Agricultural Economics and Agribusiness (AEAB)

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Agricultural Economics and Agribusiness Website (http://agribus.uark.edu/)

Degree Conferred:  
M.S. in Agricultural Economics (AGECMS)

Areas of Concentration: Agricultural Economics, Agribusiness, Atlantis, and International Agribusiness.

Primary Areas of Faculty Research: Agribusiness, agricultural cooperatives, agricultural finance, agricultural marketing, agricultural outlook, agricultural policy, agricultural production, applied econometrics, delta crops (rice, soybeans, wheat, cotton), economic development, farm management, food policy, food marketing, global marketing, integrated pest management, international trade, managerial economics, market infrastructure and development, natural resource management, product development, production economics, public finance, risk management.

Students should also be aware of Graduate School requirements with regard to master's degrees (http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreestext).

M.S. in Agricultural Economics with Agribusiness Concentration

Requirements for the Master of Science Degree in Agricultural Economics (Agribusiness Concentration, Non-thesis): (Minimum 31 hours)

Prerequisites to the Non-thesis Concentration:
- Six semester hours of mathematics (College Algebra and Survey of Calculus or Finite Mathematics or above) 6
- Three semester hours of statistics 3
- Six semester hours of lower division economic theory (micro & macro) 6
- Three semester hours of upper-level management 3
- Three semester hours of upper-level marketing 3
- Three semester hours of introductory accounting 3

Total Hours 24

Core Requirements
- AGEC 5113 Agricultural Prices and Forecasting 3
- AGEC 5073 Basis Trading: Applied Price Risk Management 3
- AGEC 5303 Agricultural Marketing Theory 3
- AGEC 5083 Basis Trading: Case Study 3
- AGEC 5603 Food Economics and Health (AGEC 5603 may only be used once to meet program requirements) 3
- AGEC 5011 Seminar 1
- AGEC 5103 Agricultural Microeconomics 3

Choose one of the following:

Controlled Electives 6
- Other graduate courses in Agricultural Economics
- Graduate electives in Agricultural Economics
- Graduate courses in the Walton College of Business
- Other graduate courses

Other Requirements
- A minimum of 16 hours of Agricultural Economics.
- A maximum of 9 hours of AGEC graduate-level courses may be completed from a) those courses also offered as 4000-level undergraduate classes, and/or b) courses numbered 4000 or lower that do not have a corresponding graduate offering.

Total Hours 31

Students should also be aware of Graduate School requirements with regard to master's degrees (http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreestext).

M.S. in Agricultural Economics with Agribusiness Concentration (Thesis):

Requirements for the Master of Science Degree in Agricultural Economics (Agribusiness Concentration, Thesis): (Minimum 31 hours)

Prerequisites to the Thesis Concentration
- Six semester hours of mathematics (College Algebra and Survey of Calculus or Higher Level Calculus) 6
- Three semester hours of statistics 3
- Six semester hours of upper level (junior or senior) micro- and macro-economic theory 6
- Three semester hours of upper-level management 3
- Three semester hours of upper-level marketing 3
- Three semester hours of introductory accounting 3

Total Hours 24

Core Requirements
- AGEC 5113 Agricultural Prices and Forecasting 3
- AGEC 5203 Agricultural Microeconomics 3
- AGEC 5403 Quantitative Methods for Agribusiness 3
- AGEC 5613 Econometrics 3
- AGEC 5623 Quantitative Food and Agricultural Policy Analysis 3
- AGEC 600V Master's Thesis 6
- AGEC 5011 Seminar 1
- Students must take six hours of other graduate courses in Agricultural Economics.

Controlled Electives 6
- Other graduate courses in Agricultural Economics
- Graduate electives in Agricultural Economics
- Graduate courses in the Walton College of Business
- Other graduate courses

Other Requirements
- A minimum of 16 hours of Agricultural Economics.
- A maximum of 9 hours of AGEC graduate-level courses may be completed from a) those courses also offered as 4000-level undergraduate classes, and/or b) courses numbered 4000 or lower that do not have a corresponding graduate offering.

Total Hours 31

Students should also be aware of Graduate School requirements with regard to master's degrees (http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreestext).
<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGEC 5123</td>
<td>AgriBusiness Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>AGEC 5143</td>
<td>Financial Management in Agriculture</td>
<td></td>
</tr>
<tr>
<td>AGEC 5043</td>
<td>Agricultural Finance</td>
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<tr>
<td>AGEC 5213</td>
<td>Agricultural Business Management</td>
<td></td>
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<tr>
<td>AGEC 5413</td>
<td>Agribusiness Strategy</td>
<td></td>
</tr>
<tr>
<td>AGEC 5403</td>
<td>Quantitative Methods for Agribusiness</td>
<td>3</td>
</tr>
</tbody>
</table>

**Take two of the following courses:**

<table>
<thead>
<tr>
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<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>AGEC 5063</td>
<td>Agricultural and Rural Development</td>
<td></td>
</tr>
<tr>
<td>AGEC 5233</td>
<td>Political Economy of Agriculture and Food</td>
<td></td>
</tr>
<tr>
<td>AGEC 5223</td>
<td>International Agricultural Trade and Commercial Policy</td>
<td></td>
</tr>
<tr>
<td>AGEC 5153</td>
<td>The Economics of Public Policy</td>
<td></td>
</tr>
<tr>
<td>AGEC 5133</td>
<td>Agricultural and Environmental Resource Economics</td>
<td></td>
</tr>
<tr>
<td>AGEC 5623</td>
<td>Quantitative Food and Agricultural Policy Analysis</td>
<td></td>
</tr>
<tr>
<td>AGEC 5603</td>
<td>Food Economics and Health (AGEC 5603 may only be used once to meet program requirements)</td>
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**Controlled Electives:**

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>AGEC 503V</td>
<td>Internship in Agricultural Economics</td>
<td></td>
</tr>
<tr>
<td>Other Graduate Courses in Agricultural Economics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduate Courses in the Walton College of Business</td>
<td></td>
<td></td>
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<tr>
<td>Other Graduate Courses</td>
<td></td>
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</tr>
</tbody>
</table>

**Other Requirements:**
- A maximum of 9 hours of AGEC graduate-level courses may be completed from a) those courses also offered as 4000-level undergraduate classes, and/or b) courses numbered 4000 or lower that do not have a corresponding graduate offering.
- Minimum of 16 hours in Agricultural Economics

**Total Hours:** 31

Students should also be aware of Graduate School requirements with regard to master's degrees [here](http://catalog.uark.edu/graduatecatalog/degreerequirements/#mastersdegreeestext).

### M.S. in Agricultural Economics with Atlantis Concentration

**Requirements for the Master of Science Degree in Agricultural Economics (U.S.-E.U. Atlantis Double Degree in Agricultural Economics and Rural Development Concentration):** Thesis (Minimum 31 hours)

Participation in this two-year program includes U.S. students from the University of Arkansas and E.U. students from a consortium of five universities in Europe (University of Ghent, Ghent, Belgium; Humboldt University, Berlin, Germany; National Institute of Advanced Training and Research in Food and Agronomy, Rennes, France; University of Pisa, Pisa, Italy; and the Slovak University of Agriculture, Nitra, Slovakia). The program includes five academic terms (four semesters and one summer). U.S. students enroll for at least two terms at the University of Arkansas and for at least two terms at two E.U. universities in the European consortium. E.U. students enroll for at least two terms at two E.U. universities in the European consortium and at least two terms at the University of Arkansas. Study in both the U.S. and E.U. includes three semesters of graduate coursework, completion of a case study or internship during the summer, and one semester of joint thesis research supervised by U.S. and E.U. faculty. All coursework is in English in both the U.S. and E.U. Class enrollment for all students remains at their home university. University of Arkansas students earn credit for AGEC 502V Special Topics for courses taken at E.U. universities. Upon successful completion of the program, students receive an M.S. degree in agricultural economics from the University of Arkansas, and an M.S. degree in rural development from the consortium of E.U. universities.

**Prerequisites to the Atlantis Concentration:**

- Six hours of mathematics (college algebra or above) 6
- Three hours of statistics 3
- Three hours of economic principles 3
- Six hours of courses in agricultural economics, rural development, social sciences, or agriculture and agribusiness-related courses 6

**Total Hours:** 18

**Core Requirements**

Coursework from each of the following areas:

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Quantitative Analysis or Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>Management or Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Policy or Analysis of Public Sector Issues</td>
<td>3</td>
</tr>
<tr>
<td>Six hours of master's thesis</td>
<td>6</td>
</tr>
<tr>
<td>AGEC 5011 Seminar</td>
<td>1</td>
</tr>
</tbody>
</table>

**Controlled Electives:**

Other graduate courses in Agricultural Economics

Other graduate courses approved by the student’s advisory committee

**Other Requirements**

Minimum of 16 hours in Agricultural Economics

Maximum of 15 hours of transfer courses from an inventory of classes offered in the Atlantis consortium of EU universities to satisfy core requirements and/or controlled electives.

### M.S. in Agricultural Economics with International Agribusiness Concentration

**Requirements for the Master of Science Degree in Agricultural Economics (International Agribusiness Concentration, Non-thesis):** (Minimum 31 hours.)

Note: Participation in this program includes University of Ghent (Belgium), and University of Arkansas (UA) students. Students may study either semester at the UA campus and the other semester at the University of Ghent in Belgium, West Europe. Classes for UA students taken at the University of Ghent are in English. The summer may be spent completing an agribusiness internship or special problem, but enrollment remains at the host institution. UA students earn credits in AGEC 502V Special Topics for courses taken at Ghent.

**Prerequisites to the Non-thesis Concentration:**

Six semester hours of mathematics (College Algebra and Survey of Calculus or Finite Mathematics or above) 6

Three semester hours of statistics 3

Six semester hours of lower division economic theory (micro & macro) 6

Three semester hours of upper-level management 3

Three semester hours of upper-level marketing 3

Three semester hours of introductory accounting 3

**Total Hours:** 24
### Core Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>AGEC 5403</td>
<td>Quantitative Methods for Agribusiness</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 5413</td>
<td>Agribusiness Strategy</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 5143</td>
<td>Financial Management in Agriculture</td>
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</tr>
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<td>or AGEC 5043</td>
<td>Agricultural Finance</td>
<td></td>
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<td>or AGEC 5213</td>
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<td>or AGEC 5603</td>
<td>Food Economics and Health</td>
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<tr>
<td>AGEC 5303</td>
<td>Agricultural Marketing Theory</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 5011</td>
<td>Seminar</td>
<td>1</td>
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</table>

### Agribusiness Management (University of Ghent Electives)

Select the equivalent of 12 semester hours from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>AGEC 502V</td>
<td>Sociological Perspectives of Rural Development</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 502V</td>
<td>Micro-economic Theory and Farm Management</td>
<td>3</td>
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<tr>
<td>AGEC 502V</td>
<td>Rural Project Management</td>
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</tr>
<tr>
<td>AGEC 502V</td>
<td>Agricultural and Rural Policy</td>
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<tr>
<td>AGEC 502V</td>
<td>Development Economics</td>
<td>3</td>
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<tr>
<td>AGEC 502V</td>
<td>Agricultural Economics of Developing Countries</td>
<td>3</td>
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<tr>
<td>AGEC 502V</td>
<td>Advanced Marketing and Agribusiness Management</td>
<td>3</td>
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<tr>
<td>AGEC 502V</td>
<td>Applied Rural Economic Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 502V</td>
<td>Applied Statistics</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 502V</td>
<td>Food Marketing and Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 502V</td>
<td>Scientific Communications on Rural Development</td>
<td>3</td>
</tr>
<tr>
<td>AGEC 502V</td>
<td>Econometrics</td>
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<tr>
<td>AGEC 502V</td>
<td>Economics and Management of Natural Resources</td>
<td>3</td>
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<tr>
<td>AGEC 502V</td>
<td>The European Union’s International Development Policy</td>
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### Other Requirements

A maximum of 9 hours of AGEC graduate-level courses may be completed from a) those courses also offered as 4000-level undergraduate classes, and/or b) courses numbered 4000 or lower that do not have a corresponding graduate offering.

Minimum of 16 hours of Agricultural Economics

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<tbody>
<tr>
<td>AGEC 502V</td>
<td>Special Topics</td>
<td>1-3</td>
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</tbody>
</table>

Students should also be aware of Graduate School requirements with regard to master’s degrees (http://catalog.uark.edu/graduatecatalog/degerequirements/#mastersdegereestxt).

### Graduate Faculty

- **Arendsden, Bruce L.**, Ph.D., M.S. (North Carolina State University), B.S. (Iowa State University), Professor, 1990, 2007.
- **Anderson, John D.**, Ph.D. (Oklahoma State University), M.S. (Arkansas State University), B.S. (College of the Ozarks), Professor, 2020.
- **Cochran, Mark J.**, Ph.D., M.S. (Michigan State University), B.S. (New Mexico State University), Professor, 1982, 1991.
- **Durand-Morat, Alvaro**, Ph.D., M.S. (University of Arkansas), B.S.E. (National University of Ente Rios), Assistant Professor, 2016.
- **Fang, Di**, Ph.D., W.P. (Arizona State University), B.A. (Nankai University), Assistant Professor, 2015.
- **Huang, Quiqiong**, Ph.D. (University of California-Davis), B.S. (Remin University of China), Professor, 2013, 2018.
- **Kemper, Nathan**, Ph.D., M.S. (University of Arkansas), B.S. (Missouri State University), Clinical Professor, 2014.
- **Kovacs, Kent F.**, Ph.D. (University of California-Davis), B.A. (Vassar College), Associate Professor, 2012, 2018.
- **Lawson, Connor**, Ph.D., M.E. (North Carolina State University), B.A. (Macalester College), Assistant Professor, 2022.
- **Nalley, Lawton Lanier**, Ph.D. (Kansas State University), M.S. (Mississippi State University), B.S. (The Ohio State University), Professor, 2008, 2018.
- **Rainey, Daniel V.**, Ph.D., M.S. (Purdue University), B.S.A. (University of Arkansas), Associate Professor, 2000, 2006.
- **Rumley, Rusty W.**, J.D. (University of Oklahoma), Research Assistant Professor, 2009.
- **Shew, Aaron M.**, Ph.D., M.S., M.A. (University of Arkansas), B.S., B.A. (Middle Tennessee State University), Assistant Professor, 2021.

### Courses

**AGEC 500V. Special Problems. 1-3 Hour.**

Individual reading and investigation of a special problem in agricultural economics not available under regular courses, under the supervision of the graduate faculty. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer)
AGEC 5011. Seminar. 1 Hour.
Presentation and discussion of graduate student research. Formal presentations are made by all graduate students. Consideration given to research design, procedures, and presentation of results. Prerequisite: Graduate standing. (Typically offered: Fall and Spring)

AGEC 502V. Special Topics. 1-3 Hour.
Advanced studies of selected topics in agricultural economics not available in other courses. Prerequisite: Graduate standing. (Typically offered: Irregular) May be repeated for degree credit.

AGEC 503V. Internship in Agricultural Economics. 1-3 Hour.
On-the-job application of skills developed in the M.S. program. (Typically offered: Fall, Spring and Summer)

AGEC 5043. Agricultural Finance. 3 Hours.
Methods and procedures whereby agricultural firms acquire and utilize funds required for their successful operation. Emphasis is placed upon role of finance and financial planning and consideration is given to an understanding of financial firms serving agriculture. Graduate degree credit will not be given for both AGEC 4143 and AGEC 5043. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013) and (AGEC 2143 or ACCT 213). (Typically offered: Fall)

AGEC 5053. Advanced Farm Business Management. 3 Hours.
Principles and procedures of decision making as applied to the allocation of resources in the farm business for profit maximization. Emphasis is placed on use of principles of economics and their application to the decision making process. Includes exercises on the application of principles to specific farm management problems. Graduate degree credit will not be given for both AGEC 4403 and AGEC 5053. Prerequisite: AGEC 3403 and ASTM 2903 or equivalent. (Typically offered: Fall)

AGEC 5063. Agricultural and Rural Development. 3 Hours.
Examination of agricultural and rural development issues in less developed countries. Alternative agricultural production systems are compared, development theories examined, and consideration given to the planning and implementation of development programs. Graduate degree credit will not be given for both AGEC 4163 and AGEC 5063. Prerequisite: AGEC 1103 (or ECON 2023). (Typically offered: Fall)

This course provides students an opportunity to gain a detailed working knowledge of how basis trading concepts and practices are applied to agricultural markets and to develop a skill set that can be put immediately into practice in any basis trading operation. Graduate degree credit will not be given for both AGEC 4373 and AGEC 5073. Prerequisite: AGEC 3373 or consent of instructor. (Typically offered: Spring and Summer)

AGEC 5083. Basis Trading: Case Study. 3 Hours.
This course provides an opportunity to apply principles learned in AGEC 4373 to grain merchandising using the case study approach. The course will involve in-class meetings supplemented with faculty-directed group-based learning experiences involving professional grain merchandisers. Group activities will follow the traditional case study method. Graduate degree credit will not be given for both AGEC 4383 and AGEC 5083. Prerequisite: AGEC 4373 or AGEC 5073 (formerly AGEC 4373). (Typically offered: Fall)

AGEC 5103. Agricultural Microeconomics. 3 Hours.
Masters-level training in agricultural microeconomic theory and its application to food, agriculture and the environment. The course covers behavior of firms, households and markets, in more depth and rigor than encountered in undergraduate courses. Theories are explained and then applied to relevant food, agricultural, environment and resource issues. (Typically offered: Fall)

AGEC 5113. Agricultural Prices and Forecasting. 3 Hours.
Price theory and techniques for predicting price behavior of general economy and price behavior of individual agricultural products will be analyzed. Provides practice in the application of economics and statistics to agricultural price analysis. Graduate degree credit will not be given for both AGEC 4113 and AGEC 5113. Prerequisite: Graduate Standing. (Typically offered: Spring)

AGEC 5123. AgriBusiness Entrepreneurship. 3 Hours.
Agribusiness entrepreneurship is the process of bringing food or rural-based products and services from conceptualization to market. The course presents the opportunities, problems and constraints facing individuals and firms operating in rural or isolated markets while emphasizing the steps in conceptualization, development, marketing, and delivery-selling of agribusiness rural products. Graduate degree credit will not be given for both AGEC 4323 and AGEC 5123. Prerequisite: AGEC 1103 or equivalent. (Typically offered: Spring)

AGEC 5133. Agricultural and Environmental Resource Economics. 3 Hours.
An economic approach to problems of evaluating private and social benefits and costs of altering the environment. Emphasis given to the interaction of individuals, institutions, and technology in problems of establishing and maintaining an acceptable level of environmental quality. Prerequisite: Minimum of 3 hours Agricultural Economics or Economics at 3000 level or higher or PhD standing. (Typically offered: Spring)

AGEC 5143. Financial Management in Agriculture. 3 Hours.
Covers advanced topics in agricultural finance. The general focus of the course is the financial management of non-corporate firms. Covers the basic tools of financial analysis including financial arithmetic, asset evaluation under risk, and financial analysis and planning using econometric models. Such topics covered include management of current assets, capital budgeting, capital structure, and institutions involved in agricultural finance. Prerequisite: Graduate standing. (Typically offered: Fall)

AGEC 5153. The Economics of Public Policy. 3 Hours.
This class will examine the impact of public policy on agricultural and other business sectors as well as households and individuals, particular in rural areas. Emphasis will also be placed on analyzing the potential impact of future policy changes. The course will focus on the application of welfare criteria and economic analyses to the problems and policies affecting resource adjustments in agriculture and rural communities. Prerequisite: Graduate standing. (Typically offered: Spring)

AGEC 5203. Agribusiness Marketing Management. 3 Hours.
Marketing concepts will be developed and applied to the global food and fiber system. The course will use both commodity and product marketing principles and economic theory to analyze varied marketing situations. Case studies will be used to demonstrate the role that demand analysis and consumer behavior play in market management. Graduate degree credit will not be given for both AGEC 4303 and AGEC 5203. Prerequisite: Graduate Standing. (Typically offered: Fall and Summer)

AGEC 5213. Agricultural Business Management. 3 Hours.
The planning, organizing, leading and controlling functions of management as they relate to agricultural business firms. Marketing of value-added products, budgeting, organizational structure, cost control, financial statements, capital budgeting and employee supervision and motivation. Case studies are used to teach communication and decision-making skills. Graduate degree credit will not be given for both AGEC 4313 and AGEC 5213. Prerequisite: (AGEC 2143 or ACCT 213) and AGEC 2303 or equivalent. (Typically offered: Fall)

AGEC 5223. International Agricultural Trade and Commercial Policy. 3 Hours.
Analysis of agricultural market competition and performance in a global economy. The impact of domestic and international agricultural policies on domestic and international markets and welfare. Economic principles applied to the interaction of economic events in the world food economy. Graduate degree credit will not be given for both AGEC 4623 and AGEC 5223. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013). (Typically offered: Spring)
AGEC 5233. Political Economy of Agriculture and Food. 3 Hours.
Agricultural and food policies are studied from domestic and international perspectives. Laws, regulations, decisions and actions by governments and other institutions are examined in terms of rationale, content, and consequences. Economic and political frameworks are used to assess policies in terms of competitive structure, operation, and performance of farming and food systems. Graduate degree credit will not be given for both AGEC 4613 and AGEC 5233. Prerequisite: (AGEC 1103 or ECON 2023) and (AGEC 2103 or ECON 2013) and (PSYC 2003 or SOCI 2013 or HDFS 2603). (Typically offered: Fall)

AGEC 5303. Agricultural Marketing Theory. 3 Hours.
Survey of the structure of agricultural product and factor markets including a critique of theoretical analyses of industry structure, conduct and performance; and a review of market structure research in agricultural industries. Prerequisite: Graduate standing. (Typically offered: Fall)

AGEC 5403. Quantitative Methods for Agribusiness. 3 Hours.
Application of quantitative techniques used to support managerial decision-making and resource allocation in agricultural firms. Provides exposure to mathematical and statistical tools (regression analysis, mathematical programming, simulation) used in economic analysis in agriculture. Emphasis is placed on computer applications with conceptual linkage to economic theory. Prerequisite: Graduate standing. (Typically offered: Fall)

AGEC 5413. Agribusiness Strategy. 3 Hours.
Addresses problems of strategy formulation in agribusiness emphasizing current problems and cases in agriculture. Surveys modern and classic perspectives on strategy with applications to agribusiness. Examines the development of firm level strategies within the structure and competitive environment of agricultural firms and industries. Prerequisite: Graduate standing. (Typically offered: Fall)

AGEC 5603. Food Economics and Health. 3 Hours.
This course provides an advanced overview of selected topics in food economics, food and nutrition policy and the interface between nutrition programs and health policy. Students will develop an understanding of economic and policy concepts of food, nutrition, and health. The course emphasizes analytical tools that can be applied to study issues in food, nutrition, and health facing the US and world populations. Prerequisite: Graduate standing. (Typically offered: Spring)

AGEC 5613. Econometrics. 3 Hours.
Use of economic theory and statistical methods to estimate economic models. The single equation model is examined emphasizing multicollinearity, autocorrelation, heteroskedasticity, binary variables and distributed lags and model specification. Prerequisite: MATH 2043 and knowledge of matrix methods, (which may be acquired as a corequisite), and (AGEC 1103 or ECON 2023) and (AGEC 2403 or STAT 2303 or BUSI 1033). (Typically offered: Spring)

AGEC 5623. Quantitative Food and Agricultural Policy Analysis. 3 Hours.
Introduction to applied analysis of domestic and international food and agricultural policies using quantitative tools. This course will provide hands-on experience with simulation modeling in microeconomics. An emphasis is placed on policy analysis through computer applications with theoretical underpinnings. Prerequisite: Graduate Standing. (Typically offered: Fall)

AGEC 5643. Agricultural Data Science. 3 Hours.
Agricultural and environmental data gathering, wrangling, analysis, and visualization with emphasis on applied programming, version control, and analytical skills. This course provides students foundational and applied skills in constructing diverse cross-sectional and panel data sets for econometric investigation. Students should expect to learn and demonstrate competency in programming for data gathering, wrangling, analysis, and visualization. The course will cover common data sources, descriptive analysis, and econometric techniques used in agricultural and production economics. Prerequisite: Graduate standing. (Typically offered: Spring)

AGEC 5713. Food Safety Law. 3 Hours.
This course provides students with an introduction to food law and policy, history of food regulation, the organization of federal food law and regulatory agencies, government inspection and enforcement powers, food safety standards, food labeling, food advertising and product liability. Web-based course. (Typically offered: Irregular)

AGEC 600V. Master's Thesis. 1-6 Hour.
Master's Thesis. Prerequisite: Graduate standing. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.

AGEC 700V. Doctoral Dissertation. 1-18 Hour.
Doctoral Dissertation. Prerequisite: Candidacy. (Typically offered: Fall, Spring and Summer) May be repeated for degree credit.