Agricultural and Applied Economics

Harvey James, Chair
Agricultural and Applied Economics
College of Agriculture, Food and Natural Resources
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The Department of Agricultural and Applied Economics offers a BS degree with a major in Agribusiness Management and BS, MS and PhD degrees with a major in Agricultural Economics. A minor in Agricultural Economics is also available. The Department is home to several programs and research centers where students can seek on-campus work experience.

- Agricultural Electronic Bulletin Board, a web-based clearinghouse for information related to farming and production agriculture
- Center for Applied Research and Environmental Systems, a spatial economics and information research and education center
- Commercial Agriculture Program, a multi-disciplinary approach to researching issues and incorporating innovation into production agriculture
- Contracting and Organizations Research Institute, dedicated to enabling and encouraging interdisciplinary empirical research on contracting and organizational structure
- Food Equation Institute, a research center with a focus on biotechnology and other agricultural and technologies relating to food production, distribution and consumption
- Economics and Management of Agrobiotechnology Center, a research institute with a focus on applications of biotechnology on agriculture and food production and distribution
- Food and Agricultural Policy Research Institute, a Congressionally-enacted center whose mission is to provide objective analysis of food, agricultural, nutritional and environmental issues
- McQuinn Center for Entrepreneurial Leadership, promotes research, teaching, and outreach on the nature, causes, and consequences of entrepreneurship.
- Missouri Institute of Cooperatives, coordinates information and leadership training for cooperatives serving Missouri

Faculty

Extension Professor R. Massey**
Extension Assistant Professor D.S. Brown**
Assistant Teaching Professor J. Palacios Rivera
Research Assistant Professor J. Binfield
Instructor J. Moreland, L. F. Sowers
Adjunct Faculty H. Gedikoglu, J. Kruse, D. Miller

* Graduate Faculty Member - membership is required to teach graduate-level courses, chair master's thesis committees, and serve on doctoral examination and dissertation committees.
** Doctoral Faculty Member - membership is required to chair doctoral examination or dissertation committees. Graduate faculty membership is a prerequisite for Doctoral faculty membership.

Undergraduate

While MU does not offer undergraduate degrees specifically in agricultural and applied economics, the University does offer bachelor's degrees in the closely related areas of Agricultural Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofagriculturefoodandnaturalresources/agriculturaleconomics/#undergraduate), and Agribusiness Management (http://catalog.missouri.edu/undergraduategraduate/collegeofagriculturefoodandnaturalresources/agribusinessmanagement/#undergraduate), as well as other related areas both within the College of Agriculture, Food and Natural Resources, and in the other Schools and Colleges that make up the University. The catalog provides a complete list of these degree options (http://catalog.missouri.edu/degreesanddegreeprograms).

Graduate

- MS in Agricultural and Applied Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofagriculturefoodandnaturalresources/agappliedeconomics/ms-ag-applied-economics)
- PhD in Agricultural and Applied Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofagriculturefoodandnaturalresources/agappliedeconomics/phd-ag-applied-economics)

Department of Agricultural Economics
214 Mumford Hall; Columbia, MO 65211
(573) 882-3747
http://dass.missouri.edu/agecon/

Director of Graduate Studies: Harvey James (hjames@missouri.edu)

About the Graduate Programs

The graduate program in the Department of Agricultural and Applied Economics is recognized for its innovative approach to graduate training in agricultural economics. A distinguishing feature of the program is the integration of organizational, institutional and welfare economics in both applied and theoretical research. This approach gives the program a competitive advantage.

A PhD or MS degree in agricultural and applied economics prepares students for a rewarding career in academia, agricultural business, government or international agriculture. Students can study agribusiness management, contracting and strategy; collective action and cooperative theory; econometrics and price analysis; entrepreneurship; environmental and natural resource economics; food, biofuel and agricultural policy and regulation; international development; regional economics and rural development policy; science policy and innovation; sustainable agriculture and applied ethics. The MS program may be a step toward the PhD but may also be used as a terminal program for those interested in


careers in agribusiness, extension or government. Programs are flexible. All PhD and most MS students become involved in research, but those whose career interests lie in other directions find the department willing to accommodate them.

**Admission Criteria**

Fall deadline: February 15  
Spring deadline: September 15  
Minimum TOEFL score: 80 Internet-based; 550 Paper-based  
GRE required

**Required Application Materials**

*To the Office of Graduate Studies:*
- All required Graduate Admissions documents  

*To the Agricultural Economics Program:*
- Departmental Application  
- 3 letters of recommendation  
- Statement of purpose  
- Transcripts  
- GRE score report

**Internal Funding**

A 3.25 GPA (A=4.0) is generally a minimum requirement for financial assistance such as fellowships and assistantships for research and teaching. Reasons for supporting a student with a GPA below 3.25 must be documented in detail.

**AG_EC 1010: Introduction to Agribusiness Management**
Agribusiness and agricultural economics touches many parts of business, agriculture, the environment and other areas. This course is designed to help students successfully make the adjustment to college/MU, provide an overview of the Department of Agricultural and Applied Economics degree programs and, enhance professional and career development.

**Credit Hours:** 3

**AG_EC 1011: Survey of Global Agribusiness**
Economic, social and political forces and trends and the impact on U.S. and global agribusinesses. Global production, consumption trade, and investment patterns in agriculture-food sector. Developing management strategy in changing economic political environment.

**Credit Hour:** 1

**AG_EC 1041: Applied Microeconomics**
Introduction to the microeconomic principles and their application to decision-making in agribusinesses. Consumer decision analysis, producer goals and optimization and the market environment where they meet and trade. Applications to current issues. Students who complete AG_EC 1041 may not have credit for ECONOM 1014.

**Credit Hours:** 3

**AG_EC 1042: Applied Macroeconomics**
Introduction to macroeconomic principles and their application to agriculture-food sector and natural resource issues. Using macroeconomic principles in decision making and in evaluating national and regional economic problems and issues. Students who complete AG_EC 1042 may not have credit for ECONOM 1015.

**Credit Hours:** 3

**AG_EC 1200: Applied Computer Applications**
This course is an applied problem based learning opportunity for students to gain Excel spreadsheet related skills critical to careers in agriculture, food and natural resources. Students will learn intermediate and advanced spreadsheet skills essential for problem solving and decision making in these biologically influenced fields.

**Credit Hours:** 3

**AG_EC 2050: For the Love of Food: Global Food System Debate**
This course is designed to develop students' understanding of the food system from farm to plate and the consumer's role in the global food system. Gaining a knowledge base on food system dynamics will allow students to better understand the societal and policy making processes behind food production. Each week we will discuss key topics and issues facing the food system today. This class will help students develop critical thinking skills to address challenges in the global food system.

**Credit Hours:** 3

**AG_EC 2070: Environmental Economics and Policy**
(same as ENV_ST 2070). Examines current environmental and natural resource issues using a systems perspective and key economic concepts. Explores connections between the environment and the economy based on problems at the local, national, and international levels.

**Credit Hours:** 3  
**Prerequisites:** sophomore standing  
**Recommended:** ENGLSH 1000

**AG_EC 2070W: Environmental Economics and Policy - Writing Intensive**
(same as ENV_ST 2070). Examines current environmental and natural resource issues using a systems perspective and key economic concepts. Explores connections between the environment and the economy based on problems at the local, national, and international levels.

**Credit Hours:** 3  
**Prerequisites:** sophomore standing  
**Recommended:** ENGLSH 1000

**AG_EC 2123: Quantitative Applications in Agricultural Economics**
Familiarize students with the use of calculus and other quantitative tools in developing and analyzing fundamental economic concepts.

**Credit Hours:** 3  
**Prerequisites:** AG_EC 1041 or ECONOM 1014 and MATH 1400

**AG_EC 2156: Introduction to Environmental Law**
Environmental issues from a legal perspective, using current controversies from both the USA and other countries. Major environmental laws dealing with water, air, noise, endangered species, waste disposal, and land use.

**Credit Hours:** 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credit Hours</th>
<th>Prerequisites/Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>AG_EC 2183</td>
<td>The Agricultural Marketing System</td>
<td>Analysis of marketing systems that transforms agricultural products into food products. Examines functions and institutions in marketing and distributing food from both micro and macro perspectives.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 2183W</td>
<td>The Agricultural Marketing System - Writing Intensive</td>
<td>Analysis of marketing systems that transforms agricultural products into food products. Examines functions and institutions in marketing and distributing food from both micro and macro perspectives.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 2223</td>
<td>Agricultural Sales</td>
<td>Principles of salesmanship in agricultural input and output markets; buyer motivations; time and territory management; communication models and techniques; planning and executing sales calls; after-sale service.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 2225</td>
<td>Statistical Analysis</td>
<td>Elementary statistical inference. Math Reasoning Proficiency Course.</td>
<td>3</td>
<td>MATH 1100</td>
</tr>
<tr>
<td>AG_EC 2940</td>
<td>Practicum in Agricultural Economics</td>
<td>Off-campus integrated working and learning experience for departmental majors and minors. Application of economic concepts in business or government. Graded on S/U basis only.</td>
<td>1-3</td>
<td>Instructor's consent</td>
</tr>
<tr>
<td>AG_EC 3150</td>
<td>International Agribusiness</td>
<td>This course covers the primary factors that shape the business environment for food and agricultural firms conducting business across borders. The course examines how culture, institutions and public policy affect business operations and business strategies.</td>
<td>3</td>
<td>AG_EC 2183</td>
</tr>
<tr>
<td>AG_EC 3224</td>
<td>New Products Marketing</td>
<td>Learning experience to develop skills in marketing new agriculture products. To include market analysis, goals and objectives, action plan, financial evaluation and monitoring and measurement. In small groups, students will develop complete marketing plan for a new product.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 3224W</td>
<td>New Products Marketing - Writing Intensive</td>
<td>Learning experience to develop skills in marketing new agriculture products. To include market analysis, goals and objectives, action plan, financial evaluation and monitoring and measurement. In small groups, students will develop complete marketing plan for a new product.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 3230</td>
<td>Agricultural and Rural Economic Policy</td>
<td>Study and analysis of past and present government policies affecting agriculture and rural economy.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
<tr>
<td>AG_EC 3241</td>
<td>Ethical Issues in Agriculture</td>
<td>The study of how economics, philosophy, and science inform on and impact important ethical problems in agriculture, such as the environment, biotechnology, animal welfare, farm structure, the role of agribusiness, development, sustainability, and agriculture-related public policy. Course may be repeated once for credit.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014 and junior standing</td>
</tr>
<tr>
<td>AG_EC 3241W</td>
<td>Ethical Issues in Agriculture - Writing Intensive</td>
<td>The study of how economics, philosophy, and science inform on and impact important ethical problems in agriculture, such as the environment, biotechnology, animal welfare, farm structure, the role of agribusiness, development, sustainability, and agriculture-related public policy. Course may be repeated once for credit.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014 and junior standing</td>
</tr>
<tr>
<td>AG_EC 3256</td>
<td>Agribusiness and Biotechnology Law</td>
<td>Legal concepts applicable to agribusiness and biotech firms. To include contracts, torts, product liability, warranties, corporate farming laws, UCC, corporations/partnerships/limited liability companies, labor laws, patent copyrights/trademark laws, international and ethical perspectives.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014 and junior standing</td>
</tr>
<tr>
<td>AG_EC 3257</td>
<td>Rural and Agricultural Law</td>
<td>Everyday practical legal problems facing rural residents, farmers, agribusiness, and local government. Laws include statutes, common law (cases), customs, and administrative regulations. Topics include corporate/contract farming, right-to-farm, leases, fence laws, estate planning and water rights.</td>
<td>3</td>
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<tr>
<td>AG_EC 3260</td>
<td>General Farm Management</td>
<td>Economics and management principles applied to planning and operating farm businesses. Includes enterprise combination, resource acquisition, water management, profit maximizing techniques and annual adjustments to changing conditions.</td>
<td>3</td>
<td>AG_EC 1041 or ECONOM 1014</td>
</tr>
</tbody>
</table>
AG_EC 3270: Conservation and Use of Protected Areas
Evaluation of socioeconomic, cultural and ecological values influencing the development and management of protected areas including parks, forests, wildlife refuges, wilderness and wild/scenic rivers.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014 and AG_EC 2070
Recommended: Introductory natural resources courses

AG_EC 3271: International Agricultural Development
Examines world food problem; analyzes its causes; economic and noneconomic policy alternatives for modernizing agriculture in less-developed countries.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014 and AG_EC 1042 or ECONOM 1015
Recommended: junior standing

AG_EC 3272: International Food Trade and Policy
Examines food trade; develops economic analyses of trade impacts on domestic agricultural policies; examines international trade agreements; and interface of trade and environment.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014 and AG_EC 1042 or ECONOM 1015

AG_EC 3282: Agribusiness Finance
Application of the concepts and methods of finance to the management of agribusiness firms, including cooperatives. Special attention is given to the working capital needs of agribusiness and to the specialized lending institutions in the agricultural economy.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014 and ACCTCY 2036 or ACCTCY 2026
Recommended: ACCTCY 2037 or ACCTCY 2027

AG_EC 3283: Fundamentals of Entrepreneurship
Introduce students to entrepreneurial way of thinking. Entrepreneurship is a way of thinking about identifying/creating opportunities and transforming those opportunities into new businesses, new institutions, or solutions to problems. Students will participate in the process of formulating and evaluating solutions to problems and identifying and exploiting opportunities.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014 and ACCTCY 2036 or ACCTCY 2026. Restricted to Agricultural Economics and Agribusiness Management majors during early registration

AG_EC 3285: Problems in Agricultural Economics
Supervised study in a specialized phase of agricultural economics. Graded on S/U basis only.
Credit Hour: 1-3
Prerequisites: instructor's consent

AG_EC 3286: Economics of Managerial Decision Making
Introduces tools and concepts from price theory, game theory, industrial organization and organizational economics, and applies them to managerial decision making activities for businesses in the agrifood system and for natural resource and environmental management.
Credit Hours: 3
Prerequisites: AG_EC 2123 and AG_EC 2183

AG_EC 3294: Agricultural Marketing and Procurement
Content of course focuses on marketing issues in the agriculture supply chain. Topics covered include price discovery, basis, futures/options, contracting, logistics, and management decision making.
Credit Hours: 3
Prerequisites: AG_EC 2183
Recommended: AG_EC 2225 or STAT 2500

AG_EC 3295: Real Money: Speculative Trading for Beginners
Familiarize students with the learning components of commodity future/option trading. Students learn through involvement by investing in a commodity pool and trading futures/options. Students apply both fundamental and technical analysis. Students taking this course are required to invest from $200 to $600 in $200 increments. Students cannot lose more money than invested.
Credit Hours: 3
Prerequisites: AG_EC 2183
Recommended: AG_EC 3294

AG_EC 3296: In the Money with Options Trading
This online course focuses on learning the basics of trading options market contracts. Students will be investing/contributing members of the University of Missouri Educational Marketing Club. Students will be introduced to principles of price forecasting using technical and fundamental analysis and will study a variety of trading strategies.
Credit Hours: 2
Prerequisites: AG_EC 3295
Recommended: AG_EC 3294

AG_EC 3297: Technical Trading Tactics
Learn the tactics of technical trading through student investment and commodity futures contracts. Technical Trading Tactics will provide students with tools to support trade recommendations based on technical analysis. Each student invests real money as a learning incentive and will complete one trade recommendation during the course.
Credit Hour: 1
Prerequisites: AG_EC 3295
Recommended: AG_EC 3294

AG_EC 3321: Economic History of Agriculture
Emphasizes Europe and U.S. historical interpretation; usefulness in evaluating present and probable future developments in agriculture.
Credit Hours: 3
Prerequisites: AG_EC 1041 or ECONOM 1014
AG_EC 3383: Rural Entrepreneurship II
Rural Entrepreneurship II is designed for students that realize they may need to create their own career or opportunity if they want to return to their rural community and for students who would like to better understand how to create that option in their career choice set.

Credit Hours: 3  
Prerequisites: AG_EC 3283

AG_EC 4110: In-Service Course in Agricultural Economics  
(cross-leveled with AG_EC 7110). A. Profit Maximizing Principles B. Farm Planning C. Farm Records and Analysis D. Business Management E. Using Computers in Farm Management Decision Making. Basic principles of farm management. Applications of principles and subject matter in successful classroom presentation primarily for high school teachers. Course is offered in sections A-E as listed, for 2 hours each.

Credit Hours: 2-10  
Prerequisites: instructor's consent. Recommended AG_EC 3260

AG_EC 4111: Understanding the Agricultural Policy Process  
The goal of this course is to prepare students for a career in agricultural policy and will build the skill set needed in the agricultural policy environment.

Credit Hours: 3  
Prerequisites: AG_EC 3230

AG_EC 4230: Understanding the Agricultural Policy Process  
The goal of this course is to prepare students for a career in agricultural policy and will build the skill set needed in the agricultural policy environment.

Credit Hours: 3  
Prerequisites: AG_EC 2123 and AG_EC 2225 or STAT 2500

AG_EC 4295: Agricultural Risk Management  
(cross-leveled with AG_EC 7295). This class will examine the range of risks business face and explore ways of characterizing and evaluating those risks.

Credit Hours: 3  
Prerequisites: AG_EC 2183 and AG_EC 2225 or STAT 2500

AG_EC 4301: Topics in Agricultural Economics  
Current and new topics not currently offered in applied and/or theoretical areas in Agricultural Economics.

Credit Hour: 1-6

AG_EC 4301H: Topics in Agricultural Economics  
Current and new topics not currently offered in applied and/or theoretical areas in Agricultural Economics.

Credit Hour: 1-6  
Prerequisites: honors eligibility required

AG_EC 4310: Local Economic Analysis  
(cross-leveled with AG_EC 7310). Economic based theory, including multipliers and how local economies are affected by external events. Methods for local economic analysis: trends, location quotients, shift-share, and retail analyses.

Credit Hours: 3  
Prerequisites: AG_EC 3282 or FINANC 3000 and AG_EC 3286 or MANGMT 3000

AG_EC 4320: Understanding the Agricultural Policy Process  
The goal of this course is to prepare students for a career in agricultural policy and will build the skill set needed in the agricultural policy environment.

Credit Hours: 3  
Prerequisites: AG_EC 3260

AG_EC 4854: Environmental Law and Policy  
(cross-leveled with AG_EC 7356). Legislative, administrative, and common law dealing with the environment. Introduces the fundamental concepts and classic issues underlying the body of law and policy dealing with the environment. Includes air and water quality, endangered species preservation, land use, and waste disposal.

Credit Hours: 3  
Prerequisites: instructor's consent. Recommended AG_EC 3260, senior or graduate standing. For non-law students

AG_EC 4940: Internship Opportunities  
Combines study, observation, and employment in a public agency or private firm in marketing, farm management, or credit. Staff supervision and evaluation. Reports required.

Credit Hour: 1-3  
Prerequisites: instructor's consent  
Recommended: 75 hours completed

AG_EC 4962: Planning the Farm Business  
(cross-leveled with AG_EC 7962). Economic analysis and planning of the farm business and its organization. Applications of computerized management techniques to farm business including resource acquisition, tax management, enterprise analysis, and business analysis through farm records and budgets.

Credit Hours: 3  
Prerequisites: AG_EC 3260

AG_EC 4971: Agribusiness Management Strategy  
(cross-leveled with AG_EC 7971). Analysis of industry forces in agriculture and food sector. Assessing risks and firms' capabilities. Development of firm's competitive strategy, including vertical integration, diversification, international business option, and financial planning and performance measurement.

Credit Hours: 3  
Prerequisites: AG_EC 3282 or FINANC 3000 and AG_EC 3286 or MANGMT 3000

AG_EC 4971W: Agribusiness Management Strategy - Writing Intensive  
(cross-leveled with AG_EC 7971). Analysis of industry forces in agriculture and food sector. Assessing risks and firms' capabilities. Development of firm's competitive strategy, including vertical integration, diversification, international business option, and financial planning and performance measurement.

Credit Hours: 3
Prerequisites: AG_EC 3282 or FINANC 3000 and AG_EC 3286 or MANGMT 3000

AG_EC 4972: Agri-Food Business and Cooperative Management
(cross-leveled with AG_EC 7972). Risk management in the global agrifood chain, including managing the unique uncertainties of biological production processes, global market analysis, and government intervention, of risk management tools and institutions unique to strategic decision making in agribusiness and cooperative firms.

Credit Hours: 3
Prerequisites: AG_EC 4971 and AG_EC 3286 or MANGMT 3000
Recommended: AG_EC 3256

AG_EC 4983: Strategic Entrepreneurship in Agri-Food
Strategic entrepreneurship is the search for opportunities to generate income streams from innovation, development of new markets, and altering the rivalry positions in existing markets.

Credit Hours: 3
Prerequisites: AG_EC 3283 and AG_EC 3282 or FINANC 3000
Recommended: senior standing

AG_EC 4990: Economic Analysis of Policy and Regulation
(cross-leveled with AG_EC 7990). Apply economic concepts and tools to analyze the policy-making process and the implications of policy for individuals, firms, markets and society. Policy topics include, among other things, agricultural support programs, environmental policy, international trade, international development, and agribusiness regulation.

Credit Hours: 3
Prerequisites: AG_EC 4251
Recommended: ECONOM 4351

AG_EC 4995: Economics of Agricultural Production and Distribution
(cross-leveled with AG_EC 7995). Applies economic principles to agricultural production including price theory, linear programming and uncertainty.

Credit Hours: 3
Prerequisites: ECONOM 3251 and AG_EC 2225 or STAT 2500

AG_EC 7110: In-Service Course in Agricultural Economics
(cross-leveled with AG_EC 4110). A. Profit Maximizing Principles B. Farm Planning C. Farm Records and Analysis D. Business Management E. Using Computers in Farm Management Decision Making. Basic principles of farm management. Applications of principles and subject matter in successful classroom presentation primarily for high school teachers. Course is offered in sections A-E as listed, for 2 hours each. Prerequisites:

Credit Hour: 2-10
Prerequisites: instructor's consent. Recommended AG_EC 3260

AG_EC 7251: Agricultural Prices
(cross-leveled with AG_EC 4251). Variations in prices of agricultural products; underlying factors.

Credit Hours: 3
Prerequisites: AG_EC 2123 and AG_EC 2225 or STAT 2500

AG_EC 7295: Agricultural Risk Management
(cross-leveled with AG_EC 4295). This class will examine the range of risks businesses face and explore ways of characterizing and evaluating those risks.

Credit Hours: 3
Prerequisites: AG_EC 2183 and AG_EC 2225 or STAT 2500

AG_EC 7301: Topics in Agricultural Economics
Current and new topics not currently offered in applied and/or theoretical areas in Agricultural Economics.

Credit Hour: 1-6

AG_EC 7310: Local Economics Analysis
(cross-leveled with AG_EC 4310). Economic based theory, including multipliers and how local economies are affected by external events. Methods for local economic analysis: trends, location quotients, shift-share, and retail analyses. On-line course.

Credit Hour: 1
Prerequisites: Instructor's consent

AG_EC 7340: Rural Real Estate Appraisal
(cross-leveled with AG_EC 4340). Principles, techniques, practices of rural real estate appraisal. Field trips.

Credit Hours: 3
Recommended: AG_EC 3260

AG_EC 7356: Environmental Law and Policy
(cross-leveled with AG_EC 4356). Legislative, administrative, and common law dealing with the environment. Introduces the fundamental concepts and classic issues underlying the body of law and policy dealing with the environment. Includes air and water quality, endangered species preservation, land use, and waste disposal.

Credit Hours: 3
Prerequisites: Instructor's consent. Recommended AG_EC 3256, senior or graduate standing. For non-law students

AG_EC 7940: Internship Experiences in Agricultural Economics
Combines study, observation, and employment in a public agency or private firm in marketing, farm management, or credit. Staff supervision and evaluation. Reports required. Graded on S/U basis only.

Credit Hour: 1-3
Prerequisites: 2.5 GPA; 75 hours of course work and instructor's consent

AG_EC 7962: Planning the Farm Business
(cross-leveled with AG_EC 4962). Economic analysis and planning of the farm business and its organization. Applications of computerized management techniques to farm business including resource acquisition, tax management, enterprise analysis, and business analysis through farm records and budgets.

Credit Hours: 3
Prerequisites: AG_EC 3260
**AG_EC 7971: Agribusiness Management Strategy**
(cross-leveled with AG_EC 4971). Analysis of industry forces in agriculture and food sector. Assessing risks and firms capabilities. Development of firm’s competitive strategy, including vertical integration, diversification, international business option, and financial planning and performance measurement.

**Credit Hours:** 3  
**Prerequisites:** AG_EC 3282 or FINANC 3000 and AG_EC 3286 or MANGMT 3000

**AG_EC 7972: Agri-Food Business and Cooperative Management**
(cross-leveled with AG_EC 4972). Risk management in the global agrifood chain, including managing the unique uncertainties of biological production processes, global market analysis, and government intervention, of risk management tools and institutions unique to strategic decision making in agribusiness and cooperative firms.

**Credit Hours:** 3  
**Prerequisites:** AG_EC 4971 and AG_EC 3286 or MANGMT 3000  
**Recommended:** AG_EC 3256

**AG_EC 7990: Economic Analysis of Policy and Regulation**
(cross-leveled with AG_EC 4990). Apply economic concepts and tools to analyze the policy-making process and the implications of policy for individuals, firms, markets and society. Policy topics include, among other things, agricultural support programs, environmental policy, international trade, international development, and agribusiness regulation.

**Credit Hours:** 3  
**Prerequisites:** AG_EC 4251  
**Recommended:** ECONOM 4351

**AG_EC 7995: Economics of Agricultural Production and Distribution**
(cross-leveled with Applies economic principles to agricultural production including price theory, linear programming and uncertainty. Prerequisites:

**Credit Hours:** 3  
**Prerequisites:** ECONOM 3251 and AG_EC 2225 or STAT 2500

**AG_EC 8001: Advanced Topics in Economics**

**Credit Hours:** 3

**AG_EC 8010: Research Methodology**
Students explore the roles of theory and methods in economics research, develop a program of research, and critique published research. Students also study the scientific methods and the research process, including problem definition, research design, data collection and analysis, and generalization.

**Credit Hours:** 3

**AG_EC 8024: Advanced Production Economics**
Production function analyses and advanced theory of the firm as applied to agricultural production problems. Concepts of input demand, production supply, quality, time and technology, dynamic analysis and production under uncertainty.

**Credit Hours:** 3

**AG_EC 8050: Economics of Institutions and Organizations**
This course expands upon the fundamental principles of neo-classical economics by relaxing traditional behavioral and informational assumptions and by introducing the importance of transaction costs and institutions for economic analysis.

**Credit Hours:** 3

**AG_EC 8060: Mathematical Modeling for Social Scientist**
Introduction to mathematical programming, emphasizing problem formulation and solution interpretation. Computer applications are stressed.

**Credit Hours:** 3  
**Prerequisites:** STAT 4510

**AG_EC 8085: Masters Problems in Agricultural Economics**
Supervised study, research in specialized phases of agricultural economics.

**Credit Hour:** 1-99

**AG_EC 8087: Seminar in Agricultural Economics**
Lectures, reports on economic problems in agriculture.

**Credit Hour:** 1

**AG_EC 8090: Masters Thesis Research in Agricultural Economics**
Independent investigation of advanced nature, leading to dissertation. Graded on a S/U basis only.

**Credit Hour:** 1-6

**AG_EC 8210: Theory of Markets**
Development of theories of monopolistic, monopolistic competition; application to agricultural markets. Market structure influence on price, nonprice competition in buying, selling of farm products and inputs.

**Credit Hours:** 3

**AG_EC 8350: Regional Development Issues and Analysis**
(same as PUB_AF 8350). Examines theories of regional growth and development and methods for analysis with applications to current policy issues. Topics include firm location, new economic geography and agglomeration theory, clusters, human capital, migration, social capital, tax and development incentives, and sustainable regional development.

**Credit Hours:** 3  
**Prerequisites:** ECONOM 7351 or PUB_AF 8190 or equivalent

**AG_EC 8410: Natural Resource and Environmental Economics**
Contemporary natural resource/environmental problems; natural resource capacity, alternative economic theories, property rights, externalities, market failures, efficient use of exhaustible and renewable resources, and economics of environmental pollution.

**Credit Hours:** 3  
**Prerequisites:** ECONOM 7351
AG_EC 8430: International Agricultural Development Policy
An analytical review of economic policies directed toward stimulating agricultural development in the world's low income countries.
Credit Hours: 3
Prerequisites: ECONOM 7351 and ECONOM 7353

AG_EC 8448: Society and Ecosystems Research Seminar
(same as RU_SOC 8448 and NAT_R 8448). This seminar, capstone for the Graduate Certificate Program in Society and Ecosystems, exposes students to interdisciplinary research on interactions between social, economic and ecological systems.
Credit Hours: 3

AG_EC 8450: Masters Non Thesis Research
Independent investigation of advanced nature. Report required.
Credit Hour: 1-6

AG_EC 8520: Economics of Transaction and Contracting
This course focuses on the economic incentives underlying transaction relationships and develops and implements a framework for analyzing contract documents governing various kinds of transactions.
Credit Hours: 3

AG_EC 8610: Economic and Sociological Approaches to Collective Action
(same as RU_SOC 8610). This course identifies analytical and methodological tools, including rational choice and social capital, to deal with practical problems of collective action in: agricultural cooperatives, rural community development, political interest groups and other mutuals.
Credit Hours: 3
Prerequisites: AG_EC 7972

AG_EC 8860: International Comparative Rural Policy
(same as PUB_AF 8860). Compares the rural policy objectives and implementation strategies of various countries, and assesses these policies in terms of economic, social, environmental outcomes and their implications for international relations. Includes 2-weeks of study Abroad. May be repeated for credit. Graded on A-F basis only.
Credit Hours: 3
Prerequisites: instructor's consent

AG_EC 9001: Advanced Topics in Economics II
Credit Hours: 3

AG_EC 9042: Advanced Microeconomics Theory and Applications II
Second semester advanced micro theory covering choice under uncertainty, industry structure, game theory, information econ, and political economy of regulation. Includes applications of micro models to issues in agricultural, natural resource, and development sectors.
Credit Hours: 3
Prerequisites: AG_EC 9040

AG_EC 9085: Doctoral Problems in Agricultural Economics
Supervised study, research in specialized phases of agricultural economics.
Credit Hour: 1-99
Prerequisites: instructor's consent

AG_EC 9090: Doctoral Dissertation Research in Agricultural Economics
Independent investigation of advanced nature, leading to dissertation. Graded on a S/U basis only.
Credit Hour: 1-99

AG_EC 9220: Advanced Price Analysis
Applies economic theory and quantitative methods to analyze agricultural price issues. Examines problem formulation, estimation, and model evaluation applied to demand and supply situations.
Credit Hours: 3
Prerequisites: ECONOM 8451 or ECONOM 8472; STAT 4510

AG_EC 9230: Welfare and Consumption Economics
Introduces welfare economic principles; application to problems of resource allocation. Appraises economic policies, programs; consumers' choice; measurement of consumption; living standards; household decisions and markets relation.
Credit Hours: 3
Prerequisites: ECONOM 8451 or instructor's consent

AG_EC 9265: Food, Agricultural and Rural Policy
Application of welfare economics theory to food, agricultural and rural development policy analysis. Historical perspective and economics analysis of contemporary issues in national and international policy and institutions.
Credit Hours: 3
Prerequisites: ECONOM 7351 and AG_EC 9230

AG_EC 9320: Regional Economic Theory and Methods
Theory of spatial economics: Central place theory, spatial labor markets, location theory, social accounting matrices, input-output, computable general equilibrium, geographic information systems and regional econometric models.
Credit Hours: 3
Prerequisites: ECONOM 7351, ECONOM 7353, and matrix algebra
AG_EC 9475: Econometrics I
Emphasis is given to special estimation problems which occur in integrating the theory with various types of economic data.

Credit Hours: 3

AG_EC 9476: Econometrics II
(same as ECONOM 9476).

Credit Hours: 3

AG_EC 9510: Economics of Agribusiness Firm
This course builds on transaction cost-based theories and tools to study the economic underpinnings of intra-firm organization, firm boundaries, and the structure of inter-firm transactions.

Credit Hours: 3
Prerequisites: AG_EC 8050

AG_EC 9520: Economics of Agribusiness Markets
Relationships of neoclassical and new institutional economics to designing organizational strategy and structure. Internal coordination and structure, organizational boundaries, and competitiveness and sustainability of food system organizations.

Credit Hours: 3
Prerequisites: AG_EC 8050