

Environmental Economics and Policy (ENVECON)

Courses

ENVECON C1 Introduction to Environmental Economics and Policy 4 Units

Introduction to microeconomics with emphasis on resource, agricultural, and environmental issues.

Rules & Requirements

Prerequisites: Mathematics 32

Credit Restrictions: Students will receive 2 units of credit for 1 after taking Economics 1.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Also listed as: ECON C3

ENVECON 39D Freshman/Sophomore Seminar 1.5 - 4 Units

Freshman and sophomore seminars offer lower division students the opportunity to explore an intellectual topic with a faculty member and a group of peers in a small-seminar setting. These seminars are offered in all campus departments; topics vary from department to department and from semester to semester.

Rules & Requirements

Prerequisites: Priority given to freshmen and sophomores

Repeat rules: Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1.5-4 hours of seminar per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: The grading option will be decided by the instructor when the class is offered. Final exam required.

ENVECON 100 Microeconomic Theory with Application to Natural Resources 4 Units

Covers the basic microeconomic tools for further study of natural resource problems. Theory of consumption, production, theory of the firm, industrial organization, general equilibrium, public goods and externalities. Applications to agriculture and natural resources.

Rules & Requirements

Prerequisites: C1 or Economics 1 or C3 and Mathematics 16A or consent of instructor

Credit Restrictions: Students will receive 2 units of credit for Environmental Economics 100 after completing Economics 100A, Economics 101A, or Undergraduate Business Administration 110.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Ligon and Rausser

ENVECON C101 Environmental Economics 4 Units

Theories of externalities and public goods applied to pollution and environmental policy. Trade-off between production and environmental amenities. Assessing nonmarket value of environmental amenities. Remediation and clean-up policies. Environment and development. Biodiversity management.

Rules & Requirements

Prerequisites: 100, Mathematics 16A-16B, or Economics 100A or 101A

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Zilberman

Also listed as: ECON C125

ENVECON C102 Natural Resource Economics 4 Units

Introduction to the economics of natural resources. Land and the concept of economic rent. Models of optimal depletion of nonrenewable resources and optimal use of renewable resources. Application to energy, forests, fisheries, water, and climate change. Resources, growth, and sustainability.

Rules & Requirements

Prerequisites: 100, or Economics 100A or 100B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Sunding

ENVECON C115 Modeling and Management of Biological Resources 4 Units

Models of population growth, chaos, life tables, and Leslie matrix theory. Harvesting and exploitation theory. Methods for analyzing population interactions, predation, competition. Fisheries, forest stands, and insect pest management. Genetic aspects of population management. Mathematical theory based on simple difference and ordinary differential equations. Use of simulation packages on microcomputers (previous experience with computers not required).

Rules & Requirements

Prerequisites: A course that includes differential and integral calculus

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 2 hours of laboratory per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Getz

Also listed as: ESPM C104

ENVECON C118 Introductory Applied Econometrics 4 Units

Formulation of a research hypothesis and definition of an empirical strategy. Regression analysis with cross-sectional and time-series data; econometric methods for the analysis of qualitative information; hypothesis testing. The techniques of statistical and econometric analysis are developed through applications to a set of case studies and real data in the fields of environmental, resource, and international development economics. Students learn the use of a statistical software for economic data analysis.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Sadoulet

Also listed as: IAS C118

ENVECON 131 Globalization and the Natural Environment 3 Units

An examination of the environmental effects of globalization. How has increased international trade, the integration of factor markets, and the adoption of international agreements affected the environment? Case studies include the environmental impact of GATT/WTO and NAFTA. Multi-disciplinary approach examines the actual laws and institutions and the economic theories of globalization, in addition to the empirical evidence of globalization's environmental effects.

Rules & Requirements

Prerequisites: Intermediate micro-economic theory or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Karp

ENVECON 140AC Economics of Race, Agriculture, and the Environment 3 Units

This course examines whether and how economic processes explain shifting formations of race and differential experiences among racial groups in U.S. agricultural and environmental systems. It approaches economic processes as organizing dynamics of racial differentiation and integration, and uses comparative experience among different racial and ethnic groups as sources of evidence against which economic theories of differentiation and integration can be tested.

Rules & Requirements

Prerequisites: 1, or one lower division course in a social science, or consent of instructor

Requirements this course satisfies: Satisfies the American Cultures requirement

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Romm

ENVECON 142 Industrial Organization with Applications to Agriculture and Natural Resources 4 Units

Organization and performance of agricultural and resource markets. Conduct of firms within those markets, such as price competition, product differentiation, predatory pricing, vertical integration, dealer networks and advertising. The role of public policy in the markets. Case studies include oil cartel OPEC, agricultural cooperatives, vertical integration of food processors and franchising of fast-food chains. Discussion sections cover empirical applications of theory presented during lectures for current environmental and agricultural policies.

Rules & Requirements

Prerequisites: Environmental Economics and Policy 100 or Economics 100A or 101A

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Villas-Boas

ENVECON 143 Economics of Innovation and Intellectual Property 3 Units

This course addresses the economics of research and incentives for innovation including intellectual property rights. Topics include the standard modern economics of invention; modern intellectual property rights; innovation examples from agriculture, energy, pharmaceuticals, software, and electronics; the roles of the public and private sectors; innovation and market structure; the needs of the poor; and global intellectual property negotiations.

Rules & Requirements

Prerequisites: 100 or Economics 100A or 101A

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Wright

ENVECON 145 Health and Environmental Economic Policy 3 Units
This course introduces students to key issues and findings in the field of health and environmental economics. The first half of the course focuses on the theoretical and statistical frameworks used to analyze instances of market failure in the provision of health and environmental goods. The second half focuses on policy-relevant empirical findings in the field.

Rules & Requirements

Prerequisites: Intermediate microeconomics, 100, Economics 100 or 101A, and some statistics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Anderson

ENVECON 147 Regulation of Energy and the Environment 4 Units

This is an applied economics course on government regulation of energy with an emphasis on policies that seek to mitigate the impact of energy production and consumption on the environment. The course is designed to help students make connections between economic concepts and real world regulatory policy questions and issues.

Rules & Requirements

Prerequisites: Intermediate microeconomic theory and calculus

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Fowlie

ENVECON C151 Economic Development 4 Units

Problems of underdevelopment and poverty, policy issues, and development strategy.

Rules & Requirements

Prerequisites: 100, Economics 100A or 101A

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer:

6 weeks - 8 hours of lecture and 2 hours of discussion per week

8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: de Janvry

Also listed as: ECON C171

ENVECON 152 Advanced Topics in Development and International Trade 3 Units

This course discusses recent efforts to understand behavior and institutions in village economies, with particular attention paid to the importance of risk. Economic analysis of savings, consumption, insurance, production, trade, welfare distribution and institutions of villages in developing countries. Roughly equal parts of theory, evidence, and policy.

Rules & Requirements

Prerequisites: 100 or Economics 100A

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Magruder

ENVECON 153 Population, Environment, and Development 3 Units

This course takes an interdisciplinary approach to the complex interactions between population, environmental change, and economic development, including the leading theories for understanding these interactions. The origins and history of current debates are discussed as well as some of the major issues stemming from these debates, such as immigration, international trade, family planning policies and concerns over the global commons. Specific natural resources and services like fresh water, food supply, and forest cover are analyzed as case studies. Policy options for sustainable development are discussed.

Rules & Requirements

Prerequisites: Intermediate microeconomic theory or consent of instructor

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

ENVECON 154 Economics of Poverty and Technology 3 Units

Introduction to the economic framework underlying the use of technology to address rural poverty in developing countries. Analyzes the path of technology development from innovation and design to the adoption and use of technology in rural economies. Focuses on technologies related to agricultural production, processing, market access, value chains, and climate change.

Rules & Requirements

Prerequisites: Intermediate microeconomics

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Boettiger

ENVECON 161 Advanced Topics in Environmental and Resource Economics 4 Units

The roots of environmental and resource economics. Theories of land and resource rent. Models of optimal use of renewable and nonrenewable resources with applications to energy and timber. Balancing environmental and extractive values. Resources, growth, and sustainability. Special topic: the problem of global climate change.

Rules & Requirements

Prerequisites: 100 or Economics 100A or Economics 101A; 101 recommended

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

ENVECON 162 Economics of Water Resources 3 Units

Urban demand for water; water supply and economic growth; water utility economics; irrigation demand; large water projects; economic impacts of surface water law and institutions; economics of salinity and drainage; economics of groundwater management.

Rules & Requirements

Prerequisites: 100 or Economics 100A or 101A; 101 recommended

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

ENVECON C175 The Economics of Climate Change 4 Units

The course will start with a brief introduction and evaluation of the scientific aspects behind climate change. Economic models will be developed to analyze the impacts of climate change and provide and critique existing and proposed policy tools. Specific topics studied are impacts on water resources and agriculture, economic evaluation of impacts, optimal control of greenhouse gases, benefit cost analysis, international treaty formation, discounting, uncertainty, irreversibility, and extreme events.

Rules & Requirements

Prerequisites: 106, 107, Economics 1, or equivalent

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Summer: 6 weeks - 7.5 hours of lecture and 2.5 hours of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructors: Aufhammer, Fisher

Also listed as: IAS C175

ENVECON C180 Ecological Economics in Historical Context 3 Units
Economists through history have explored economic and environmental interactions, physical limits to growth, what constitutes the good life, and how economic justice can be assured. Yet economists continue to use measures and models that simplify these issues and promote bad outcomes. Ecological economics responds to this tension between the desire for simplicity and the multiple perspectives needed to understand complexity in order to move toward sustainable, fulfilling, just economies.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 1 hour of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Norgaard

Also listed as: ENE,RES C180

ENVECON C181 International Trade 4 Units
The theory of international trade and its applications to tariff protection. This course is equivalent to UGBA 118; students will not receive credit for both courses.

Rules & Requirements

Prerequisites: 100A-100B or 101A-101B

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 0-1 hours of discussion per week

Summer: 8 weeks - 6 hours of lecture and 2 hours of discussion per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

ENVECON C183 Forest Ecosystem Management 4 Units
Introduces students to concepts and quantitative tools needed for the sustainable management of multi-use forest ecosystems. Topics covered include: estimation of ecological, economic, and social values; construction of dynamic forest models, methods for optimal decision-making, and development of forest management plans. Application to current issues in temperate and tropical forest management are discussed. Quantitative, analytical, and communication skills are emphasized. Oral presentation required.

Hours & Format

Fall and/or spring: 15 weeks - 3 hours of lecture and 3 hours of laboratory per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam required.

Instructor: Potts

Also listed as: ESPM C183

ENVECON 195 Senior Thesis 4 Units
Writing of a thesis under the direction of member(s) of the faculty. Subject must be approved by faculty sponsor.

Rules & Requirements

Prerequisites: Senior standing in Environmental Economics and Policy and consent of instructor

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer:

6 weeks - 0 hours of independent study per week

8 weeks - 0 hours of independent study per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

ENVECON 196 Senior Research Seminar 4 Units

This course is intended as a capstone experience for undergraduates in the major coordinated by one faculty member with participation by others. Following presentations by faculty on researchable topics in their areas of expertise, students will develop ideas for a research paper and discuss in subsequent seminar sessions. Approximately the last five weeks of the semester will be devoted to student presentations of papers either already completed or in progress, and discussion by seminar participants and faculty.

Rules & Requirements

Prerequisites: Student must be a senior with at least a 3.6 GPA in the Environmental Economics and Policy major

Hours & Format

Fall and/or spring: 15 weeks - 2 hours of seminar per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

Instructor: Fisher

ENVECON H196 Honors Research 4 Units

Supervised independent honors research specific to aspects of environmental economics and policy, followed by a oral presentation and a written report.

Rules & Requirements

Prerequisites: Upper division standing. Eligibility restrictions related to GPA and unit accumulation. Open only to Environmental Economics and Policy majors in the College of Natural Resources

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 4 hours of independent study per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Letter grade. Final exam not required.

ENVECON 197 Field Study in Environmental Economics and Policy 1 - 3 Units

Supervised experience in off-campus organizations relevant to specific aspects of environmental economics and policy. Regular individual meetings with faculty sponsor and written reports required.

Rules & Requirements

Prerequisites: Consent of instructor

Credit Restrictions: Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer: 8 weeks - 1-3 hours of independent study per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

ENVECON 198 Directed Group Studies for Advanced Undergraduates 1 - 3 Units

Group study of selected topic or topics in Environmental Economics and Policy.

Rules & Requirements

Prerequisites: Consent of instructor

Credit Restrictions: Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 1-3 hours of directed group study per week

Summer: 8 weeks - 1.5-5.5 hours of directed group study per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/ Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.

ENVECON 199 Supervised Independent Study and Research 1 - 4 Units
Enrollment restrictions apply. Open to qualified upper division students wishing to pursue special study and directed research under the direction of a member of the staff.

Rules & Requirements

Prerequisites: Upper division standing and consent of instructor

Credit Restrictions: Enrollment is restricted; see the Introduction to Courses and Curricula section of this catalog.

Repeat rules: Course may be repeated for credit. Course may be repeated for credit when topic changes.

Hours & Format

Fall and/or spring: 15 weeks - 0 hours of independent study per week

Summer: 8 weeks - 1-4 hours of independent study per week

Additional Details

Subject/Course Level: Environmental Economics and Policy/
Undergraduate

Grading/Final exam status: Offered for pass/not pass grade only. Final exam not required.