

# Environmental Science & Policy (ENV S&P)

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## Courses

### **ENV S&P 701. Perspectives in Environmental Science and Policy. 1 Credit.**

Introduces new Environmental Science & Policy graduate students to program requirements, expectations, resources, and faculty members.

P: gr st.

### **ENV S&P 708. Public Policy Analysis. 3 Credits.**

A survey of public policy analysis methods and their role in the policymaking process, primarily in American government. Topics include: approaches to the study of public policy, policy formulation and adoption, methods for assessment of policy alternatives, ethics and policy analysis, policy implementation and evaluation, and the utilization of policy analysis in decision making.

P: gr st.

Fall Even.

### **ENV S&P 713. Environmental & Natural Resource Economics. 3 Credits.**

Addresses public policy issues related to energy and other natural resources from the perspective of environmental economics. Topics include fossil energy, nuclear energy, solar and other alternative sources of energy; natural resources ranging from soil, water and minerals to wildlife, forests and parks.

P: gr st; REC: Pu En Af 608 and Env S&P 752.

Fall Even.

### **ENV S&P 715. Seminar in Ecology and Evolution. 1 Credit.**

This graduate course provides a forum for discussion of contemporary ideas in ecology and evolution. Students and faculty discuss weekly readings in an informal atmosphere. Topics are chosen from the current scientific literature; examples from recent semesters include ecosystem stability, competition and coexistence, group selection, trophic dynamics, and complex species interactions.

P: gr st.

Fall and Spring.

### **ENV S&P 724. Hazardous and Toxic Materials. 3 Credits.**

The handling, processing, and disposal of materials which have physical, chemical, and biological properties that present hazards to human, animal, and plant life; procedures for worker safety and for compliance with regulations. The metals and nonmetals, carcinogens, radioactive materials, and pathogenic human, animal, and plant wastes.

P: Graduate status

Spring Even.

### **ENV S&P 733. Ground Water: Resources and Regulations. 3 Credits.**

An overview of the geology, properties, flow, and pollution of ground water systems. Techniques of aquifer characterization and water quality monitoring are introduced and evaluated. Regulatory and policy approaches to moderate use and ensure adequate high quality supplies of this valuable resource in the future are also reviewed.

P: gr st.

Fall Even.

### **ENV S&P 740. Ecology and Management of Ecosystems. 3 Credits.**

This course addresses our current scientific understanding of ecosystems, and the application of this knowledge for the sustainable management of both human dominated and natural ecosystems and the biodiversity that they support.

P: gr st.

Spring Even.

### **ENV S&P 743. Landscape Ecology. 3 Credits.**

Landscape ecology emphasizes spatial patterning and focuses on ecological dynamics over large regions. Concepts and methods will be studied through lectures, readings, discussions, and practical applications. Prior experience with specific computer programs not required.

P: gr st; REC: prior cse in ecological studies and statistics.

Spring Odd.

### **ENV S&P 749. Wetland Ecology and Management. 3 Credits.**

Ecological processes and characteristics of wetlands such as primary productivity, hydrology, decomposition and nutrient dynamics are studied. Wetland classification and delineation systems are examined and applied in the field. Management practices and potential as well as current approaches to values assessment are addressed.

P: gr st.

Fall Even.

**ENV S&P 752. Environmental Policy and Administration. 3 Credits.**

The political and institutional aspects of environmental policy-making and implementation, including issues in environmental policy analysis. Emphasis is on national policy processes in the United States, but attention is given also to global and state and local environmental problems and public policy.

P: gr st.

Fall Odd.

**ENV S&P 755. Environmental Data Analysis. 4 Credits.**

This course emphasizes the principles of data analysis using the SAS (Statistical Analysis System) software package. It employs primarily environmental examples to illustrate procedures for elementary statistical analysis, regression analysis, analysis of variance and nonparametric analysis.

P: intro stats cse and grad st.

Fall Only.

**ENV S&P 760. Social Research Methods. 3 Credits.**

Theory and methods of research in the social sciences. Topics include the philosophy of science, research designs, data collection and program evaluation. Emphasis is on applied research.

P: gr st.

Fall Only.

**ENV S&P 762. Project Proposal. 3 Credits.**

Provides opportunities to identify, develop and refine the non-thesis project proposal. Focuses on key aspects of the proposal including the project statement, expectations, deliverables, and abstract. Culminates in the submission of Approval of Thesis or Project Proposal (GR-2 Form).

P: major in Ms Env Sci

Spring.

**ENV S&P 763. Global Environmental Change & Sustainability. 3 Credits.**

Capstone course of the program in Environmental Science and Policy. This course provides an overview of contemporary topics in global environmental change from the local to global scale, with emphasis placed on scientific evidence, policy approaches, public attitudes, and sustainable solutions. Both policy and scientific aspects of the topics are addressed.

P: major in Ms Env Sci and grad earned cr > or = 12.

Spring.

**ENV S&P 765. Environmental Modeling and Analysis. 4 Credits.**

How and where mathematical models are used in real life environmental applications. Focus on discrete, continuous, and stochastic models. Students will create models and use them to analyze and interpret systems.

P: gr st and intro to stats, alg and trig.

Spring Even.

**ENV S&P 767. Environmental Technology and Analysis. 3 Credits.**

This course addresses our current scientific understanding of environmental remediation, waste transformation, utilization and disposal, as well as the chemical, biological and geological aspects of ground or surface water systems. Emphasis is on evaluating alternative technologies and strategies for generating ecologically sustainable systems.

P: enrollment in ES&P graduate program or instructor approval

Spring Odd.

**ENV S&P 768. Project Defense. 3 Credits.**

This is the defense of the non-thesis project. Course activities include the presentation of non-thesis projects at an open symposium and the successful submission and approval of the final non-thesis project. Students also take the programmatic Written Examination required for completion of the non-thesis degree plan. The course culminates in the submission of Approval of Thesis Defense or Project Presentation (GR-4 Form).

P: major in MS Env Sci; Completion of ENV S&P 764

Spring.

**ENV S&P 771. BEHAVIORAL TOXICOLOGY. 3 Credits.**

P: gr st.

**ENV S&P 775. ECOLOGY OF FOOD PRODUCTION. 3 Credits.**

P: gr st.

**ENV S&P 776. BIOCLIMATOLOGY. 3 Credits.**

P: gr st.

**ENV S&P 783. VARIABLE CONTENT. 1-4 Credits.**

P: gr st.

**ENV S&P 795. Special Topics. 1-3 Credits.**

P: gr st.

**ENV S&P 797. Internship. 1-6 Credits.**

P: gr st.

Fall and Spring.

**ENV S&P 798. Independent Study. 1-3 Credits.**

P: gr st.  
Fall and Spring.

**ENV S&P 799. Thesis. 1-6 Credits.**

P: gr st and thesis proposal on file.  
Fall and Spring.