors—cultural, political, and economic—and the ethical dimensions behind environmental issues. The program includes both interdisciplinary courses and courses that address environmental issues from a variety of disciplinary perspectives, and offers both a major and a minor degree.

Students majoring in Environmental Studies have two basic ways to complete their degrees. They can pursue a *General Major in Environmental Studies*, expanding upon the core courses required of all majors with additional course work in the natural sciences, human culture and social institutions. Alternatively, they can pursue a specialist degree in which they attain in-depth knowledge of a particular area of study through completion of a *Concentration* in one of five fields: Ecology, Environmental Chemistry, Environmental Toxicology, Environmental Policy, or International Environmental Sustainability. The General Major in Environmental Studies provides the flexibility necessary for those interested in the environment but as yet undecided in their career path, or those interested in the humanities, to pursue their interests and develop a broad base of knowledge in the field. The Concentrations are designed especially for those who intend to pursue graduate education in environmental science, environmental policy or law, or international sustainable development. A student who wishes to pursue a disciplinary major, but would like to supplement their education with coursework on the environment, should consider pursuing an *Environmental Studies Minor*. All students seeking an Environmental Studies degree should consult with the ES Director early in their studies to determine which course of study is most appropriate for achieving their desired goals.

Requirements for the Major

A minimum of 11 courses (at least four of which are at the 300-level or above) to include the following:

1. ENST 100 Environment and Society **AV**
2. ENST 110 Earth Systems Science (presently ENST 230) **PSL**
3. ENST 120 Environmental Issues (presently ENST/BIO 227) **LSI** (Students pursuing a concentration in Ecology, Environmental Chemistry or Environmental Toxicology should instead take BIOL 217 Introduction to Ecology)
4. ENST 365 Ethical Dilemmas in Environmental Politics (presently ENST/PSCI 262) **or** PHIL 302 Ethics and the Environment
5. Six courses selected to complete the requirements, described below, of either a:
    a. General Major in Environmental Studies
    or
    b. Concentration in Environmental Studies
6. ENST 480 (new course) WI Senior Seminar: Creating a Sustainable Society

All majors are also expected to take one of the following introductory statistics courses: BIOL 209, ECON 227, PSYCH 227, SOC 227, and are encouraged to study abroad.

No more than one internship may be used to fulfill the requirements for the major or the minor; and courses may not count for two majors or for both a major and a minor.

Requirements for the Minor
A minimum of six courses, at least two of which are at the 300-level or above, to include the following:

1. ENST 100: Environment and Society **AV**
2. ENST 110: Earth Systems Science **PSL** or ENST 120: Environmental Issues **LSI**
3. ENST 397: Internship or ENST 480: Senior Seminar: Creating a Sustainable Society, taken in the junior or senior year.
4. Three additional courses from the list of Environmental Studies courses below.

Students pursuing a minor are highly encouraged to take an introductory environmental ethics course (ENST 365 or PHIL 302).

Courses may not count for both a major and a minor; and no more than one internship may be used to fulfill the minor requirements.

GENERAL MAJOR IN ENVIRONMENTAL STUDIES
Students pursuing a General Major in Environmental Studies must select two courses in each of the following three areas (Natural Science, Human Culture, and Social Institutions), at least two of which are at the 300-level or above. No course may be used to count for two categories. Only two of the six required courses may be satisfied through either an internship (ENST 397) or a directed reading (ENST 250), and these may not both be used to satisfy the requirements in any given area (i.e. natural sciences, etc.). No more than one internship and one directed study may be used to satisfy the requirements for the major.

A. Natural Science

BIOL 164	Marine Realm
BIOL 217	Introductory Ecology
ENST/CHEM130	Chemistry of the Environment
ENST 132	Atmospheric Pollution
ENST/CHEM 135	Water Quality
ENST 215	Toxic Threats to Reproduction and Child Development (has been taught for past four years as a special topics course, ENST 370; proposal to make course a permanent offering submitted to CC 2/05)
PHYS 239	Problems of Nuclear Disarmament
BIOL/ENST 350	Tropical Ecology *(prerequisite: ENST 120)*
BIOL/ENST 370	Conservation Biology *(prerequisite: ENST 120)* (taught last year as a special topics course; proposal to make course a permanent offering to be submitted to CC shortly.)
ENST 250	Directed Readings in Environmental Studies, with approval of ES program director
ENST 397	Internship, with approval of ES program director

B. Human Culture

ANTH 274	Peoples and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ENGL 170	Radioactive: Writing in the Nuclear Age
ENGL 220	American Ground Zero
ENGL 220	Thinking like a Mountain: Literature and Environmental Consciousness
ENST/HIST 248	American Environmental History (presently ENST261/HIST 248)
HIST 360	Modern Brazil

ENST 250	Directed Readings in Environmental Studies, with approval of ES program director
ENST 397	Internship, with approval of ES program director

C. Social Institutions

ANTH 274	People's and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ECON 340	Environmental and Natural Resource Economics (*prerequisite: ECON 100*)
ENST/HIST 248	American Environmental History
ENST 260/PSCI 260	American Environmental Politics
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 361	Globalization and the Environment
ENST/PSCI 362	Cooperation in Environmental Policymaking: The Public-private Sector Nexus
HIST 360	Modern Brazil
PSCI 309	Politics of Regulation
SOC 344	Population and Environment
ENST 250	Directed Readings in Environmental Studies, with approval of ES program director
ENST 397	Internship, with approval of ES program director

CONCENTRATIONS IN THE MAJOR

ECOLOGY (Advisor: Harper)

Students concentrating in Ecology must take:

BIOL 209	Biostatistics *(prerequisite: BIOL 102)*
ENST 370	Conservation Biology *(prerequisite: BIOL 102)*
ENST 450	Independent Study **OR** ENST 451: Independent Research and Writing

Plus two courses from the following list:

BIOL 219	Invertebrate Zoology *(prerequisite: BIOL 102)*
BIOL/ENST 302	Parasitology *(prerequisite: BIOL 102)*
BIOL 306	Plant and Fungal Diversity *(prerequisite: BIOL 102)*
BIOL 314	Microbiology *(prerequisite: BIOL 102)*
BIOL 316	Evolution *(prerequisite: BIOL 102)*
BIOL 320	Marine Biology *(prerequisite: BIOL 102)*
BIOL 327	Advanced Ecology *(prerequisite: BIOL 102)*
BIOL/ENST 350	Tropical Ecology *(prerequisite: BIOL 102)*
ENST 250	Directed Readings in Environmental Studies, with approval of concentration advisor
ENST 397	Internship, with approval of concentration adviser
MATH 300	Mathematical Modeling, with approval of concentration adviser

And one course on human culture or social institutions from the following list:

ANTH 274	Peoples and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ECON 340	Environmental and Natural Resource Economics (*prerequisite* ECON 100)
ENGL 170	Radioactive: Writing in the Nuclear Age
ENGL 220	American Ground Zero
ENGL 220	Thinking like a Mountain: Literature and Environmental Consciousness
ENST/HIST 248	American Environmental History

ENST/PSCI 260	American Environmental Politics
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 361	Globalization and the Environment
HIST 360	Modern Brazil
PSCI 309	Politics of Regulation
SOC 344	Population and Environment

Depending on their career interests, and in consultation with the Concentration advisor, students should consider taking CHEM 201, 202, 311 and 312.

ENVIRONMENTAL CHEMISTRY (Advisor: Hoffmann)

Students concentrating in Environmental Chemistry must take:

CHEM 311	Organic Chemistry (*prerequisite*: CHEM 202)
CHEM 301	Quantitative Analysis (*prerequisite*: CHEM 202)
CHEM 304	Instrumental Analysis (I don't think we need to specifically mention pre-reqs if the required course is already in the list. If we are doing this as a matter of course, though, that is fine)
ENST/CHEM 330	Topics in Environmental Chemistry and Toxicology (*prerequisite*: BIOL 102)

Plus one course from the following list:

CHEM 312	Organic Chemistry
CHEM 332	Inorganic Chemistry
CHEM 414	Biochemistry I (*prerequisite*: CHEM 312)
BIOL 327	Advanced Ecology
ENST 250	Directed Readings in Environmental Studies, with approval of concentration advisor
ENST 397	Internship, with approval of concentration adviser.
ENST 450	Independent Study
ENST 451	Independent Research and Writing
MATH 300	Mathematical Modeling, with approval of concentration adviser

And one course on human culture or social institutions from the following list:

ANTH 274	Peoples and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ECON 340	Environmental and Natural Resource Economics (*prerequisite:* ECON 100)
ENGL 170	Radioactive: Writing in the Nuclear Age
ENGL 220	American Ground Zero
ENGL 220	Thinking like a Mountain: Literature and Environmental Consciousness
ENST/HIST 248	American Environmental History
ENST/PSCI 260	American Environmental Politics
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 361	Globalization and the Environment
HIST 360	Modern Brazil
PSCI 309	Politics of Regulation
SOC 344	Population and Environment

Students are also expected to take BIOL 101, and 102.

ENVIRONMENTAL TOXICOLOGY (Advisors: Hoffmann and Frick)

Students concentrating in Environmental Toxicology must take:

CHEM 311	Organic Chemistry (*prerequisite: CHEM 202*)
CHEM 312	Organic Chemistry
CHEM 414	Biochemistry I
ENST/CHEM 330	Topics in Environmental Chemistry and Toxicology (*prerequisite*: BIOL 102)

Plus one course from the following list:

BIOL 327	Advanced Ecology
CHEM 301	Quantitative Analysis (*prerequisite:*CHEM 202)
BIOL 312	Genetics (*prerequisite:* BIOL 102)
BIOL 412	Molecular Genetics
ENST 250	Directed Readings in Environmental Studies, with approval of concentration advisor
ENST 397	Internship, with approval of concentration adviser.
ENST 450	Independent Study
ENST 451	Independent Research and Writing
MATH 300	Mathematical Modeling, with approval of concentration adviser

And one course on human culture or social institutions from the following list:

ANTH 274	Peoples and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ECON 340	Environmental and Natural Resource Economics
ENGL 170	Radioactive: Writing in the Nuclear Age
ENGL 220	American Ground Zero
ENGL 220	Thinking like a Mountain: Literature and Environmental Consciousness
ENST/HIST 248	American Environmental History
ENST/PSCI 260	American Environmental Politics
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 361	Globalization and the Environment
HIST 360	Modern Brazil
PSCI 309	Politics of Regulation
SOC 344	Population and Environment

Students are also expected to take BIOL 101, 102.

ENVIRONMENTAL POLICY (Advisor: Jahiel)

Students concentrating in Environmental Policy must take:

ENST/PSCI 260	American Environmental Politics
PSCI 309	Politics of Regulation
ECON 340	Environmental and Natural Resource Economics *(prerequisite: ECON 100)*

Plus two courses from the following list, only one of which may be ENST 250, 397, 450 or 451:

ENGL 220	American Ground Zero
ENST/HIST 248	American Environmental History
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 362	Cooperation in Environmental Policymaking: The Public-private Sector Nexus
PSCI/SOC 370	Action Research Seminar
SOC 344	Population and Environment

ENST 250	Directed Readings in Environmental Studies, with approval of concentration advisor
ENST 397	Internship, with approval of concentration adviser
ENST 450	Independent Study
ENST 451	Independent Research and Writing

And one additional environmental science course from the following list:

BIOL 164	Marine Realm
ENST/CHEM 130	Chemistry of the Environment
ENST 132	Atmospheric Pollution
ENST/CHEM 135	Water Quality
ENST 215	Toxic Threats to Reproduction and Child Development
PHYS 239	Problems of Nuclear Disarmament
BIOL/ENST 350	Tropical Ecology
BIOL/ENST 370	Conservation Biology) (remove these: 120 is already required for the major)

INTERNATIONAL ENVIRONMENTAL SUSTAINABILITY (Advisor: Jahiel)

Students concentrating in International Environmental Sustainability must take:

PSCI 326	Globalization and Development (presently offered as a special topics course)
ENST/PSCI 361	Globalization and the Environment **OR** ENST/PSCI 360 Comparative Environmental Politics
ANTH 274	People's and Cultures of East Africa **OR** ANTH 288 Consuming Passions: The Anthropology of Food

Plus two courses from the following list, only one of which may be ENST 250, 397, 450 or 451:

PHYS 239	Problems of Nuclear Disarmament
ANTH 274	People's and Cultures of East Africa
ANTH 288	Consuming Passions: The Anthropology of Food
ENST/PSCI 360	Comparative Environmental Politics
ENST/PSCI 361	Globalization and the Environment
HIST 360	Modern Brazil
SOC 344	Population and Environment
ENST 250	Directed Readings in Environmental Studies, with approval of concentration advisor
ENST 397	Internship, with approval of concentration adviser.
ENST 450	Independent Study
ENST 451	Independent Research and Writing

And one additional environmental science course from the following list:

BIOL 164	Marine Realm
ENST/CHEM 130	Chemistry of the Environment
ENST 132	Atmospheric Pollution
ENST/CHEM 135	Water Quality
ENST 215	Toxic Threats to Reproduction and Child Development
PHYS 239	Problems of Nuclear Disarmament
BIOL/ENST 350	Tropical Ecology)
BIOL/ENST 370	Conservation Biology

Students concentrating in this area are especially encouraged to study abroad.

100 Environment and Society (AV) Exploration of the relationship between humankind and nature, designed to encourage critical thinking about the environmental predicaments of the twenty-first century, as well as to provide a theoretical foundation from which to evaluate the causes and possible solutions to these problems. Major theorists, ideas and schools of thought that have influenced environmentalism are discussed. *Offered each fall.*

110 Earth Systems Science (PSL) The Earth is changing, and understanding this change requires an understanding of the interrelated systems of the Earth. This course investigates the systems (hydrosphere, atmosphere, biosphere, and lithosphere) and the complex cycles and interactions between them, both globally in the classroom and locally through a field/lab experience. *Offered every fall.*

120 Environmental Issues (LSI) Examination of major environmental concepts, problems, and possible solutions. Basic ecological principles will serve as a foundation for discussion of such issues as human overpopulation, resource depletion, and pollution. *Offered each spring.* Cross-listed with Biology.

130 Chemistry of the Environment (PSL) See Chemistry 130
A survey of chemistry principles with an emphasis on the application of these principles to environmental topics such as air and water pollution, global warming, and energy. Laboratory experiments may involve analysis of water from local stream and lakes and the analysis of vegetables for pesticide residue. *Offered occasionally.* Cross-listed with Chemistry 130.

132 Air Pollution (PSI) See Chemistry 132
Air quality is of extreme importance to both human health and environmental health. This course will include discussion of several atmospheric pollution issues, including pollution sources, reactions and transport in the atmosphere, pollution reduction efforts, and the energy needs that underlie many of the causes of the pollution. No prior knowledge of geology is needed, but a basic knowledge of chemistry will be assumed. *Offered occasionally.* Cross-listed with Chemistry 132.

135 Water Quality (PSL) See Chemistry 135
The definitions of water quality depend heavily on the intended uses of the water supply – for drinking, irrigation, recreation, or ecosystem support. We will take a hands-on approach in studying water quality issues, using local water resources as case studies. A major part of the course will be field trips to measure and monitor water quality in local rivers and lakes. *Offered occasionally.* Cross-listed with Chemistry 135.

215 Toxic Threats to Reproduction and Child Development (LSI)
Humans and ecosystems in the United States and worldwide are regularly exposed to some 85,000 synthetic chemicals, most of which are poorly tested or untested for human health effects. This course will explore the effects of chemicals—such as heavy metals, pesticides, solvents, dioxins, PCBs, and endocrine disruptors—on reproduction and child development, and will look at intervention strategies to reduce toxic threats throughout the lifecycle. *Offered occasionally.*

248 American Environmental History (CH) Overview of American environ-mental history from pre-colonial days to the present. This course examines the relationship between social and ecological change, focusing on the impact of native American societies, Western colonialism, and market forces on land-use patterns, biodiversity and the development of the contemporary environmental movement in the United States. *Offered in alternate years, fall semester.* Cross-listed with History 248.

250 Directed Readings in Environmental Studies

260 American Environmental Politics and Policy (SI) Basic introduction to the institutional and legal framework of contemporary American environmental policy and to environmental politics in the United States. Policy issues explored include water and air pollution, solid and hazardous waste, endangered species and wilderness preservation, energy development, growth management, and environmental justice. *Offered in alternate years, fall semester.* Cross-listed with Political Science 260.

270 Special Topics

274 Peoples and Cultures of East Africa (SI, G)
Survey of select east African societies whose cultural adaptations to varied ecosystems make interesting case studies for comparative analysis. Reveals the diversity and the congruity of human social systems. *Offered every yearl.* Cross-listed with Anthropology 274.

288 Consuming Passions: The Anthropology of Food (AV, G)
Considers forms of human eating in historical and cross-cultural perspectives and their relationship to the environment. Examines various systems of subsistence, from hunting and gathering to horticulture to pastoralism, as well as the symbolic aspects of food choice. *Offered in alternate years, fall.* Cross-listed with Anthropology 288

330 Topics in Environmental Chemistry and Toxicology
Application of chemistry and biology fundamentals to the study of fate and behavior of chemicals in the environment. The course will consider natural chemical processes, reactivity and transport of pollutant chemicals, and exposure and toxicology of potentially toxic pollutants to humans and the biosphere. Prerequisites: Chemistry 311 and Biology 102, or consent of instructor. *Offered in alternate years, spring.* Cross-listed with Chemistry 330.

350 Tropical Ecology (LSI, G) Introduction to the ecosystems, animals, and plants of Costa Rica, including issues associated with the preservation of bio-diversity. Studies will be conducted both in the field and in the classroom. Prerequisite: Environmental Studies 227, declared minor in Environmental Studies, consent of instructor. *Offered in May Term.* Cross-listed with Biology 350.

360 Comparative Environmental Politics (SI, G, WI) Examination of how different political-economic systems shape the environmental policy process and impact the environment. This course considers how party-structure, mode of interest articulation, economic system and level of development affect environmental policy. Countries studied include the United States, Germany, former Soviet Union/Russia, China, India, Brazil and Nigeria. Prerequisite: a course in either political science or environmental studies strongly recommended. *Offered in alternate years, spring.* Cross-listed with Political Science 360.

361 Globalization and the Environment (SI, G) Introduction to the international politics behind efforts to deal with tropical deforestation, ozone depletion, global warming, loss of biodiversity and transnational transfer of hazardous wastes. Actors, conferences, and accords involved in the international environmental policy process are discussed, with particular attention to different positions of industrialized versus developing countries. *Offered in alternate years, spring.* Cross-listed with Political Science 361.

362 Cooperation in Environmental Policymaking: The Public-private Sector Nexus
The course will be divided into two phases that combine classroom and field experience. First, students will spend approximately one week of the term at the IWU campus. Class meetings will survey some of the theoretical and empirical issues of US environmental policy. We will also take

PROPOSAL TO REVISE THE ENVIRONMENTAL STUDIES MINOR
FEBRUARY 23, 2005

I. Background

In considering core competencies which all Environmental Studies students must poses upon graduation (as part of our deliberations in designing the new ES major), and as a result of the development of a couple of new courses in the Program, the Environmental Studies faculty agreed it was time to revisit the minor. The results of these deliberations are presented in the provisional Catalog Copy for the Environmental Studies Program attached, and the proposed changes from discussed in the following section.

II. Proposed Changes to the Minor and justification for these changes

Three changes to the minor are proposed:

1. **Introduction to environmental science**: The existing minor requires students to take ENST 227 (to be renumbered as ENST 110) Environmental Issues. Under the proposed changes, students will have the option of fulfilling this introductory environmental science requirement with either ENST 110 Earth Systems Science (PSL) or ENST 120 Environmental Issues (LSI)

   The ES faculty is in agreement that ENST 110 and ENST 120 are equally important introductions to environmental science, though each provides a different focus (ENST focuses on earth systems science and ENST 120 focuses on ecology.) We would like to allow students to select the introductory environmental science course of greatest interest to them.

2. **Culminating Experience:** The existing minor requires students to conclude their ES minor with either an environmental internship ENST 397 or an independent study ENST 450. Under the proposed changes, students minoring in ES will be offered the choice between doing an environmental internship, ENST 397 or participating in the new senior seminar, ENST 480.

   The ES faculty feels that students will learn more from the interactive experience of working with ES majors in ENST 480. As well, we agree that, given limited faculty resources, we would like to devote our time supervising independent studies to ES majors who are more integrally engaged in the field.

3. **Recommended course:** The final proposed change to the minor is the recommendation that students take an environmental ethics course, either ENST 365 (the new number for ENST 262) or PHIL 302.

   The ES faculty recommends this addition because we feel strongly that thinking in environmental ethics is a core competency that all ES students should be exposed to. We chose not to require an environmental ethics course for the minor because we did not want to increase the number of courses required for the minor and because we thought that it was important to allow students pursuing a minor maximum flexibility to explore their secondary field.

III. Resource Issues

We do not anticipate the changes to the minor affecting staffing. (See discussion of staffing issues in discussion of proposed major.) The changes to the minor are also not expected to affect library, computer, or other resources as these are adequate.

field trips to the Mackinaw and Vermillion Rivers to observe efforts at river restoration and preservation. The second phase of the course will require a two-week trip to the California's North Coast and the Sierra Nevada mountains near Yosemite National Park. Students will have the opportunity to learn how actors from the private sector are cooperating with state and local government officials to preserve the Navarro River Watershed in Anderson Valley and the Tuolumne River, which forms the headwaters of the famous Hetch Hetchy Valley. We will have the opportunity to backpack the Lost Coast Trail north of the Navarro River and will have wilderness guides accompany us down the North Fork of the American River and, finally, an overnight trip on the Tuolumne River. *Offered in May Term.* Cross-listed with Political Science 362.

365 Ethical Dilemmas in Environmental Politics (AV)
When can non-human claims trump human interests? Does humanism provide a coherent lens for resolving environmental issues? How do answers to these questions influence our answers to dilemmas in environmental politics such as how to weigh the value of biodiversity and whether to use cost/benefit analysis to evaluate and determine regulatory policy? Utilitarian, Kantian, Social Contract, and holistic theories are introduced as competing criteria for evaluating the risk of environmental harm caused by human development. *Offered in alternate years.* Cross-listed with Political Science 365.

370 Special Topics

397 Internship Students may arrange an internship with an environmental-related agency. Prerequisites: Environmental Studies 100 and 227, declared minor in Environmental Studies, junior or senior standing, and consent of both the supervising faculty member and one of the Environmental Studies directors. *Offered each semester.*

450 Independent Study Individual study in an area of interest relating to the environment. Student must devise a plan of study in cooperation with a supervising faculty member. Prerequisites: Environmental Studies 100 and 227, declared minor in Environmental Studies, junior or senior standing, and consent of the supervising faculty member and one of the Environmental Studies directors. *Offered each semester.*

451 Independent Research and Writing (WI)
Individual study in an area of interest relating to the environment. In cooperation with a supervising faculty member, student must devise a plan of research which includes a significant writing project. Student must present this preliminary research proposal to a faculty member in writing, and receive the faculty member's approval of the topic and consent to provide instruction in writing appropriate to the subfield of Environmental Studies. Prerequisites: ENST 100 or 227, declared minor in Environmental Studies, junior or senior standing, and consent of the supervising faculty member and the Environmental Studies Director. *Offered each semester.*

480 Senior Seminar: Creating a Sustainable Society (WI)
An advanced analysis through a seminar format of a particular topic in Environmental Studies, selected in consultation with ES students in their junior year. Applying the subfield perspective they have acquired in earlier coursework, each student will research and write a substantial paper on the seminar topic and present his or her findings orally. Taken collectively, these individual works will provide a multidisciplinary analysis of the seminar topic. Prerequisite: Majors and minors with senior standing who have completed ENST 100, ENST 110 or 120 and at least two ES-approved courses at the 300-level or above. *Offered annually.*

NOTE: For courses which receive credit in the Environmental Studies Program but are not cross-listed as ES courses, course descriptions may be found under the appropriate departments.