

Agricultural and Resource Economics

College of Natural Resources (<http://nature.berkeley.edu/site>) **(BS, Graduate Programs)**

College of Letters and Science (<http://ls.berkeley.edu>) **(BA)**

Department Office: 207 Giannini Hall, (510) 642-3345

Chair: David L. Sunding, PhD

Department Website: Agricultural and Resource Economics (<http://are.berkeley.edu>)

Undergraduate Program

Students can complete a major in environmental economics and policy in either the College of Letters and Science for a Bachelor of Arts (BA) degree or the College of Natural Resources for a Bachelor of Science (BS) degree. Major and breadth requirements are identical for all students, regardless of college. Please refer to the website of the appropriate college for details. All students must complete the L&S seven-course breadth requirements and essential skills before graduation. Junior transfer students may satisfy these requirements by completing IGETC.

Major in Environmental Economics and Policy

The undergraduate major in Environmental Economics and Policy (ENVECON) offers an opportunity to explore those aspects of economic and political institutions that affect the development and management of natural resources and the environment. The focus of concern includes both renewable resources such as food, forests and water, and resources in fixed supply such as land and minerals. The distinctive feature of the major is that it adopts a problem-solving approach to these issues. The core requirement for the major is micro-economic theory, and the economics of resources and the environment. These core courses are supplemented by other courses that apply the methods of social science to resource problems.

The major is structured to ensure that students obtain a sufficient background in the natural and physical sciences and sufficient training in basic mathematics, statistics, and communication skills in order to approach resource-related issues in an effective and practical manner. It can also be excellent preparation for business school. Students who graduate from the major are prepared to undertake a career in public or private agencies and firms engaged in the planning or management of natural resources, or to enter a graduate school for further study in programs such as economics, law, public policy, business, or resources administration.

Lower division major requirements include a course in microeconomics and courses in calculus (equivalent to Mathematics 16A-16B or 1A-1B) and statistics.

Upper division work includes courses in methods, core courses in environmental economics and policy, and courses in an area of concentration chosen by the student. For specific major requirements,

contact the Student Services Office, 203 Giannini Hall, (510) 642-3347 or go to the website. (<http://are.berkeley.edu>)

Minor Program

Students may declare a minor in Environmental Economics and Policy. A minimum of six courses from the ENVECON curriculum is required. Students must declare in advance their intention to minor with the undergraduate adviser. Students who believe they have already completed the requirements for a minor should apply for departmental certification. For more information, contact Gail Vawter, Student Affairs Officer, 203 Giannini Hall (510) 642-3347.

Graduate Programs

The Department of Agricultural and Resource Economics offers programs leading to the MS and PhD degrees. Because of quota limitations, students are rarely admitted for the master's degree, although it may be awarded to students who are pursuing work toward the PhD in our program (or in another field at Berkeley) after fulfillment of the appropriate MS requirements. Applicants should hold a degree (not necessarily in agricultural economics) comparable to a bachelor's degree at the University of California and must have demonstrated strong scholarship potential.

The agricultural and resource economics program is relatively flexible; however, the program stresses economic theory, quantitative methods, and two elective fields defined in consultation with the graduate adviser. Some common elective fields include agriculture in economic development, agricultural policy, natural resource economics, international markets and trade.

The first year of coursework in the PhD program is normally devoted to economic theory and quantitative methods, after which the student writes departmental preliminary examinations in each of these areas. The level of sophistication expected in these preliminary examinations is defined with reference to a specific set of courses, and most students are advised to take these courses.

Outstanding facilities are available within the department, including the Giannini Foundation Agricultural Economics Library, one of the world's foremost research libraries of its type.

A,RESEC 201 Production, Industrial Organization, and Regulation in Agriculture 4 Units

Department: Agricultural and Resource Economics

Course level: Graduate

Term course may be offered: Fall

Grading: Letter grade.

Hours and format: 3 hours of Lecture and 1 hour of Discussion per week for 15 weeks.

Prerequisites: Economics 201A or equivalent or consent of instructor.

Basic concepts of micro and welfare economics: partial and general equilibrium. Industrial organization: monopolistic competition, vertical integration, price discrimination, and economics of information with applications to food retailing, cooperatives, fishing, and energy.

A,RESEC 202 Issues and Concepts in Agricultural Economics 4 Units

Department: Agricultural and Resource Economics

Course level: Graduate

Term course may be offered: Spring

Grading: Letter grade.

Hours and format: 3 hours of Lecture and 1 hour of Discussion per week for 15 weeks.

Prerequisites: Economics 201A-201B or consent of instructor.

History, institutions, and policies affecting agriculture markets and environmental quality. Producer behavior over time and under uncertainty. Asset fixity and agricultural supply models.

A,RESEC 210 Probability and Statistics 3 Units

Department: Agricultural and Resource Economics

Course level: Graduate

Term course may be offered: Fall

Grading: Letter grade.

Hours and format: 3 hours of Lecture per week for 15 weeks.

Prerequisites: Graduate standing or consent of instructor.

This is an introduction to probability theory and statistical inference. It is primarily intended to prepare students for the graduate econometrics courses 212 and 213. The emphasis of the course is on the principles of statistical reasoning. Probability theory will be discussed mainly as a background for statistical theory and specific models will, for the most part, be considered only to illustrate the general statistical theory as it is developed.

A,RESEC 211 Mathematical Methods for Agricultural and Resource Economists 4 Units

Department: Agricultural and Resource Economics

Course level: Graduate

Term course may be offered: Fall

Grading: Letter grade.

Hours and format: 4 hours of Lecture and 1 hour of Discussion per week for 15 weeks.

Prerequisites: Consent of instructor.

The goal of this course is to provide entering graduate students with the basic skills required to perform effectively in the graduate program and as professional economists. The lectures place heavy emphasis on intuition, graphical representations, and conceptual understanding. Weekly problem sets provide the opportunity to master mechanical skills and computational techniques. Topics covered include real analysis, linear algebra, multivariable calculus, theory of static constrained optimization, and comparative statics.

A,RESEC 212 Econometrics: Multiple Equation Estimation 4 Units

Department: Agricultural and Resource Economics

Course level: Graduate

Term course may be offered: Spring

Grading: Letter grade.

Hours and format: 4 hours of Lecture and 1 hour of Discussion per week for 15 weeks.