AGR & CONSUMER ECONOMICS (ACE)

ACE Class Schedule (https://courses.illinois.edu/schedule/DEFAULT/DEFAULT/ACE)

Courses

ACE 100 Agr Cons and Resource Econ credit: 4 Hours.
Principles of microeconomics; demand, production, supply, elasticity, markets, and trade are presented and used in the analysis of decisions of individuals related to agricultural production, food and textile consumption, and natural resource use. Macroeconomic concepts are also introduced. Credit is not given for ACE 100 if credit for ECON 102 has been earned.

This course satisfies the General Education Criteria for:
Social Beh Sci - Soc Sci

ACE 161 Microcomputer Applications credit: 3 Hours.
Instruction and practice in solving data-related problems with microcomputers and general purpose software packages.

ACE 199 Undergraduate Open Seminar credit: 1 to 5 Hours.
Experimental course on a special topic in agricultural and consumer economics. Topic may not be repeated except in accordance with the Code. Additional fees may apply. See Class Schedule. Approved for letter and S/U grading. May be repeated up to 5 hours in a semester, to a maximum of 12 hours.

ACE 210 Environmental Economics credit: 3 Hours.
Economic issues surrounding environmental quality, including: costs and benefits of environmental protection; economics of environmental policies (such as those dealing with toxics, water, and air pollution, and municipal solid waste); and economics of international environmental problems (such as ozone depletion and climate change). Same as ECON 210, ENVS 210, NRES 210, and UP 210.

This course satisfies the General Education Criteria for:
Social Beh Sci - Soc Sci

ACE 222 Agricultural Marketing credit: 3 Hours.
Examines factors affecting the size of the market for agricultural products and the scope of marketing activities; functions and services performed; pricing agricultural products, including the nature and causes of price fluctuations; and costs of marketing and efforts to reduce costs and improve the marketing system.

ACE 231 Food and Agribusiness Mgt credit: 3 Hours.
Overview of management in the food and agribusiness sector. Major topics covered include: introduction to the food and agribusiness sector; the environment of the firm; fundamentals, structural design, and change in organizations; leadership, motivation, communication; and planning and control. Coverage is at the introductory level with a focus on textbook material and current issues.

ACE 232 Farm Management credit: 3 Hours.
Economic principles are applied to the management of farms using budgeting system analysis, record analysis, financial management, and lease analysis. Problems related to resource appraisal and business organization are also addressed.

ACE 240 Personal Financial Planning credit: 3 Hours.
Examines principles of financial planning applied to individuals and households, with attention to organizing and analyzing financial information, budgeting, acquiring financial assets, managing credit, planning for taxes, investments, risk management, retirement, and estate planning. Prerequisite: Sophomore standing or consent of instructor.

ACE 251 The World Food Economy credit: 3 Hours.
Examination of global food production, consumption, and trade; problems of hunger and population; the role of agricultural development, trade, and aid in relieving hunger. Prerequisite: ACE 100 or ECON 102 or consent of instructor.

This course satisfies the General Education Criteria for:
Cultural Studies - Non-West
Social Beh Sci - Soc Sci

ACE 254 Economic Systems in Africa credit: 3 Hours.
Examines systems of production and exchange in Africa. Through lectures, discussions, readings and films participants will study the ways African people interact in local markets and the impact of national and international markets on their welfare. Same as AFST 254.

This course satisfies the General Education Criteria for:
Cultural Studies - Non-West
Social Beh Sci - Soc Sci

ACE 255 Economics of Food and Environmental Justice credit: 3 Hours.
Access to food and a healthy environment varies across rural/urban location, race, gender, and income in the U.S. Students in this course will analyze questions of "food justice" and "environmental justice" through the lens of economic theory. Students will learn important concepts in the scholarship of minority cultures, learn facts about how food security and experience of environmental quality varies among groups in the U.S., and learn how to use economic theory to understand those patterns and analyze policies to correct inequities. Prerequisite: ACE 100 or ECON 102 or consent of instructor.

This course satisfies the General Education Criteria for:
Social Beh Sci - Soc Sci
Cultural Studies - US Minority

ACE 261 Applied Statistical Methods credit: 4 Hours.
Statistical methods and computer applications for agricultural and consumer economics, including descriptive statistics, probability distribution, interval estimation, hypothesis testing, analysis of variance, simple and multiple regression, and non-parametric methods. Credit is not given for ACE 261 if credit for any of ECON 202, CPSC 440, STAT 100, or equivalent has been earned. Prerequisite: MATH 124 or MATH 125.

This course satisfies the General Education Criteria for:
Quantitative Reasoning I

ACE 270 Consumer Economics credit: 3 Hours.
Introduction to the study of the consumer in the American economy; sources of consumer information and consumer protection; and examination of current consumer issues within an economic framework.
ACE 291 Ag Policy & Leadership  credit: 3 Hours.
Current policy issues affecting agriculture and the legislative and rulemaking process that determines those policies will be studied. A trip to Washington, DC during spring break will give the students an opportunity to interact with legislators, federal agencies, organization leaders and representatives of the national and international agricultural policy community to better understand the policy making process and the issues moving through it. Student participation will focus on developing leadership skills and having an opportunity to meet with leaders who are actively engaged in creating and changing public policy. Additional fees may apply. See Class Schedule. Prerequisite: Junior or Senior standing required or the approval of the instructor.

ACE 292 Farm, Food & Environmental Policy  credit: 3 Hours.
This course seeks to broaden students' understanding of the breadth and complexity of agriculture in the United States and the challenges and opportunities to be found in the U.S. food and agricultural system. It includes a week-long trip to an area outside of Illinois (such as California) during spring break where students will meet with farm, food and environmental leaders who are deeply involved in driving the issues shaping farm, food, and environmental policy. Additional fees may apply. See Class Schedule. Prerequisite: Sophomore, Junior or Senior standing required AND approval of the instructor.

ACE 293 Off-Campus Internship  credit: 1 to 4 Hours.
Supervised, off-campus experience in a field directly pertaining to a subject matter in agricultural and consumer economics. Additional fees may apply. See Class Schedule. Approved for S/U grading only. May be repeated up to 4 hours in a semester, to a maximum of 10 hours. Prerequisite: Sophomore standing, cumulative GPA of 2.5 or above at the time the internship is arranged, and consent of instructor.

ACE 294 On-Campus Internship  credit: 1 to 4 Hours.
Supervised, on-campus, learning experience with faculty engaged in research. Approved for S/U grading only. May be repeated up to 4 hours in a semester, to a maximum of 10 hours. Prerequisite: Sophomore standing, cumulative GPA of 2.5 or above at the time the internship is arranged, and consent of instructor.

ACE 295 Independent Study  credit: 1 to 4 Hours.
Individual or small group research, special problems, or other studies under the supervision of an appropriate member of the faculty. Approved for both letter and S/U grading. May be repeated in the same or subsequent terms as topics vary. May be repeated up to 4 hours in a semester, but no more than 12 hours of special problems, research, thesis and/or individual studies may be counted toward the degree. Prerequisite: Junior standing, cumulative GPA of 2.5 or above at the time the activity is arranged, and consent of instructor.

ACE 306 Food Law  credit: 3 Hours.
Explores the legal and political dimensions of food law, policy and trade in the United States and major trading partners. Examines the development of major national and state laws that apply to production, distribution and retail sale of food. Evaluates current issues in food regulation, including: biotechnology, organics, health labeling claims, food safety and products liability litigation. Discusses food regulation in other countries within the context of international treaties such as the World Trade Organization and United Nations.

ACE 310 Natural Resource Economics  credit: 3 Hours.
Economic principles are used to analyze a broad range of natural resource policy and management issues. Economic concepts developed include public goods, social welfare, discounting, dynamic efficiency, and resource scarcity. Natural resources examined include biodiversity, fisheries, forests, minerals, soil, and water resources. Same as ENVS 310 and NRES 310. Prerequisite: ACE 100 or ECON 102.

ACE 321 Principles of Public Policy  credit: 3 Hours.
Same as ACCY 321, BADM 303, and PS 321. See PS 321.

ACE 335 Food Marketing and Behavior  credit: 3 Hours.
This course will explore the food choices consumers make and what this means in the food and agribusiness industries. Students will also learn how to conduct basic research related to consumer behavior, including developing a research question, designing high quality surveys/experiments, and analyzing data.

ACE 341 Issues & Careers in Applied Econ  credit: 1 or 2 Hours.
Students study contemporary issues and career opportunities associated with various concentrations in the Department of Agricultural and Consumer Economics. An in-depth dialogue with industry professionals helps develop an understanding of the skill sets needed to succeed in each of the different career paths discussed. May not be repeated for credit.

ACE 345 Finan Decision Indiv Sm Bus  credit: 3 Hours.
Introduction to financial decision-making for small businesses and individuals. Examines financial statement preparation and analysis; capital structure (use of debt and equity); investment analysis and portfolio theory; time value of money; interest rates and term structure; asset markets (pricing theories); evaluation of financial risk and insurance concepts, and an introduction to credit markets and financial capital suppliers. In addition, there is a class project involving a visit to either a lender or a financial planner/advisor, and other experiences to introduce students to services and careers in financial sectors. Prerequisite: ACCY 201 or equivalent, or consent of instructor.

ACE 346 Tax Policy and Finan Planning  credit: 3 Hours.
Explores the federal tax system, including income, social security, Medicare, and estate taxes, and state and local tax systems. Students learn basic tax principles, public policy issues embedded in the tax systems, and how tax law influences financial plans and decisions. Helps students make wiser financial decisions through increased understanding of the tax impacts of those decisions, participate knowledgeably in public debates surrounding tax policy, and prepare for careers as financial planners. Prerequisite: Sophomore standing.

ACE 360 Spreadsheet Models & Applic  credit: 2 Hours.
Spreadsheet development and modeling skills intended for economics and finance applications. Advanced uses of spreadsheet software, development of user-defined functions, use of Visual Basic and comparable external interface languages, data query designs, and advanced data analyses, summary and presentation skills are stressed. Intended to serve as a prerequisite for advanced modeling courses in specific disciplinary areas. Prerequisite: ACE 100 or equivalent, ACE 161 or CS 105, and completion of ACE 261 or ECON 203 or equivalent.

ACE 396 Honors Research or Thesis  credit: 1 to 4 Hours.
Individual research, special problems, thesis, development and/or design work under the direction of the Honors advisor. May be repeated in the same or subsequent terms as topics vary. May be repeated up to 4 hours in a semester, but no more than 12 hours of special problems, research, thesis and/or individual studies may be counted toward the degree. Prerequisite: Junior standing, admission to the ACES Honors Program, and consent of instructor.
ACE 398  Seminar  credit: 1 to 3 Hours.
Group discussion on a special topic in a field of study directly pertaining to subject matter in agricultural and consumer economics. Approved for both letter and S/U grading. May be repeated to 3 hours in a semester, up to a maximum of 12 total hours. Prerequisite: Junior standing and consent of instructor.

ACE 403  Agricultural Law  credit: 3 to 4 Hours.
Relation of common-law principles and statutory law to land tenure, farm tenancy, farm labor, farm management, taxation, and other problems involving agriculture. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: Junior standing.

ACE 406  Environmental Law  credit: 3 to 4 Hours.
Examination of environmental law issues. Topics include common-law pollution control; role of administrative agencies and courts; federal and state power; air and water pollution; regulation of toxic substances; protection of land, soil and other natural resources. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite: ACE 403, or BADM 300, or BADM 301 recommended.

ACE 410  Energy Economics  credit: 3 or 4 Hours.
Use of economics tools to understand and evaluate public policy issues surrounding energy markets and related environmental markets. Focus is on the economic drivers of energy production and use, biofuel policy, transportation and storage of energy commodities, regulation of energy markets, and policies designed to mitigate the impact of energy production and consumption on the environment. 3 undergraduate hours. 4 graduate hours. Prerequisite: ECON 302 or equivalent.

ACE 411  Environment and Development  credit: 3 to 4 Hours.
Relationship between economic development and environmental sustainability through application of cost-benefit analysis and environmental economics. Developing and developed country issues are considered with an emphasis on hands-on applications of project appraisal, social benefit-cost analysis, green accounting, and non-market valuation. 3 undergraduate hours. 4 graduate hours. Prerequisite: ECON 302 or equivalent.

ACE 427  Commodity Price Analysis  credit: 3 Hours.
A comprehensive and in-depth survey of commodity price analysis with emphasis on the fundamental factors affecting prices of agricultural products; sources of information relating to production and demand factors; government activities as they relate to prices of agricultural products; technical analysis of agricultural product prices; and market efficiency and forecasting. 3 undergraduate hours. 3 graduate hours. Prerequisite: ACE 100 or ECON 102; ACE 261, or equivalent.

ACE 428  Commodity Futures and Options  credit: 3 Hours.
Development of futures trading; operation and governance of commodity exchanges; economic functions of futures trading; operational procedures and problems in using futures markets; public regulation of futures trading; evaluation of market performance. 3 undergraduate hours. 3 graduate hours. Prerequisite: ACE 222 or FIN 300 or equivalent.

ACE 430  Food Marketing  credit: 3 Hours.
Performance of the food system; marketing margins; transportation, advertising, and retailing of food products; structure, conduct, and performance of food marketing firms and industries; government and public interest in the food system. Same as FSHN 425. 3 undergraduate hours. 3 graduate hours. Prerequisite: ACE 100 or ECON 102, ACE 222 recommended.

ACE 431  Agri-food Strategic Management  credit: 3 Hours.
Process of strategic decision-making in food and agribusiness firms; methods for analysis of business and regulatory environment; organizational issues in strategy choice for firms and supply chains. Same as BADM 438. 3 undergraduate hours. 3 graduate hours. Prerequisite: ACE 231, BADM 320, or ACE 222; or consent of instructor.

ACE 432  Farm Management  credit: 3 or 4 Hours.
Students develop expertise in evaluating and making decisions similar to those faced by farm operators and managers. 3 undergraduate hours. 4 graduate hours. Prerequisite: ACE 232; credit or concurrent registration in ACE 360 or equivalent.

ACE 435  Global Agribusiness Management  credit: 3 Hours.
Examination of the economic and strategic management of food, textile, and agribusiness firms within a global business environment; topics include the global business environment and its institutions, organizational strategies and policies, and business operations in global agricultural, food and textile industries. 3 undergraduate hours. 3 graduate hours. Prerequisite: ACE 231, ACE 222, or BADM 320 or consent of instructor.

ACE 436  Intl Business Immersion  credit: 4 Hours.
Provides participants an in-depth, experiential immersion into the complex issues and constraints that confront international marketing channel participants. Contextually grounded and themed in a specific industry, the course combines on-campus lectures with an intensive international immersion experience to Europe, Asia, or Latin America. By following the complete marketing channel from raw materials procurement to final consumption, participants gain first-hand knowledge of the necessary managerial decision-making skills required to successfully operate in today's global business environment. Same as BADM 436. 4 undergraduate hours. 4 graduate hours. May be repeated to a maximum of 8 undergraduate and/or 8 graduate hours. Prerequisite: Consent of instructor.

ACE 440  Finan Plan for Professionals  credit: 3 or 4 Hours.
Capstone course applies financial planning principles and concepts in realistic case studies of specific planning needs, requires a comprehensive financial planning exercise, and covers professional ethics and responsibilities. 3 undergraduate hours. 4 graduate hours. Prerequisite: Concurrent enrollment in or completion of ACE 345, ACE 346, ACE 444, and ACE 449.

ACE 444  Finan Serv & Invest Plan  credit: 3 or 4 Hours.
Advanced skills in and understanding of asset pricing, equity and debt investment, portfolio theory and diversification, asset allocation, financial risk management, and financial intermediation and regulation emphasizing applications in financial planning and agricultural finance. 3 or 4 graduate hours. Prerequisite: ACE 240, ACE 345, or FIN 221, and ECON 302 or consent of instructor.

ACE 445  Intermediate Personal Fin Plan  credit: 4 Hours.
Financial planning philosophies, techniques, and procedures. Course uses case studies and problem-solving activities to construct financial plans for individuals and families in various life cycle stages and family structures. 4 undergraduate hours. 4 graduate hours. Prerequisite: ACE 240, ECON 302, and junior standing or consent of instructor; FIN 230 is recommended.
ACE 446  Modeling App's Finan Plan  credit: 2 Hours.
Improves ability to make effective financial plans and decisions. Involves
development of decision tools that are applied to "real world" financial
data sets and planning/decision-making circumstances. Topics include
applied data management techniques (designing queries/storable
forms), financial statement analysis, numeric optimization tools, leverage
assessment, incorporating risk in decisions, capital budgeting and time
value of money, term structure of interest rates, and currency exchange.
2 undergraduate hours. 2 graduate hours. Prerequisite: One of ACE 240,
ACE 345, FIN 221; or consent of instructor and advanced knowledge of
spreadsheet software equivalent to the coverage of ACE 360.

ACE 447  Case Stud Agr Accy & Fin Plan  credit: 3 Hours.
Capstone course for agricultural accounting, agricultural finance, and
financial planning; applies business and planning concepts and tools
to real-world situations; emphasizes group decision making; industry
professions participate in the learning experience. 3 undergraduate
hours. 3 graduate hours. Prerequisite: One of ACCY 301, ACE 444,
FIN 300; or consent of instructor.

ACE 448  Rural Real Estate Appraisal  credit: 3 or 4 Hours.
Valuation methods and value bases of rural real estate; legal aspects
of property rights, appraisal theory and procedures, condemnation
appraisal, characteristics of the rural land market, soil identification and
productivity, and other legal, economic, agronomic, and engineering
aspects of real estate valuation. Laboratory field trips, including
a practice appraisal; see Class Schedule for approximate cost. 3
undergraduate hours. 3 or 4 graduate hours. Prerequisite: ACE 232 or
ACE 360; NRES 201.

ACE 449  Retirement & Benefit Planning  credit: 3 or 4 Hours.
Employee benefit and retirement planning, including employer-sponsored
or individually managed options, with particular attention to determining
benefit and retirement needs and managing risks in specific planning
situations. 3 undergraduate hours. 3 or 4 graduate hours. Credit is not
given for both ACE 449 and FIN 434. Prerequisite: ACE 240, ACE 345,
and ECON 302 or consent of instructor.

ACE 451  Agriculture in Intl Dev  credit: 3 to 4 Hours.
Economics of agricultural development and the relationships between
agriculture and other sectors of the economy in developing nations;
agricultural productivity and levels of living in the less developed areas
of the world; and studies of agricultural development in different world
regions including Africa, Asia, and Latin America. 3 undergraduate hours.
3 or 4 graduate hours. Prerequisite: ECON 302 or consent of instructor.

ACE 452  The Latin American Economies  credit: 2 to 4 Hours.
Same as ECON 452. See ECON 452.

ACE 454  Econ Dev of Tropical Africa  credit: 2 to 4 Hours.
Types of African economies and growth of the exchange economy;
development of natural resources, industry, trade, finance, and
education; analysis of economic integration, governmental planning, and
development projects; and demographic, land tenure, and institutional
influences on development. 3 undergraduate hours. 2 to 4 graduate
hours. Prerequisite: ECON 302 or consent of instructor.

ACE 455  Intl Trade in Food and Agr  credit: 3 Hours.
Economic theory used to analyze trends and patterns of international
trade in major agricultural commodities and to understand interaction
between economic development, policy, and trade; welfare implications
of policies affecting production, consumption, and trade; implications
of protectionism, free trade, regional trade blocs, and multilateral
trade liberalization, and the role for international trade institutions.
3 undergraduate hours. 3 graduate hours. Prerequisite: ECON 302 or
consent of instructor.

ACE 456  Agr and Food Policies  credit: 3 to 4 Hours.
Analysis of agricultural and food policies and programs and their effects
on producers and consumers of agricultural products. Formulation
of agricultural and food policies are examined with an emphasis on
historical and current economic problems affecting agriculture and rural
America. 3 undergraduate hours. 3 or 4 graduate hours. Prerequisite:
ECON 302 or consent of instructor.

ACE 471  Consumer Economic Policy  credit: 3 Hours.
Analysis of choice-making, buying, using, and disposing of consumer
goods by families; social policy Perspectives considered. 3
undergraduate hours. No graduate credit. Prerequisite: ACE 100 or
equivalent and junior standing.

ACE 474  Econ of Consumption  credit: 3 to 4 Hours.
Concepts, theories, and methods for analysis of the micro and macro
aspects of consumption; includes standards and content of consumption
and description of consumption patterns and trends in the USA and
selected other countries. 3 undergraduate hours. 3 or 4 graduate hours.
Prerequisite: ECON 302 or consent of instructor; a course in statistics;
junior standing.

ACE 476  Family Economics  credit: 2 to 4 Hours.
Economic welfare of American families, application of economic
to the behavior of families and individuals with respect to time
allocation between the home and the market; family forms; human
capital accumulation; gender differences in income; income inequality;
and poverty. Role of public policy is considered. 3 undergraduate hours.
2 to 4 graduate hours. Prerequisite: ECON 302 or consent of instructor; a
course in statistics; senior standing.

ACE 496  Practicum  credit: 4 to 12 Hours.
Cooperatively supervised field experience in management and
administration in a textile marketing business. Only four hours may be
applied to the total required for a graduate degree. At the undergraduate
level, up to four hours may be counted toward the hours required in
Agricultural and Consumer Economics. 4 to 12 undergraduate hours. 4 to
12 graduate hours. Approved for both letter and S/U grading. Prerequisite:
Consent of instructor. Not available to students on probation.

ACE 499  Seminar  credit: 1 to 4 Hours.
Group discussion or an experimental course on a special topic in
agricultural and consumer economics. 1 to 4 undergraduate hours. 1 to
4 graduate hours. Approved for both letter and S/U grading. May be
repeated in the same semester to 4 hours, or subsequent terms to a
maximum of 12 hours as topics vary.

ACE 500  Applied Economic Theory  credit: 4 Hours.
Provides an understanding of theory of the firm, consumer economics
and various market models necessary to conduct applied professional
economic research with special emphasis on applications relevant
to agricultural, consumer, development, and resource economics.
Multivariate calculus and optimization methods are used.

ACE 501  Risk and Info: Theory and App  credit: 4 Hours.
Applications of the theory of economic behavior under uncertainty
and asymmetric information. Analysis of individual decision making
under uncertainty includes: tests of the expected utility hypothesis;
comparative statistics of changes in risk preferences and risk; and
moment based models of decision making. Analysis of economic
equilibrium under uncertainty and asymmetric information includes tests
for complete markets and applications of noncooperative game theory.
Prerequisite: Concurrent enrollment in ECON 500 and ECON 506.
ACE 502 Demand/Supply/Firms/Households credit: 4 Hours.
Applications of demand and supply theories and applications of firm and household behavior. Topics include demand and supply systems, aggregation and separability, dynamics, formation and boundaries of the firm, household decision making, intrahousehold allocation, allocation of time, human capital, and hedonics. Same as ECON 553. Prerequisite: ECON 500 and ACE 501.

ACE 503 Equilibrium and Welfare Econ credit: 4 Hours.
Provides a theoretical and applied treatment of economic equilibrium and the consequences of displacement of equilibrium for the welfare levels of economic agents. Displacement of equilibrium will be shown to be brought about by changes in government policy, technology, and consumer preferences. Welfare measures under partial equilibrium, general equilibrium, and multi-market models will be presented. Includes various applications of welfare economics in the analysis of policy and technological change. Prerequisite: ECON 500 and at least two semesters of college calculus.

ACE 510 Adv Natural Resource Economics credit: 4 Hours.
Economic theory is used to examine the allocation of renewable and efficiency issues that arise from natural resource policy and management issues. Same as ECON 548, ENVS 510, and NRES 510. Prerequisite: ECON 302 or equivalent.

ACE 516 Environmental Economics credit: 4 Hours.
Same as ECON 549. See ECON 549.

ACE 520 Food Commodity Markets credit: 4 Hours.
Examination of selected economic problems in marketing agricultural products and relevant theory and empirical methods for analyzing and interpreting research results. Topics include: operational efficiency in marketing firms and industries; efficient allocation over space, form, and time; price making institutions; and research in demand stimulation and selected issues in trade. Prerequisite: ACE 562 and ACE 563, and ECON 500; or equivalent.

ACE 527 Advanced Price Analysis credit: 4 Hours.
Study of methods used to analyze factors affecting agricultural prices; analysis of agricultural prices and price movements with respect to time, space, and form; and examination of methods of price forecasting and techniques of time series analysis. Prerequisite: ACE 562 or ECON 507 and ECON 500; or equivalent.

ACE 528 Research in Futures Markets credit: 4 Hours.
Research literature on commodity futures and options markets, both theoretical and empirical; topics include: supply of storage, basis models, theory of the firm and hedging under uncertainty, optimal hedging, speculative returns, market performance, pricing efficiency and option pricing. Prerequisite: ECON 500 or equivalent.

ACE 530 Microeconometrics credit: 4 Hours.
Applied micro-econometrics concentrating on cross section data, panel data, and treatment effects. Includes methods for estimating treatment effects in the Rubin causal model framework. Emphasis will be placed on econometric procedures relevant for agricultural and applied economists and their implementation in Stata, including Mata. Prerequisite: ECON 506 and ECON 507, or equivalent.

ACE 531 Impact Evaluation credit: 2 Hours.
The problem of identification. Methods for impact evaluation, including randomized field experiments, propensity score matching, differences in differences, instrumental variables, and regression discontinuity. Includes exercises using the econometric software program STATA. Prerequisite: ACE 500 or ECON 500 or equivalent.

ACE 532 Spatial Econometrics credit: 4 Hours.
This course provides the statistical and econometric techniques required for spatial analysis and appropriate modeling of cross-sectional (and panel) datasets. While spatial statistics allow the students to identify the two spatial effects commonly found in geocoded samples (spatial autocorrelation and spatial heterogeneity), spatial econometrics is especially geared towards including these effects in a regression model. An important aspect of the course is to gain hands-on experience in applying the appropriate techniques and using state-of-the-art software (such as the spatial econometric toolboxes available in R). 4 graduate hours. No professional credit. Prerequisite: ACE 562, ACE 564, ECON 535, or the equivalent. Graduate students only.

ACE 542 Advanced Agricultural Finance credit: 4 Hours.
Theory of financial decision making as applied to farms and firms related to agriculture. Topics include asset pricing models, financial markets, capital structure, farmland control, term structure of interest rates, risk management and credit evaluation. Prerequisite: ECON 500, calculus, and mathematical statistics, or equivalent; at least one course in finance strongly recommended; or consent of instructor.

ACE 552 Regional Development Theory credit: 4 Hours.
Same as UP 552. See UP 552.

ACE 555 Economic Impact Analysis credit: 2 Hours.
Examines the theories and limitations of input-output models, sources and weaknesses of the data, and validity of selected impact studies by researchers in universities, government, and the private sector. Combining economic theory, county-level data, and state-of-the-art software, students build an input-output model and carry out a professional impact study. Students pick their topics and regions, think through the economics of a scenario, figure out how to make the scenario mesh with the peculiar economic logic of the input-output model, and complete a regional impact study with a sound knowledge of the inherent theoretical and data issues. Same as UP 555.

ACE 556 Agr Policy and Political Econ credit: 4 Hours.
Economic theory is used to study both the effects and the causes of public policies that influence agricultural industries, consumers, and taxpayers. Neoclassical models of government intervention are used to study the welfare effects of income redistribution and stabilization policies and macroeconomic policies as they affect agriculture. Formal models of political economy and public choice are used to analyze the underlying causes of public policy. Emphasis is placed on the political power of interest groups as an explanation of public policy decisions. Prerequisite: ECON 500 or equivalent and ACE 502 and ACE 503.

ACE 557 Food, Poverty and Development credit: 2 Hours.
Economic theory and empirical analyses are used to study economic development, emphasizing the structural transformation of an economy, poverty alleviation among households, improvement in food security and public policies to support those processes. Topics include poverty measurement, poverty dynamics, growth theory, and impact evaluation. Special attention is paid to the role of the agricultural sector and rural development. Prerequisite: ACE 500 or ACE 504 or ECON 500 and basic econometrics.

ACE 559 Food, Trade and Development credit: 2 Hours.
Economic theory and empirical analyses are used to study international trade, emphasizing food trade, agricultural policy and international development. Topics include theoretical models of international trade, regional agreements, and food trade. Special attention is given to the impact of trade in developing countries with large agricultural sectors and to issues relating to trade in food products. Prerequisites: ACE 500 or ACE 501 or ECON 500 and basic econometrics.
ACE 561 Adv Res and Scholarly Comm credit: 4 Hours.
Seminar intended for Ph.D. students who have completed written preliminary examinations. Develops a comprehensive understanding of the research process. Discussions include identification of research topics, structure of research proposals, review of literature, effective communication, management of research activities, and contributions to scholarly debate. Prerequisite: Consent of instructor.

ACE 562 Applied Regression Models I credit: 2 Hours.
Application of simple regression methods to problems in agricultural and consumer economics with emphasis on foundational probability, random variable, and distribution concepts, development of the simple, two-variable regression model; estimation of model parameters; hypothesis testing; and prediction. Prerequisite: ACE 261 or equivalent; one of MATH 220, MATH 221, MATH 234.

ACE 563 Math Program App Econ I credit: 2 Hours.
Application of mathematical programming methods to discrete models in agricultural economics; Kuhn-Tucker theorem, Lagrange multipliers, duality, simplex method as applied to linear and quadratic programming, and input-output analysis models in agriculture. Prerequisite: MATH 124; one of MATH 220, MATH 221, MATH 234.

ACE 564 Applied Regression Models II credit: 2 Hours.
Application of multiple regression methods to problems in agricultural and consumer economics with emphasis on extensions to the simple, two-variable regression model, development of the multiple regression model; and problems created by violations of basic model assumptions. Prerequisite: ACE 562 or equivalent.

ACE 566 Mathematics for Applied Econ credit: 3 Hours.
Applications of concepts of linear algebra, calculus, and multivariate optimization to equilibrium analysis, comparative statistics, and other topics in agricultural and consumer economics.

ACE 567 Math Program App Econ II credit: 2 Hours.
Advanced mathematical programming methods with particular emphasis on applications in agricultural and consumer economics. Covers nonlinear programming, sector modeling, risk modeling, and methodological issues in mathematical programming modeling of agricultural systems. Prerequisite: ACE 563 or equivalent.

ACE 569 Career Development for PhDs credit: 1 Hour.
This course is intended to help doctoral candidates transition into careers in or out of academia. The class covers job market processes and strategies, presentation skills, teaching philosophies, and development of research trajectories. Approved for S/U grading only. Prerequisite: ACE 561.

ACE 571 Household Economics credit: 2 Hours.
Discussion of current topics and review of the literature in household economics. Relevant topics include marriage, divorce, intergenerational transfers, investment in children, migration. Prerequisite: ECON 500 or equivalent.

ACE 591 Independent Study credit: 0 to 8 Hours.
Individual research work under the supervision of an appropriate member of the faculty. Approved for both letter and S/U grading. May be repeated to a maximum of 8 hours if topics vary.

ACE 592 Special Topics credit: 0 to 8 Hours.
Group instruction on a special topic under the direction of one or more members of the faculty. Approved for both letter and S/U grading. May be repeated in a semester to a maximum of 8 hours. May be repeated to a maximum of 24 total hours, if topics vary.

ACE 594 Seminars and Workshops credit: 0 to 8 Hours.
Participation in a seminar or workshop with other graduate students and faculty members. Approved for both letter and S/U grading. May be repeated.

ACE 599 Thesis Research credit: 0 to 16 Hours.
Individual research under supervision of members of the graduate teaching faculty in their respective fields. Approved for S/U grading only. May be repeated.