

APPLIED ECONOMICS

The Department of Applied Economics offers the Bachelor of Science degree in Agricultural and Food Business Management and the Bachelor of Science degree in Environmental Economics and Policy. These degrees open doors to exciting careers in agricultural business management, agricultural policy, natural resource and environmental management, marine resources, international trade and development, and environmental law.

The Agricultural and Food Business Management (AFBM) major prepares students for unique challenges and opportunities in agricultural business careers. It combines economic and business principles and their application to farms and ranches, companies processing and marketing farm products, and companies supplying goods and services to farmers and other businesses. The curriculum combines skills in marketing, business management, accounting, and economic analysis.

The Environmental Economics and Policy (EEP) major trains the next generation of environmental leaders. EEP majors learn to identify the role that humans play in determining environmental quality, and in developing solutions. They combine data with rigorous theory, so you leave with skills in analytical thinking, quantitative methods, and communication.

Career Opportunities for Undergraduates

Graduates may pursue a number of attractive career opportunities. Agricultural and Food Business Management (AFBM) majors may move directly into professional jobs with agribusiness firms, financial and insurance institutions, or manage their own agribusinesses. Opportunities also exist for AFBM majors to pursue graduate studies in food and agricultural management, agricultural cooperatives, and sustainable development. Environmental Economics and Policy (EEP) students can serve effectively as members of interdisciplinary teams involved in resource and environmental management, planning, and policy analysis. Government job opportunities include management, planning, and analysis positions with federal, state, and local government agencies. Private company opportunities include similar positions with utility companies, banks, consulting firms, and resource management companies. The EEP degree also provides an excellent foundation for graduate work in economics, as well as law, public policy, and urban planning.

Applied Economics Graduate Program

The Applied Economics Graduate Program offers the MA, MS, and PhD degrees in Applied Economics. Graduates pursue academic, analytical, and policy careers in universities, consulting, trade associations, firms, and government. Core course work consists of microeconomic theory, econometrics, and other quantitative methods. Field (concentration) courses include environmental and resource economics and development economics. Elective courses are available across a variety of concentrations including geographic information systems, computer science, statistics, marine and coastal resources, mathematical modeling, and forestry. Program emphasis is on applications to real-world settings, institutions, and problems. Faculty are in the Applied Economics Department; the Colleges of Forestry, Agricultural Sciences, and Liberal Arts; the College of Earth, Ocean, and Atmospheric Sciences; and the School of Public Health and Human Sciences.

Undergraduate Programs

Majors

- Agricultural and Food Business Management (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/agricultural-food-business-management-bs-hbs/>)
- Environmental Economics and Policy (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/environmental-economics-policy-bs-hbs/>)

Minors

- Agricultural and Food Business Management (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/agricultural-food-business-management-minor/>)
- Environmental Law and Policy (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/environmental-law-policy-minor/>)
- Environmental Economics and Policy (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/environmental-economics-policy-minor/>)

Graduate Programs

Majors

- Applied Economics (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/applied-economics-ma-ms-phd/>)

Minors

- Applied Economics (<http://catalog.oregonstate.edu/college-departments/agricultural-sciences/applied-economics/applied-economics-graduate-minor/>)

Jennifer Alix-Garcia, *Department Head*

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Applied Economics Graduate Program

Jeff Reimer, *Director*

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Phone: 541-737-1415
Website: <http://agsci.oregonstate.edu/applied-economics-graduate-program> (<http://agsci.oregonstate.edu/applied-economics/aecgradprogram/>)
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Faculty

Professors Alix-Garcia, Antle, Boggess, Capalbo, Diebel, Jaeger, Langpap, Lewis, Reimer, Seavert, Sylvia, Wu

Associate Professors Chen, Sterns

Assistant Professors Dundas, Kling, Melesse, Streletskaia

Assistant Professors (Sr. Researchers) Bell, Cross, Valdivia

Instructor Brekken

Senior Research Assistant Houston

Research Associate Brekken**Professional Faculty** Goetting, Radke, Richardson, Sandler**Adjunct Faculty** D. Adams, Bernell, Elston, Landkamer, Rosenberger, Talbott**Courtesy Faculty** Albers, Barnhart, Doring, McCoy, McGovern, Papenfus, Plantinga, Whittaker**Affiliate Faculty** Gwin**Emeritus Faculty** R. Adams, Buccola, Burt, Durham, Eleveld, Färe, Hanna, Johnston, Lev, Mc Mullen, Rettig, Riggs, Sorte, Weber

AEC Graduate Faculty

The Applied Economics Graduate Program currently has 20 faculty members, drawn from three departments and two schools in five colleges.

Alix-Garcia, Antle, Bell, Capalbo, Chen, Cross, Dundas, Jaeger, Kling, Kuusela, Langpap, Lewis, Melesse, Pugatch, Reimer, E. Schroeder, Seavert, Sterns, Streletskaya, Wu.

AEC 121, DISCOVERING AGRICULTURAL AND RESOURCE ECONOMICS, 1 Credit

Explore issues, opportunities, and challenges in the dynamic and diverse employment field of agricultural and resource economics.

Equivalent to: AREC 121

AEC 199, SPECIAL TOPICS, 1-4 Credits

Targeted courses that focus on specific topics in agricultural and resource economics. Topics may vary from term to term and from year to year. May be repeated for credit when topics differ.

Equivalent to: AREC 199*This course is repeatable for 8 credits.*

AEC 211, AGRICULTURAL AND FOOD MANAGEMENT, 4 Credits

Economic and business principles applied to the management of firms in agricultural and food industries, including farms, ranches and nurseries, agricultural input suppliers, packers, shippers, processors and food manufacturers and distributors; firm-level goal setting, information management and financial analysis.

Prerequisite: AEC 250 with C- or better or AEC 251 with C- or better or AREC 250 with C- or better or ECON 201 with C- or better or ECON 201H with C- or better

Equivalent to: AREC 211*Available via Ecampus*

AEC 221, AGRICULTURAL AND FOOD MARKETING, 3 Credits

Organization and functions of agricultural and food markets both domestic and international; market channels and supply chains for various agricultural commodities and food products; role of agribusiness, cooperatives, and government in marketing decisions.

Equivalent to: AREC 221*Available via Ecampus*

AEC 240, *RURAL ECONOMICS OF PLACE AND PEOPLE, 3 Credits

Provides perspective on issues influencing rural communities and economic development in rural America. People, places and natural resources of rural communities play a vital role in economic vitality of the West, yet rural landscapes are changing faster than many urban counterparts. (Bacc Core Course)

Attributes: CPWC – Core, Pers, West Culture**Equivalent to:** AREC 240

AEC 243, *GLOBAL POVERTY AND SUSTAINABLE DEVELOPMENT, 3 Credits

Students are introduced to the challenges of eradicating extreme poverty and achieving sustainable economic development in the world. Topics include: the measurement of poverty and inequality; analysis of food security and agricultural development; the role of health and education in economic development; credit markets; risk and insurance; climate change and biodiversity; gender equality; rural-urban and international migration; population growth and development; institutions and economic performance; the political economy of development. (Bacc Core Course)

Attributes: CPSI – Core, Pers, Soc Proc & Inst

AEC 250, *INTRODUCTION TO ENVIRONMENTAL ECONOMICS AND POLICY, 3 Credits

Examines how economic forces and social institutions cause environmental degradation and help build management solutions. Explains key economic concepts for valuing environmental resources and evaluating the trade-offs of alternative management approaches from private markets to regulation. Applies the concepts and theories to topical environmental issues such as water pollution and conserving biodiversity. (Bacc Core Course)

Attributes: CPSI – Core, Pers, Soc Proc & Inst**Equivalent to:** AEC 250H, AREC 250, AREC 250**Recommended:** MTH 111*Available via Ecampus*

AEC 250H, *INTRODUCTION TO ENVIRONMENTAL ECONOMICS AND POLICY, 3 Credits

Examines how economic forces and social institutions cause environmental degradation and help build management solutions. Explains key economic concepts for valuing environmental resources and evaluating the trade-offs of alternative management approaches from private markets to regulation. Applies the concepts and theories to topical environmental issues such as water pollution and conserving biodiversity. (Bacc Core Course)

Attributes: CPSI – Core, Pers, Soc Proc & Inst; HNRS – Honors Course Designator**Equivalent to:** AEC 250**Recommended:** MTH 111

AEC 251, *INTRODUCTION TO AGRICULTURAL AND FOOD ECONOMICS, 3 Credits

An introductory applied microeconomics course focused on the unique challenges of agricultural and food systems. Topics include rational choice theory, models of supply and demand, and price formation, with particular attention on markets for agricultural and food products.

Additional topics include market interdependencies, government policy, the behavior of firms, and market structure within agricultural and food systems. (Bacc Core Course)

Attributes: CPSI – Core, Pers, Soc Proc & Inst

Recommended: MTH 111

Available via Ecampus

AEC 253, *ENVIRONMENTAL LAW, POLICY, AND ECONOMICS, 4 Credits

A general introduction to federal environmental law and policy in the U.S. Familiarizes students with basic legal institutions and concepts of the American legal system, outlines the transition of environmental policy from its common law roots to its modern administrative law form, and gives an overview of the major federal environmental statutes.

Relationships among legal theory and process and economic principles are emphasized. (Bacc Core Course)

Attributes: CPWC – Core, Pers, West Culture

Equivalent to: AREC 253

Available via Ecampus

AEC 299, SPECIAL TOPICS, 1-4 Credits

Targeted courses that focus on specific topics in agricultural and resource economics. Topics may vary from term to term and from year to year. May be repeated for credit when topics differ.

Equivalent to: AREC 299

This course is repeatable for 8 credits.

AEC 310, EXPLORING EXPERIENTIAL LEARNING OPPORTUNITIES, 2 Credits

Provides background and preparation for students' experiential learning (EL) activities. Students will be shown examples of appropriate EL, how to find and compete for opportunities, and how to establish and define their learning objectives for EL. Resume writing, appropriate conduct in the workplace, as well as writing and oral presentation skills will be covered. A proposal for an EL activity will be prepared and presented to classmates. Graded P/N.

Recommended: WR 121

AEC 311, INTERMEDIATE APPLIED ECONOMICS I: PRODUCERS AND CONSUMERS, 4 Credits

An examination of the theories of consumer behavior and demand, production cost, the firm, supply, and competitive and monopoly market structures.

Prerequisite: ((AEC 250 with C- or better or AREC 250 with C- or better) or AEC 251 with C- or better or (ECON 201 with C- or better or ECON 201H with C- or better)) and (MTH 241 [C-] or (MTH 251 [C-] or MTH 251H [C-]))

Equivalent to: AREC 311

Available via Ecampus

AEC 313, INTERMEDIATE APPLIED ECONOMICS II: MARKETS, WELFARE & POLICY, 4 Credits

Complementing the private-decision focus in AEC 311, the present course focuses on the intermediate microeconomic theory of social welfare and public decision-making. Topics include exchange, monopoly, game theory, social welfare, externalities, public goods and choice, asymmetric information, uncertainty, and cost-benefit analysis. Substantial attention will be given to the implications of these theories for real-world problems, especially regarding resource and environmental issues.

Prerequisite: MTH 241 with C- or better or (AEC 311 with C- or better or AREC 311 with D- or better or ECON 311 with C- or better)

Equivalent to: AREC 313

Available via Ecampus

AEC 351, *NATURAL RESOURCE ECONOMICS AND POLICY, 3 Credits

Application of principles of economics to identify the causes, consequences, and ways of dealing with natural resource problems, including problems associated with fisheries, forests, water resources, and land. Conceptual topics and policy applications. Emphasis is on developing students' skill in applying an economic way of thinking about natural resource management. (Bacc Core Course)

Attributes: CSGI – Core, Synth, Global Issues

Prerequisite: (AEC 250 with D- or better or AREC 250 with D- or better or ECON 201 with D- or better or ECON 201H with D- or better)

Equivalent to: AREC 351

Recommended: MTH 111

Available via Ecampus

AEC 352, *ENVIRONMENTAL ECONOMICS AND POLICY, 3 Credits

Provides an overview of the interrelationships between economic activity, the environment, and public policy. Through case studies, discussion groups, readings, and group activities, students learn how economists define and analyze environmental problems and the types of policies they advocate for managing environmental quality. CROSSLISTED as AEC 352/ ECON 352. (Bacc Core Course)

Attributes: CSGI – Core, Synth, Global Issues

Prerequisite: AEC 250 with D- or better or AREC 250 with D- or better or ECON 201 with D- or better or ECON 201H with D- or better

Equivalent to: AREC 352

Available via Ecampus

AEC 353, *INTRODUCTION TO COASTAL AND MARINE RESOURCE ECONOMICS, 3 Credits

Introduces tools of economic analysis for understanding coastal and marine resource management. Surveys a selection of current topics in the field, emphasizing innovation in production and stewardship, institutions, and sustainability. (Bacc Core Course)

Attributes: CSST – Core, Synthesis, Science/Technology/Society

Prerequisite: MTH 111 with C- or better and (AEC 250 [C-] or AREC 250 [C-] or ECON 201 [C-] or ECON 201H [C-])

AEC 372, AGRICULTURAL COOPERATIVES, 3 Credits

An introduction to and in-depth examination of the agricultural cooperative. Students will gain a working knowledge of the concepts, principles, and terminology of agricultural cooperatives through reference materials, lectures, presentations by guest speakers and a cooperatives tour. Students will consider the strengths and weaknesses of the agricultural cooperative as well as the unique management and operational challenges inherent to this form of business operation.

Prerequisite: AEC 211 with D- or better or AREC 211 with D- or better

Equivalent to: AREC 372

AEC 388, AGRICULTURAL LAW, 4 Credits

Application of legal principles to business decision making in farming, ranching, and the agricultural support industry. Consideration of the obligations arising out of contract, tort, property, water, public land, and natural resource law.

Equivalent to: AREC 388

Available via Ecampus

AEC 399, SPECIAL TOPICS, 1-4 Credits

Targeted courses that focus on specific topics in agricultural and resource economics. Topics may vary from term to term and from year to year. May be repeated for credit when topics differ.

Equivalent to: AEC 399H, AREC 399H

This course is repeatable for 8 credits.

AEC 399H, SPECIAL TOPICS, 1-4 Credits

Targeted courses that focus on specific topics in agricultural and resource economics. Topics may vary from term to term and from year to year. May be repeated for credit when topics differ.

Attributes: HNRS – Honors Course Designator

Equivalent to: AEC 399, AREC 399

This course is repeatable for 8 credits.

AEC 401, RESEARCH AND SCHOLARSHIP, 1-16 Credits

Equivalent to: AREC 401

This course is repeatable for 16 credits.

AEC 402, INDEPENDENT STUDY, 1-16 Credits

Equivalent to: AREC 402

This course is repeatable for 16 credits.

AEC 403, THESIS, 1-16 Credits

Equivalent to: AREC 403

This course is repeatable for 16 credits.

AEC 405, READING AND CONFERENCE, 1-16 Credits

Equivalent to: AREC 405

This course is repeatable for 16 credits.

AEC 406, PROJECTS, 1-16 Credits

Equivalent to: AREC 406

This course is repeatable for 16 credits.

Available via Ecampus

AEC 407, SEMINAR, 1-16 Credits

Equivalent to: AEC 407H, AREC 407, AREC 407H

This course is repeatable for 16 credits.

AEC 407H, SEMINAR, 1-16 Credits

Attributes: HNRS – Honors Course Designator

Equivalent to: AEC 407, AREC 407, AREC 407H

This course is repeatable for 16 credits.

AEC 408, WORKSHOP, 1-16 Credits

Equivalent to: AREC 408

This course is repeatable for 16 credits.

AEC 410, INTERNSHIP, 1-6 Credits

Practical on-the-job training in agricultural business, marketing, commercial agricultural production, or related private or public organizations. Graded P/N.

Equivalent to: AREC 410

This course is repeatable for 6 credits.

AEC 421, ECONOMICS OF RURAL POVERTY AND THE U.S. SOCIAL SAFETY NET, 4 Credits

Introduces students to the geography of poverty in the United States and the “social safety net” that the U.S. has constructed to reduce poverty and its negative effects. The course focuses on the geography of the social safety net, the operation and administration of the safety net, and how recent changes in the social safety net may have disadvantaged rural people and places.

Equivalent to: AREC 421, RS 421

Available via Ecampus

AEC 432, ENVIRONMENTAL LAW, 4 Credits

Legal relationships arising out of rights to air, water, and land. The impact of federal and state regulation on pollution control and on the production, use, and disposal of hazardous materials.

Equivalent to: AREC 432

Available via Ecampus

AEC 434, ^BENEFIT-COST ANALYSIS, 4 Credits

Develops the fundamental tools for Benefit-Cost Analysis, a technique for evaluating a project or investment by comparing the economic benefits with the economic costs of the activity. Examines the tricky topic of how to measure the benefits of non-market such as good health and higher environmental quality. The methods introduced here apply to a wide variety of situations. Explores the broad issues of how to think about uncertainty and risk, how to discount future costs and benefits, to value lives saved, and other challenging topics. (Writing Intensive Course)

Attributes: CWIC – Core, Skills, WIC

Prerequisite: AEC 311 with C- or better or ECON 411 with C- or better

Equivalent to: AREC 434

Recommended: STAT 352 or familiarity with regression analysis

Available via Ecampus

AEC 440, THE ECONOMICS OF BUSINESS ORGANIZATION IN THE FOOD SYSTEM, 4 Credits

Application of economic analysis to questions related to the choice of an appropriate form of business organization for a wide variety of food system enterprises. Topics include costs of contracting, costs of ownership, enterprise scope and scale, and the dynamics of business ownership and structure. Particular emphasis is given to entrepreneurial enterprises and cooperative businesses in the food system.

Prerequisite: AEC 311 with D- or better or ECON 311 with D- or better

AEC 442, AGRICULTURAL BUSINESS MANAGEMENT, 4 Credits

Application of economic, financial, and strategic management principles to agricultural business with a focus on a case-study framework for analysis and business decision making for alternative business management strategies.

Equivalent to: AREC 442

AEC 444, COMMODITY FUTURES AND OPTIONS MARKETS, 4 Credits

Provides an overview of the basic concepts needed to use commodity futures and options markets to successfully manage price risk. To address the increasingly global economy in which commodity transactions occur, the course also includes financial futures such as interest rates and currencies. Specific topics covered include contract standardization, speculation and hedging, opening and closing of positions, and basis, i.e. the relationship between cash and futures markets, input-output hedges, and spreads. Students also gain hands-on experience through a trading simulation.

Equivalent to: AREC 444

Available via Ecampus

AEC 446, INTRODUCTION TO APPLIED ECONOMETRICS, 4 Credits

Introduces students to applied econometrics: the use of statistical techniques to estimate and test economic relationships. Topics include multiple regression models, multicollinearity, and simultaneous equations. The applications and labs will focus on econometric analysis of real world problems pertaining to issues in environmental, food, and resource economics and policy. Lec/lab.

Prerequisite: AEC 311 with D- or better and ST 351 [D-]

AEC 447, AGRICULTURAL PRICE AND MARKET ANALYSIS, 4 Credits

Price determination for food and agricultural commodities; development of quantitative economic models that explain and predict prices and other market outcomes. Lec/lab.

Equivalent to: AREC 447

Recommended: AEC 311 and ST 351

AEC 448, ADVANCED TOPICS IN ENVIRONMENTAL AND RESOURCE ECONOMICS, 3 Credits

Reviews core concepts of economic efficiency and market failures and then focuses on the economics of environmental regulation. Develops an appreciation for the structure of key concepts that underlie the economic approach to environmental issues and applications to policy and regulations. Builds skills in assessing regulatory policies from the perspective of economics.

Prerequisite: AEC 311 with D- or better and AEC 352 [D-]

AEC 452, MARINE ECONOMICS, 3 Credits

Economic aspects of marine resource utilization and management will be analyzed. Topics include open access aspect of marine resources; conflict and allocation of marine resources, marine resource markets, marine recreation, pollution, and aquaculture, with special emphasis on commercial fisheries.

Prerequisite: AEC 351 with D- or better or AEC 352 with D- or better or AREC 351 with D- or better or AREC 352 with D- or better

Equivalent to: AREC 452

AEC 453, CONSERVATION ON PRIVATE LAND, 3 Credits

Explore and experience the increasingly popular phenomenon of conservation on private land. This exploration includes the explosive growth of land trusts and the use of conservation easements to restrict the use of private land and often promote ecological goals.

AEC 454, RURAL DEVELOPMENT ECONOMICS AND POLICY, 3 Credits

Learn economic and regional development conceptual frameworks. Explore U.S. rural development and government interventions. Discuss differing popular local strategies for development that emphasize building current assets like local entrepreneurship to attracting resources and incomes from outside the region like amenity migration and tourism.

Equivalent to: AREC 454

AEC 455, PROGRAM EVALUATION, 3 Credits

Explores the leading methods for evaluating the effectiveness of public programs and policies, specifically focusing on causal inference and empirical applications.

Prerequisite: (AEC 311 with C- or better or ST 351 with C- or better) and AEC 313 [C-]

Available via Ecampus

AEC 460, CAPITAL INVESTMENT ANALYSIS USING AGBIZ LOGIC, 3 Credits

Learn and understand the important factors in measuring the impacts of implementing technologies and/or conservation practices, adding value to products, or changing cropping systems or livestock enterprises. The AgBiz Logic™ software programs will be used to apply financial and economic principles to better understand and reduce the financial, production, marketing, and human resource risks facing agribusinesses.

Equivalent to: AREC 460

AEC 461, ^AGRICULTURAL AND FOOD POLICY ISSUES, 4 Credits

Principles of agricultural and food policy formulation; agricultural price and income policies in relation to land use, water, and food policies; interrelationships among U.S. and foreign agriculture and trade policies. (Writing Intensive Course)

Attributes: CWIC – Core, Skills, WIC

Prerequisite: AEC 311 with D- or better or ECON 311 with D- or better

Equivalent to: AREC 461

AEC 465, AGRICULTURAL AND FOOD FINANCIAL MANAGEMENT, 4 Credits

Students will develop risk management strategies utilizing the AgBiz Logic program to reduce the financial, production, marketing, and human resource risks facing agribusinesses. This course is designed to help students apply financial and economic principles to business decisions under diverse and changing circumstances. The course reviews basic financial reporting statements, details accounting and financing practices specific to agricultural and food enterprises.

Prerequisite: (AEC 211 with D- or better or AREC 211 with D- or better) and AEC 311 [D-]

Equivalent to: AREC 465

AEC 466, AGRICULTURAL AND FOOD MARKETING MANAGEMENT, 4 Credits

Principles, trends, issues, barriers, policies, strategies and decisions involved in domestic and international marketing of perishable and storable agricultural commodities and food products from the point of production to the point of consumption. Topics include firm-level marketing concepts, the integration of marketing with firms' overall strategic management goals, as well as comparative studies across multiple outlets for agricultural and food products, to include local, regional, and global markets.

Prerequisite: AEC 221 with D- or better and (AEC 250 [D-] or AEC 251 [D-] or ECON 201 [D-])

AEC 475, WRITING BUSINESS PLANS: AGRICULTURE/FOOD-RELATED ENTERPRISES, 2 Credits

Students choose an enterprise and write a comprehensive business plan that describes the business vision, marketing plan, financial projections, risk management, and implementation strategy. At the end of term selected students present their plan to a commercial lender.

Equivalent to: AREC 475

Recommended: AEC 211 and AEC 221

AEC 499, SPECIAL TOPICS, 1-16 Credits

Various topics in agricultural and resource economics of special and current interest not covered in other courses.

Equivalent to: AREC 499

This course is repeatable for 16 credits.

AEC 501, RESEARCH AND SCHOLARSHIP, 1-16 Credits

Equivalent to: AREC 501

This course is repeatable for 16 credits.

AEC 502, INDEPENDENT STUDY, 1-16 Credits

This course is repeatable for 16 credits.

AEC 503, THESIS, 1-16 Credits

Equivalent to: AREC 503

This course is repeatable for 999 credits.

AEC 505, READING AND CONFERENCE, 1-16 Credits

Equivalent to: AREC 505

This course is repeatable for 16 credits.

AEC 506, SPECIAL PROJECTS, 1-16 Credits

This course is repeatable for 16 credits.

AEC 507, SEMINAR, 1-16 Credits

Equivalent to: AREC 507

This course is repeatable for 16 credits.

AEC 508, WORKSHOP, 1-16 Credits

Equivalent to: AREC 508

This course is repeatable for 16 credits.

AEC 512, MICROECONOMIC THEORY I, 4 Credits

Fundamental topics in microeconomic theory. Topics include utility maximization and consumer demand, profit maximization and the theory of the firm, and labor and capital markets.

Recommended: AREC 312 and MTH 252

AEC 513, MICROECONOMIC THEORY II, 4 Credits

Emphasizes principles for microeconomic theory at the master's level. Builds upon the foundations covered in AEC 512, and extends the theory and principles to cover uncertainty, game theory, competitive market equilibrium and welfare analysis, imperfect competition, and market failures. Primary emphasis is on understanding microeconomic theory and the underlying assumptions, and how it is applied to real world settings.

Prerequisite: AEC 512 with C or better

AEC 521, ECONOMICS OF RURAL POVERTY AND THE U.S. SOCIAL SAFETY NET, 4 Credits

Introduces students to the geography of poverty in the United States and the "social safety net" that the U.S. has constructed to reduce poverty and its negative effects. The course focuses on the geography of the social safety net, the operation and administration of the safety net, and how recent changes in the social safety net may have disadvantaged rural people and places.

Equivalent to: AREC 521, RS 521

Available via Ecampus

AEC 525, APPLIED ECONOMETRICS, 4 Credits

General principles of applied econometric research are emphasized, including model building, data analysis, hypothesis testing, and evaluation and interpretation of results. A variety of estimators are applied to real data, including least squares, panel data, simultaneous equations, discrete choice, and limited dependent variable models.

AEC 532, ENVIRONMENTAL LAW, 4 Credits

Legal relationships arising out of rights to air, water, and rights to air, water, and land. The impact of federal and state regulation on pollution control and on the production, use, and disposal of hazardous materials.

Equivalent to: AREC 532

Available via Ecampus

AEC 534, ENVIRONMENTAL AND RESOURCE ECONOMICS, 3 Credits

Environmental problems and misuse of natural resources are caused by humans' behavior, and thus must be solved by changing behavior. Explores the ways economics is central to understanding the incentive behind the causes, consequences, and potential for effective solutions to environmental and resource problems involving air, water, fish, forests, climate change, and biodiversity. Builds on microeconomics principles to include theories of market failures, externalities, common-pool resources, and institutions, as well as growth and sustainability. Equips students with tools for non-market valuation and for critical evaluation of environmental policies' benefits and costs.

Equivalent to: AREC 534

Recommended: AEC 311 or AREC 311

Available via Ecampus

AEC 540, THE ECONOMICS OF BUSINESS ORGANIZATION IN THE FOOD SYSTEM, 4 Credits

Application of economic analysis to questions related to the choice of an appropriate form of business organization for a wide variety of food system enterprises. Topics include costs of contracting, costs of ownership, enterprise scope and scale, and the dynamics of business ownership and structure. Particular emphasis is given to entrepreneurial enterprises and cooperative businesses in the food system.

Recommended: AEC 311 or ECON 311

AEC 543, INTERNATIONAL TRADE, 4 Credits

Introduction to the major theories of international trade and to models that are useful for applied policy and regional analysis. Effects of trade and trade policy on consumers, workers, and firms are emphasized.

Prerequisite: AEC 513 with C or better

Equivalent to: AREC 543

AEC 544, COMMODITY FUTURES AND OPTIONS MARKETS, 4 Credits

Provides an overview of the basic concepts needed to use commodity futures and options markets to successfully manage price risk. To address the increasingly global economy in which commodity transactions occur, the course also includes financial futures such as interest rates and currencies. Specific topics covered include contract standardization, speculation and hedging, opening and closing of positions, and basis, i.e. the relationship between cash and futures markets, input-output hedges, and spreads. Students also gain hands-on experience through a trading simulation.

Equivalent to: AREC 544

Available via Ecampus

AEC 546, INTRODUCTION TO APPLIED ECONOMETRICS, 4 Credits

Introduces students to applied econometrics: the use of statistical techniques to estimate and test economic relationships. Topics include multiple regression models, multicollinearity, and simultaneous equations. The applications and labs will focus on econometric analysis of real world problems pertaining to issues in environmental, food, and resource economics and policy. Lec/lab.

Recommended: AEC 311 and ST 351

AEC 548, ADVANCED TOPICS IN ENVIRONMENTAL AND RESOURCE ECONOMICS, 3 Credits

Reviews core concepts of economic efficiency and market failures and then focuses on the economics of environmental regulation. Develops an appreciation for the structure of key concepts that underlie the economic approach to environmental issues and applications to policy and regulations. Builds skills in assessing regulatory policies from the perspective of economics.

AEC 550, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS, 4 Credits

Presents concepts, theories, and methods used in the economic analysis of environmental and natural resource issues. The emphasis is on the economics of environmental policies and the development of decision rules regarding the efficient use of natural resources.

Prerequisite: AEC 512 with C or better

Equivalent to: AREC 550

AEC 551, APPLICATIONS OF ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS, 4 Credits

Applies and expands upon concepts, theories, and methods in environmental and natural resource economics introduced in AEC 550. Topics include non-market valuation, discounting, and benefit-cost analysis, as well as the role and importance of institutions, appropriate research methods, and the philosophical basis for normative judgments in economics.

Prerequisite: AEC 550 with C or better or AREC 550 with C or better

Equivalent to: AREC 551

AEC 552, MARINE ECONOMICS, 3 Credits

Economic aspects of marine resource utilization and management will be analyzed. Topics include open access aspect of marine resources; conflict and allocation of marine resources, marine resource markets, marine recreation, pollution, and aquaculture, with special emphasis on commercial fisheries. **CROSSLISTED** as AEC 552/MRM 552.

Equivalent to: AREC 552, MRM 552

Recommended: (AEC 351 or AEC 352 or AREC 351 or AREC 352)

AEC 553, CONSERVATION ON PRIVATE LAND, 3 Credits

Explore and experience the increasingly popular phenomenon of conservation on private land. This exploration includes the explosive growth of land trusts and the use of conservation easements to restrict the use of private land and often promote ecological goals.

AEC 554, RURAL DEVELOPMENT ECONOMICS AND POLICY, 3 Credits

Learn economic and regional development conceptual frameworks.

Explore U.S. rural development and government interventions. Discuss differing popular local strategies for development that emphasize building current assets like local entrepreneurship to attracting resources and incomes from outside the region like amenity migration and tourism.

Equivalent to: AREC 554

AEC 555, PROGRAM EVALUATION, 3 Credits

Explores the leading methods for evaluating the effectiveness of public programs and policies, specifically focusing on causal inference and empirical applications.

Available via Ecampus

AEC 560, CAPITAL INVESTMENT ANALYSIS USING AGBIZ LOGIC, 3 Credits

Learn and understand the important factors in measuring the impacts of implementing technologies and/or conservation practices, adding value to products, or changing cropping systems or livestock enterprises. The AgBiz Logic™ software programs will be used to apply financial and economic principles to better understand and reduce the financial, production, marketing, and human resource risks facing agribusinesses.

Equivalent to: AREC 560

AEC 565, AGRICULTURAL AND FOOD FINANCIAL MANAGEMENT, 4 Credits

Students will develop risk management strategies utilizing the AgBiz Logic program to reduce the financial, production, marketing, and human resource risks facing agribusinesses. This course is designed to help students apply financial and economic principles to business decisions under diverse and changing circumstances. The course reviews basic financial reporting statements, details accounting and financing practices specific to agricultural and food enterprises.

Equivalent to: AREC 565

Recommended: (AEC 211 or AREC 211) and AEC 311

AEC 566, AGRICULTURAL AND FOOD MARKETING MANAGEMENT, 4 Credits

Principles, trends, issues, barriers, policies, strategies and decisions involved in domestic and international marketing of perishable and storable agricultural commodities and food products from the point of production to the point of consumption. Topics include firm-level marketing concepts, the integration of marketing with firms' overall strategic management goals, as well as comparative studies across multiple outlets for agricultural and food products, to include local, regional, and global markets.

Recommended: AEC 221 and (AEC 250 or AEC 251 or ECON 201)

AEC 599, SPECIAL TOPICS, 0-16 Credits

Various topics in applied economics of special and current not covered in other courses. May be repeated for credit when topics differ.

Equivalent to: AREC 599

This course is repeatable for 16 credits.

AEC 601, RESEARCH AND SCHOLARSHIP, 1-16 Credits

Equivalent to: AREC 601

This course is repeatable for 16 credits.

AEC 602, INDEPENDENT STUDY, 1-16 Credits

Equivalent to: AREC 605

This course is repeatable for 16 credits.

AEC 603, THESIS, 1-16 Credits

Equivalent to: AREC 603

This course is repeatable for 999 credits.

AEC 605, READING AND CONFERENCE, 1-16 Credits

Equivalent to: AREC 605

This course is repeatable for 16 credits.

AEC 606, SPECIAL PROJECTS, 1-16 Credits

This course is repeatable for 16 credits.

AEC 607, SEMINAR, 1-16 Credits

Equivalent to: AREC 607

This course is repeatable for 16 credits.

AEC 608, WORKSHOP, 1-16 Credits

Equivalent to: AREC 608

This course is repeatable for 16 credits.

AEC 611, ADVANCED MICROECONOMIC THEORY I, 4 Credits

A rigorous development of the theory of consumption and production, with emphasis on duality.

Prerequisite: (AEC 512 with C or better and AEC 513 [C])

Recommended: MTH 254

AEC 612, ADVANCED MICROECONOMIC THEORY II, 4 Credits

A rigorous extension of the theory of the consumer and firm to aggregate and heterogeneous populations, decision making under uncertainty, and related game theory concepts.

Prerequisite: AEC 611 with C or better

AEC 613, ADVANCED MICROECONOMIC THEORY III, 4 Credits

A rigorous development of the theory of competitive equilibrium, market power, public goods, and information.

Prerequisite: AEC 612 with C or better

AEC 625, ADVANCED ECONOMETRICS I, 4 Credits

Emphasizes the basic theory underlying the main types of estimators used in econometrics, as well as their application in empirical research. Includes derivation, properties, and application of method of moments, maximum likelihood, ordinary and generalized least squares, and instrumental variables estimators, statistical inference and hypothesis testing, and model building and specification analysis. Provides the necessary foundation for estimation techniques covered in AEC 626. Lec/lab.

Prerequisite: AEC 525 with C or better

AEC 626, ADVANCED ECONOMETRICS II, 4 Credits

Extensions to the generalized linear regression model are considered: discrete choice, limited dependent variable, panel data, and simultaneous equations models, and new solutions to identification problems. Strong applied orientation, emphasizing problems of data measurement, model selection and specification.

Prerequisite: AEC 625 with C or better

AEC 627, COMPUTATIONAL ECONOMICS, 4 Credits

Covers the numerical analysis of static optimization models and stochastic dynamic models in resource and development economics, emphasizing formulation, solution, and simulation of dynamic optimization, rational expectations, and arbitrage pricing models. Lec/lab.

AEC 640, SUSTAINABLE DEVELOPMENT, 3 Credits

Surveys research on the quantitative economic analysis of sustainable development, with an emphasis on integrated assessment methods and models and their application to agriculture and rural development policy, agricultural technology impact assessment, and climate change impact assessment.

Prerequisite: AEC 611 with D- or better and AEC 612 [D-] and AEC 625 [D-]

Equivalent to: AREC 640

AEC 643, ADVANCED TOPICS IN DEVELOPMENT ECONOMICS, 3 Credits

Introduces students to key issues in the economics of development and equips them with the theoretical and empirical tools required to conduct advanced research in these topics.

Prerequisite: AEC 613 with C or better and AEC 626 [C]

Equivalent to: AREC 643

AEC 651, ADVANCED NATURAL RESOURCE ECONOMICS, 3 Credits

Contemporary economic theory of dynamic natural resource allocation is introduced. Assignments focus on analytical and numerical methods for solving dynamic optimization problems in resource and environmental management. Lecture and readings emphasize current research trends in the field and relevant advances in quantitative methodology.

Prerequisite: AEC 611 with C or better

Equivalent to: AREC 651

AEC 652, ADVANCED ENVIRONMENTAL ECONOMICS, 3 Credits

Interrelationships of natural resource use and the environment; applied welfare and benefit-cost analysis; externalities and pollution abatement; non-market valuation of resources; property rights; legal and social constraints; policy approaches.

Prerequisite: (AEC 513 with C or better or AREC 513 with C or better) and (AEC 525 [C] or AREC 525 [C])

Equivalent to: AREC 652

AEC 653, EMPIRICAL ENVIRONMENTAL AND RESOURCE ECONOMICS, 3 Credits

Introduces empirical methods at the current frontiers of research in environmental and resource economics. General topics may include the identification of non-market values, revealed and stated preference methods, environmental policy evaluation, equilibrium sorting models, and climate econometrics.

Prerequisite: AEC 513 with C or better and AEC 525 [C]

Equivalent to: AREC 653

AEC 699, SPECIAL TOPICS, 1-16 Credits

Various topics in applied economics of special and current interest not covered in other courses.

Equivalent to: AREC 699

This course is repeatable for 16 credits.