

Department of *Economics*

*College of Agriculture and College of Business**

Head: Professor *Keith R. Criddle*, resource economics and quantitative methods
Office in Business 615, (435) 797-2310

FAX (435) 797-2701

E-mail econinfo@econ.usu.edu

WWW <http://www.econ.usu.edu>

Professors *DeeVon Bailey*, agricultural economics; *Basudeb Biswas*, international trade and economic development; *Christopher Fawson*, public finance and econometrics; *Terrence F. Glover*, production economics and policy; *E. Bruce Godfrey*, agricultural and resource economics; *L. Dwight Israelsen*, comparative systems and economic history; *John E. Keith*, agricultural and resource economics; *W. Cris Lewis*, regional-urban and managerial economics; *Kenneth S. Lyon*, economic theory; *H. Craig Petersen*, regulation and antitrust and managerial economics; *Donald L. Snyder*, agricultural and resource economics; **Professors Emeriti** *Roice H. Anderson*, *Larry K. Bond*, *Rondo A. Christensen*, *Lynn H. Davis*, *Reed R. Durtschi*, *Herbert H. Fullerton*, *Gary B. Hansen*, *Allen D. LeBaron*, *Darwin B. Nielsen*, *Morris D. Whitaker*; **Associate Professor** *Paul M. Jakus*, natural resource and environmental economics, nonmarket valuation; **Associate Professor Emeritus** *Glenn F. Marston*; **Assistant Professors** *David M. Aadland*, macroeconomics and applied econometrics; *Tyler J. Bowles*, econometrics and international economics; *Arthur J. Caplan*, environmental economics and applied microeconomic theory; *David L. Dickinson*, labor and experimental economics; *John P. Gilbert*, international trade theory and policy, applied general equilibrium modeling, development economics; *Kevin Xiaodong Huang*, monetary, financial, and international economics; *Lynn Hunnicutt*, industrial organization and business strategies; *Rimma Shiptsova*, international trade, food safety, econometrics; *Ruby A. Ward*, agribusiness management and operations research; **Human Resources Specialist** *Marion T. Bentley*, manpower economics

Degrees offered: Bachelor of Science (BS) in Agribusiness; Bachelor of Arts (BA) in International Agribusiness; BS in Agricultural Economics; Master of Science (MS) in Applied Economics; BS, BA, MS, Master of Arts (MA), and Doctor of Philosophy (PhD) in Economics; participates in Master of Business Administration (MBA); participates in Master of Social Sciences (MSS). The Agribusiness and Economics majors are structured to facilitate a dual major with companion majors within or outside the College of Business.

Undergraduate emphases: *BS, BA in Economics*—Economic Theory, Managerial, and Prelaw

Graduate specializations: *MS in Applied Economics*—Agricultural Economics, Natural Resource Economics, and Regional Economic Development; *MBA*—Agribusiness Management, International Economics, and Quantitative Economic Analysis; *MSS*—Economics

Undergraduate Programs

Objectives

Undergraduate economics provides students with the basic intellectual framework to understand and analyze economic problems and to make informed decisions. A basic understanding of economics is essential to becoming a well-informed citizen, as well as a successful business or public leader.

Admission Requirements

Freshmen who meet the admission requirements and are accepted in good standing by the University are eligible for admission to the College of Agriculture, the College of Business, and the Department of Economics. All transfer students, whether transferring from within Utah State University or from other colleges and universities, must have an overall minimum GPA of 2.2 to be accepted as majors in the department.

New students wishing to major in the Department of Economics may do so by listing one of the departmental majors on their application when they apply for admission to USU. Students enrolled at USU may change to a departmental major by applying directly to the College of Agriculture, the College of Business, or the Department of Economics.

Graduation Requirements

To receive a bachelor's degree in Agribusiness, Agricultural Economics, Economics, or International Agribusiness, students must complete all University requirements and the college and departmental requirements for their specific major as noted below.

Agribusiness Major

The Agribusiness major provides a foundation for employment in the agricultural sectors and rural regions and in businesses serving agriculture and rural regions, such as banks and financial institutions, production, marketing and buying cooperatives, value-added food producers, real estate and land management, agricultural chemical production and sales, and farms and ranches. Graduates of this program are employed in a variety of agribusiness operations throughout the United States. Agribusiness graduates have achieved prominence in positions in wholesale and retail sales and service, stock and commodity brokerage, real estate appraisal, banking and farm credit, insurance, and in farm and ranch operations. Classwork provides training in basic business and economics, as well as the specific management tools required for agricultural enterprises.

*The Department of Economics is jointly administered by the College of Agriculture and the College of Business. Programs in both the College of Agriculture and the College of Business are offered.

To graduate with a bachelor's degree in Agribusiness, a student must have an overall GPA of 2.5 or higher, as well as a minimum GPA of 2.5 in Economics courses. An overall GPA of 2.5 or higher is required for admission into some required BA and MHR courses. All required courses must be taken for a letter grade. Econ 2250, 3900, and 4250 cannot be used to meet economics elective requirements.

Agribusiness Major with a dual major in Business: Econ 1500, 2010, 3400, 4010 (or 5010), 4020 (or 5000), 4030, 5020, 5030, 5050 (or 5350); Acct 2010, 2020; BA 3400, 3500, 3700; BIS 2450, 2550; MHR 2990, 3110, 4890; Math 1050, 1100; and Stat 2300.

Agribusiness Major with a dual major in Agricultural Systems Technology: Econ 1500, 1550, 3030, 3050, 4010, 4030, 5030, 5050, 5350; ASTE 1010, 2200, 3030 (or 4100), 3050, 3090, 3200 (or 3080), 3600, 5260; Acct 2010, 2020; Chem 1010; Math 1050, 1100; MHR 2990; Soil 4000; Stat 2300.

Agricultural Economics Major

The Agricultural Economics major emphasizes the development of quantitative skills in and a deeper understanding of economic theory. While this program provides a solid base for individuals desirous of careers in agricultural businesses, it is also an excellent preparation for graduate studies in economics, agricultural economics, natural resources, business, or law. The Agricultural Economics degree provides an excellent background for work in federal, state, and local government, as well as in the private sector. Graduates of this program are now working in positions involving the analysis of prices and markets, preparation of economic feasibility studies, and preparing economic forecasts.

To graduate with a bachelor's degree in Agricultural Economics, a student must have an overall GPA of 2.2 or higher, as well as a minimum GPA of 2.2 in Economics courses.

Agricultural Economics Major: Econ 1500, 2010, 3400, 4030, 4310 (or 5310), 5000, 5010, 5020, 5030, 5050, 5330, 5950; Acct 2010, 2020; MHR 2990; BIS 2450; Math 1050, 1100; Stat 2300; and BIS 2550 or ASTE 3050.

Economics Major

The **Economic Theory Emphasis** is designed for students who are interested in preparing for graduate studies in economics or agricultural economics and for students who are preparing for a career that requires training in quantitative economic analysis. Graduates have employment opportunities in business and government, as well as opportunities for continuing their education in graduate economics programs or in professional schools. Economists are often involved in policy analysis for government agencies and nongovernmental organizations.

The **Managerial Emphasis** is for students who are planning for careers in business. The program can serve as a terminal program for those planning to enter the job market on graduation or as excellent preparation for students who intend to pursue an MBA or MPA.

The **Prelaw Emphasis** is for students who plan to attend law school or pursue a career related to political science, and who want to obtain a strong foundation in economics. The large number of elective credits included in this emphasis area provides enough flexibility for students to custom design their program of study to meet individual interests and educational goals. Several

students have taken advantage of this flexibility to design a dual major with Economics and Political Science.

The **Economics major with a dual major in the College of Business** has been very popular with Finance and Accounting majors because of the added theoretical and analytical dimension that advanced studies in economics can contribute to Finance and Accounting majors. The dual major is excellent preparation for students interested in advanced studies in Accounting or Finance. In addition, because the dual major provides a strong grounding in economic theory, it helps open career opportunities that involve policy analysis. Many finance and accounting faculty members hold graduate degrees in economics.

The **Economics major with a dual major outside the College of Business** provides students in the humanities, and social and natural sciences with an opportunity to learn policy analysis tools. Whether the students are directly interested in policy or simply interested in the impact of policy within their chosen primary major, economics introduces a robust and empirically verified paradigm for explaining the behavior of social systems and their interaction with cultural, biological, and physical resources.

To graduate with a bachelor's degree in Economics, a student must have an overall GPA of 2.2 or higher, as well as a minimum GPA of 2.2 in Economics courses.

Economics Major—Economic Theory Emphasis: Econ 1000, 1500, 2010, 3400, 4310 (or 5310), 5000, 5010, 5100, 5330, 5950; Acct 2010, 2020; BIS 2450, 2550; MHR 2990; Math 1050, 1100; Stat 2300; Psy 1010 or Soc 1010; and 12 credits of upper-division Econ electives.

Economics Major—Managerial Emphasis: Econ 1000, 1500, 2010, 3400, 4010 (or 5010), 4020 (or 5000), 4310 (or 5310), 5330, 5950; Acct 2010, 2020; BA 3400, 3500, 3700; BIS 2450, 2550; MHR 2990, 3110; Math 1050, 1100; Stat 2300; Psy 1010 or Soc 1010; and 6 credits of upper-division Econ electives.

Economics Major—Prelaw Emphasis: Econ 1500, 2010, 3400, 4010 (or 5010), 4020 (or 5000), 5100, 5950; Math 1050, 1100; PolS 1100; Stat 2300; 6 credits of Econ electives; and 6 credits of PolS electives.

Economics Major with a dual major in the College of Business: Econ 1000, 1500, 2010, 3400, 4010 (or 5010), 4020 (or 5000); Acct 2010, 2020; BIS 2450, 2550; MHR 2990; Math 1050, 1100; Stat 2300; Psy 1010 or Soc 1010; and 6 credits of upper-division Econ electives.

Economics Major with a dual major outside the College of Business: Econ 1500, 2010, 3400 (or 5400), 4010 (or 5010), 4020 (or 5000); Math 1050, 1100; Stat 2300; and 9 credits of upper-division Econ electives.

International Agribusiness Major

The International Agribusiness major combines training in business, language skills, and economics courses that emphasize the role of the trade and development issues that are critical to operating in the increasingly internationalized agribusiness sector. The program provides a foundation for employment in agricultural and agribusiness sectors and in banks and financial institutions, production, marketing and buying cooperatives, value-added food producers, agricultural chemical production and sales, and farms and ranches in domestic and international settings. Classwork provides training in basic business and economics, as

well as the specific management tools required for agricultural enterprises.

To graduate with a bachelor's degree in International Agribusiness, a student must have an overall GPA of 2.2 or higher, as well as a minimum GPA of 2.2 in Economics courses.

International Agribusiness Major: Econ 1500, 2010, 3400, 4010, 4020, 5030, 5050, 5120, 5350, 5400, 5950; Acct 2010; BIS 2450; Math 1050, 1100; Stat 2300; NFS 5510; PISc 4300; ASTE 6140; and a score of 3 or better on the Federal FSI Test or completion of a language minor.

Minor Requirements

Economics Minor: Econ 1500, 2010, 3400 (or 5400), 4020 (or 5000), and 4010 (or 5010).

Economics Teaching Minor: Econ 1500, 2010, 3400 (or 5400), 5100, 5110; BIS 3000, 3300 (or 4300), 4400.

Agribusiness Management Minor: Econ 1500, 3030, 3050, 4030; Acct 2010.

Agricultural Economics Minor: Econ 1500, 2010, 4010 (or 5010), 4030, 5030.

Additional Information

For more information about bachelor's degree requirements, see the major requirement sheets available from the Department of Economics.

Financial Support

The Department of Economics, the College of Agriculture, and the College of Business award scholarships in addition to those available through the University Financial Aid Office. Information and application forms may be obtained from the college or departmental offices.

Graduate Programs

The MA, MS, and PhD in Economics, along with the MS in Applied Economics, are offered jointly through the College of Agriculture and College of Business. The MBA, with specializations in Agribusiness Management, International Economics, and Quantitative Economic Analysis, is offered through the College of Business. The MSS, with specialization in Economics, is an interdepartmental program offered in conjunction with the College of Humanities, Arts and Social Sciences.

Objectives

Economics graduate training emphasizes economic theory, critical thinking, and quantitative analysis. This foundation is a means to an end, not an end in itself: theory and quantitative methods are tools used in applied courses, in theses and dissertations, and in other research and extension activities carried out in the department.

The **Master of Science and Master of Arts in Economics** are intended to prepare students for doctoral studies in economics. Consequently, students are required to take the same first-year core theory and econometrics courses as the PhD students, with

specialization courses in the second year. The **MS in Applied Economics** is a terminal degree that prepares students for positions in industry; private consulting firms; local, regional, and national policy-making agencies; private not-for-profit organizations; and community/regional economic planning and development agencies. The **Doctor of Philosophy in Economics** is intended to prepare students for faculty and research positions with a dual specialization in Trade and Development and Natural Resource and Environmental Economics. All PhD students are required to complete these "field" sequences. Students interested in other specialties are discouraged from applying.

Admission Requirements

Applicants must have earned a bachelor's degree from an accredited college or university, maintained a grade point average of at least 3.0 for the last 60 semester credits earned, and score in at least the 40th percentile on either the Graduate Record Exam (GRE) or Graduate Management Admission Test (GMAT). In addition, international applicants from non-English-speaking countries must score at least 550 on the Test of English as a Foreign Language (TOEFL). Satisfaction of these minimum admission requirements does not guarantee admission. Applications for graduate study from students trained in disciplines other than economics are welcomed. However, all applicants are expected to have: (1) an understanding of intermediate microeconomic and macroeconomic theory, (2) preparation in mathematical economics, and (3) preparation in probability and statistics. In addition, applicants are expected to have strong written and oral communications skills.

Degree Requirements

Doctor of Philosophy in Economics. PhD students are required to: (1) complete the first-year core (Econ 7060, 7130, 7140, 7230, 7240, 7310, 7350, 7360); (2) perform successfully on a written qualifying examination based on the first-year core; (3) complete the advanced core (Econ 7150, 7250, 7320, 7330); (4) complete the International Trade and Development and Natural Resource and Environmental Economics field sequences (Econ 7400, 7500, 7510, 7800); (5) complete a research dissertation and give an oral defense of the dissertation; and (6) meet University requirements for dissertation research and total credit hours.

Master of Science in Applied Economics. To complete an MS degree in Applied Economics, students are required to: (1) complete the applied core (Econ 6000, 6060, 6100, 6300, 6330); (2) complete a specialization in: (a) agricultural economics (Econ 6030 and 6040), (b) natural resource economics (Econ 6500 and 6510), or (c) regional economic development (Econ 6700 and 6710); (3) submit and orally defend a thesis (Plan A) or research report (Plan B); and (4) complete elective class or thesis research credits to meet Plan A, B, or C graduation requirements. Plan A requires at least 30 credits and must include at least 6 thesis research credits. Plan B requires at least 30 credits and must include 2 to 3 thesis research credits. Plan C has no research component and requires at least 33 credits. (No more than 6 undergraduate credits may be used in meeting degree requirements.)

Master of Science and Master of Arts in Economics. Students are required to complete the first-year core (Econ 6000, 6060, 6100, 7140, 7240, 7310, 7350, 7360) and to submit and orally defend a thesis (Plan A) or research report (Plan B). The department also accepts Plan C, which has no research compo-

ment. Students must also complete additional class or research credits to meet Plan A, B, or C graduation requirements. MA students must satisfy the foreign language requirement. Plan A requires at least 30 credits and must include at least 6 thesis research credits. Plan B requires at least 30 credits and must include 2 to 3 thesis research credits. Plan C requires at least 33 credits. (No more than 6 undergraduate credits may be used in meeting degree requirements.)

Master of Business Administration (Agribusiness Management, International Economics, or Quantitative Economic Analysis Specialization). A student may receive a College of Business Master of Business Administration degree with a specialization in Agribusiness Management, International Economics, or Quantitative Economic Analysis by completing the MBA advanced core (see the MBA program description on pages 160-161) and 12 specialization credits. Econ 6330 should be taken to satisfy the quantitative methods requirement. The **Agribusiness Management** specialization requires: Econ 6030, 6040, 6300; and either Econ 6500 or 6700. The **International Economics** specialization requires Econ 5150, 5400, 6910; and PoLS 6220. The **Quantitative Economic Analysis** specialization requires Econ 5310, 6300, 6330; and Stat 5100.

Master of Social Sciences (Economics Specialization). This degree is an interdisciplinary program with a specialization designed for economics students. General requirements for the degree are found on pages 424-425. To qualify, a student is required to earn a minimum of 36 credits based on: (1) a minimum of 16 credits in Economics, which must include Econ 5000, 5010, 6060, and 6330 (or their equivalent); (2) a minimum of 8 credits in (a) two social science minors or (b) one social science minor and one social science cluster; and (3) 2 credits in a comprehensive integrative experience or Plan B report. Areas of emphasis include: (a) Labor Economics, (b) Economic History/Comparative Economic Systems, (c) Business and Government, (d) Economic Education, (e) Environmental Economics, (f) Trade and Development, and (g) Rural Economic Development. The disciplines from which the minors or minor/cluster may be selected include two of the following: Anthropology, Business Administration, Computer Science/Instructional Technology, Family and Human Development, Geography, History, Management and Human Resources, Political Science, Psychology, Sociology, and Social Work.

International MBA in Food and Agribusiness. The Department of Economics participates with the Royal Agricultural College (RAC) in Cirencester, England to offer this degree. The degree is awarded by the RAC. Students study at USU during fall semester, and then study spring semester at the RAC. Students complete a team project and a thesis. The degree is designed to prepare students to be agribusiness managers in an international environment. Required courses to be completed at USU include: Acct 6010; Econ 5030 or 6030; BA 6520 or 4590; MHR 6550; and Econ 6900 (an independent readings course in supply chain management). During spring semester, courses in finance, marketing and advertising, human resource management, macroeconomics, and business strategy are taught at the RAC. Participating students pay USU tuition and are expected to complete the program in 12-15 months.

Research

The department maintains an active and productive research program. The results of this research are published in professional journals, books, and technical reports. Financial support for the departmental research program is provided by the Utah Agricul-

tural Experiment Station, the colleges of Agriculture and Business, the Office of the Vice President for Research, and by a combination of public and private extramural sources. The Economics Research Institute provides support and coordination for some of the department's research activities. Graduate students are an integral part of departmental research programs.

Financial Assistance and Assistantships

The department offers teaching and research assistantships to qualified graduate students. These are awarded on a competitive basis, and all accepted students are considered eligible. However, while the department makes every effort to assist students in obtaining financial assistance, acceptance into department programs does not guarantee financial assistance.

Financial assistance is not provided to PhD students who fail to pass the written qualifying exam nor to graduate students who are not making satisfactory progress toward completion of their degrees.

Economics Courses (Econ)

Econ 1000. Business Orientation. Orients freshmen and transfer students to College of Business programs, academic and student services, professional organizations, and career possibilities. Also taught as Acct 1000, BA 1000, BIS 1000, and MHR 1000. (0.5 cr) (F,Sp)

Econ 1500 (BAI). Introduction to Economic Institutions, History, and Principles. Designed to build an understanding of economic institutions, history, and principles. Relationship between private and public sectors of U.S. economy. Analysis of major economic institutions, such as property rights, markets, business organizations, labor unions, money and banking, trade, and taxation. No prerequisites. (3 cr) (F,Sp,Su) ©

Econ 1550 (BSS). Introduction to Environmental and Natural Resource Economics. Introduction to the concepts of economics in the context of environmental and natural resource management. (3 cr) (F)

Econ 2010. Introduction to Microeconomics. Designed to build an understanding of the economics of the marketplace from the perspectives of individual consumer and producer or business. Development and application of microeconomic principles to demonstrate the role and limitations of competitive markets in motivating socially efficient consumer, business, and public sector choices. Prerequisite: Econ 1500. (3 cr) (F,Sp,Su) ©

Econ 2250. Introductory Internship. Introductory-level experience in a career-related position approved by the Cooperative Education Office. One credit for every 75 hours of internship experience, with a maximum of 9 credits. A maximum of 12 credits of 2250 and 4250 combined can be counted toward the minimum degree requirements for the College of Business. (1-9 cr) (F,Sp,Su) ©

Econ 3030 (DSS). Introduction to Agribusiness Marketing. Principles and practices used by agribusiness firms to market products. Topics covered include the use of futures markets, international trade, marketing orders, and commodity marketing problems. Prerequisite: Econ 1500. (3 cr) (F)

Econ 3050 (DSS). Introduction to Agribusiness Management. Application of principles and practices used by managers of agribusiness firms. Prerequisites: Econ 1500, Acct 2010. (3 cr) (Sp)

Econ 3170. Law and Economics. Explains legal and political rules, the organization of government, and other institutional processes. Uses standard microeconomic

tools and concepts, such as scarcity, choice, preferences, incentives, and supply and demand. Prerequisite: PoLS 1100. Also taught as PoLS 3170. (3 cr) (F)

Econ 3250. Discussions With Business Leaders. Students attend Partners in Business Program seminar sessions to examine new methods for improving performance in organizations. Repeatable to a maximum of 1.5 credits. (0.5 cr) (F,Sp) ©

Econ 3400 (DSS). International Economics for Business. Primary issues in international economics as applied to contemporary business problems. Topics include trade patterns and policies, capital markets, and technology transfer. Prerequisite: Econ 2010. (3 cr) (F,Sp,Su)

Econ 3900. Independent Reading and Research. (1-3 cr) (F,Sp,Su) ©

Econ 4010. Managerial Economics. Microeconomic principles applied to economic decision-making and policy formulation, with emphasis at the level of business firm and the individual consumer. Designed for undergraduate business and accounting majors. Credit will not be given for both Econ 4010 and 5010. Prerequisites: Econ 2010; Math 1100; Stat 2300. (3 cr) (F,Sp,Su)

Econ 4020. Macroeconomics for Managers. Macroeconomic analysis applied to forecasting and understanding fluctuations in the levels of income, employment, and production. Designed for undergraduate business and accounting majors. Credit will not be given for both Econ 4020 and 5000. Prerequisite: Econ 1500. (3 cr) (F,Sp,Su) ©

Econ 4030 (CI). Agribusiness Finance. Financial considerations in organizing and operating farms, ranches, and agribusiness firms. Prerequisites: Econ 2010, or Econ 3030 and 3050; Acct 2010. (3 cr) (F)

Econ 4250. Advanced Internship. Advanced or middle-level internship experience in a career-related position approved by the Cooperative Education Office. One credit for every 75 hours of internship experience, with a maximum of 9 credits. (1-9 cr) (F,Sp,Su) ©

Econ 4310 (QI) (d5310).¹ Mathematical Methods for Economics. Review of single-variable calculus (differentiation and integration); multivariate calculus (including the chain rule and implicit differentiation); optimization (unconstrained and constrained); linear algebra and applications (including linear programming). Economic applications. Prerequisites: Econ 2010; Math 1100 or its equivalent. (3 cr) (F)

Econ 4950H. Senior Honors Thesis/Project. Creative project that will then be written up, and presented, as a Senior Thesis as required for an Honors Plan. (3 cr) (Sp)

Econ 4990. Senior Seminar. Introduces students to current research and special topics in economics. (1 cr) (Sp) ©

Econ 5000. Macroeconomics. Analysis of underlying causes of unemployment, economic instability, inflation, and economic growth. Credit will not be given for both Econ 4020 and 5000. Prerequisite: Econ 1500. (3 cr) (F) ©

Econ 5010. Microeconomics. Analysis of behavior of consumers and business firms. Application of theory to the solution of real world problems. Credit will not be given for both Econ 4010 and 5010. Prerequisite: Econ 2010. (3 cr) (Sp) ©

Econ 5020 (CI). Economics and Public Policy. A study of selected federal policies and their impacts on product and factor markets, with major focus on an economic analysis of public policy actions. Prerequisites: Econ 4020 or 5000, Econ 4010 or 5010. (3 cr) (Sp)

Econ 5030. Agricultural Marketing and Price Analysis. Agribusiness market strategies and price analysis. Designed for upper-division students. Prerequisite: Econ 4010 or 5010. (3 cr) (F)

Econ 5050. Farm and Ranch Planning and Analysis. Economic principles and tools in operation of farm and ranch enterprises. Designed for upper-division students. Prerequisites: Econ 4010 or 5010; and Econ 4030. (3 cr) (Sp)

Econ 5100. History of Economic Thought. Origin and development of economic theories of leading thinkers in western civilization. Prerequisite: Econ 2010. (3 cr) (Sp)

Econ 5110 (DSS). Economic History of the United States. Development of agriculture, industry, transportation, and finance from colonial times. Prerequisite: Econ 2010. (3 cr) (F)

Econ 5120. Economics of Russia and Eastern Europe, 9th Century to 21st Century. Development of the economics of Russia and Eastern Europe from earliest times to the present, emphasizing the interaction between economic forces and policies of the state. Prerequisite: Econ 2010. Also taught as PoLS 5120. (3 cr) (Sp)

Econ 5150 (DSS). Comparative Economic Systems. History, economic theories, and comparative policies of communist, socialist, and capitalistic economies. Problems facing transition economies. Prerequisite: Econ 2010. (3 cr) (Sp)

Econ 5300. Industrial Organization. Emphasizes market structure, firm conduct, and economic efficiency. Topics include competition, game theory, monopoly, oligopoly, monopolistic competition, firm strategies, and anti-trust policy in the United States. Prerequisites: Econ 4020 or 5000, Econ 4010 or 5010. (3 cr) (F)

Econ 5310 (QI) (d4310). Mathematical Methods for Economics. Review of single-variable calculus (differentiation and integration); multivariate calculus (including the chain rule and implicit differentiation); optimization (unconstrained and constrained); linear algebra and applications (including linear programming). Economic applications. Prerequisites: Econ 2010; Math 1100 or its equivalent. (3 cr) (F)

Econ 5330 (QI). Applied Econometrics. Introduction to basic statistics, simple linear regression, multiple regression, and simultaneous equation models for economics. Prerequisites: Stat 2000 or 2300 or 3000. (3 cr) (F)

Econ 5350 (CI). Agribusiness, Cooperatives, and Management. Applications of economic and management principles to farm marketing and supply firms. Includes independent work on a set of case studies designed to enhance understanding of current issues in agribusiness and provide practice in solving everyday management problems. Prerequisite: Econ 4010 or 5010. (3 cr) (Sp)

Econ 5400. International and Development Economics. Intermediate-level issues in international trade, international finance, and economic development. Topics include competitive and noncompetitive trade models, trade policy, balance of payments accounting, exchange rates, international lending and investment, economic growth, and poverty alleviation. Prerequisites: Econ 4020 or 5000; Econ 4010 or 5010. (4 cr) (F)

Econ 5500. Public Finance. Government fiscal institutions-expenditure programs, budget procedures, tax systems, debt issues, levels of government, and the issues surrounding their operations. Prerequisites: Econ 4020 or 5000, Econ 4010 or 5010. (3 cr) (F)

Econ 5560. Natural Resource and Environmental Economics. Economics of developing, managing, and conserving natural resources and the environment. Topics include resource use and conservation, environmental quality, public and private resource management, and valuation of nonmarket goods. Prerequisite: Econ 1550 or 2010. (3 cr) (F)

Econ 5600. Financial Economics. Introduction to development of our present system of money, banking, and financial institutions. Analysis of central bank policy, capital markets, speculative markets, and portfolio theory. Prerequisites: Econ 4020 or 5000, Econ 4010 or 5010. (3 cr) (Sp)

Econ 5660 (d6660). Training and Organizational Development. Theoretical basis for training and development in organizations. Practical experience in the design and development of training and other educational programs in an organizational setting. Prerequisites: Econ 2010 required for 5660; graduate standing required for 6660. (2 cr) (Sp)

Econ 5670. Labor and Employee Relations. A comprehensive study of the bargaining process and scope of labor-management contracts, the day-to-day administration of agreements, and the major substantive issues in negotiations. Prerequisite: Econ 2010. (3 cr) (F)

Econ 5680. Labor Market Policy. Labor force development and behavior, occupational choice and mobility, human capital formation, labor market information and institutions, and manpower policies. Prerequisite: Econ 2010. (3 cr) (Sp)

***Econ 5850. Regional and Community Economic Development.** Building on microeconomic theory, models for regional and urban structure and change are explored. Policy decision models are also developed. Prerequisites: Econ 4020 or 5000, Econ 4010 or 5010. (3 cr) (F)

Econ 5950 (CI). Senior Project. A current economic problem is identified and analyzed, bringing together other agricultural economics and economics course concepts and methods. (3 cr) (Sp)

Econ 6000 (d7230). Macroeconomic Theory I. Lays a foundation of advanced macroeconomic analysis, integrating theory, data, and computational methods. Special attention given to real-world issues, with an emphasis on how economists use macro models and data to improve business and public policy decisions. Topics covered include neoclassical and endogenous growth theories, real business cycle and new Keynesian theories of economic fluctuations, monetary theory, macroeconomic policy, and open-economy macroeconomics. (3 cr) (F)

Econ 6030. Agricultural Marketing. Covers a variety of topics relating to price analysis for agricultural commodities. Explores econometric and time series modeling and forecasting of agricultural prices. Includes a section on futures and options on futures contracts, focusing on fundamental and technical analysis. Prerequisite: Econ 6330. (3 cr) (F)

Econ 6040. Agricultural Production/Policy. Includes analysis of marketing margins and a section on food demand and nutrition. Also explores food safety issues. Prerequisite: Econ 6030. (3 cr) (Sp)

Econ 6060 (d7060). Research Methods. Provides introduction to application of scientific methods in economics, with an emphasis on proposal writing. (2 cr) (Sp)

Econ 6100 (d7130). Microeconomic Theory I. Provides a rigorous introduction to graduate-level microeconomic theory. While the specific focus is on the theoretical construct of graduate-level microeconomic models, the broad objective of the class is to lay the foundation for empirical applications in microeconomics. To meet this broad objective, the course covers theory of the firm, consumer theory, market structure, theory of public goods and externalities, and welfare economics. (3 cr) (F)

Econ 6160. Integrative Pre-MBA Core. Integrates financial reporting, analysis, and markets; domestic and global economic and legal environments; creation and distribution of goods and services; and human behavior in organizations. Upon completion, students without undergraduate degrees in business are prepared to enter advanced MBA core. Also taught as Acct 6160, BA 6160, BIS 6160, and MHR 6160. (18 cr) (Su)

Econ 6250. Graduate Internship. Provides practical experience for graduate students. Prerequisites: Econ 6000, 6100, 6330. (1-3 cr) (F,Sp,Su) ®

Econ 6300. Quantitative Analysis for Business and Policy Decisions. Provides an introduction to applied mathematical programming, operations research, simulation, risk analysis, adaptive management, and other decision theoretic tools used by government policy makers and managers of firms. (3 cr) (Sp)

Econ 6330. Applied Econometrics. Provides graduate-level introduction to applied regression tools, including: simple and multivariate regression analysis; linear, non-linear, and qualitative dependent variable models; distributed lags; seemingly unrelated regression; and model specification and validation tests. Prerequisite: Background in statistics and calculus. (3 cr) (F)

Econ 6500. Introduction to Natural Resource and Environmental Economics. Introduction to the legal and regulatory foundations of natural resource and environmental policy, with specific attention to water, minerals, rangelands, forests, fish, and off-site impacts of agricultural and industrial production. Topics include externalities, property rights, public goods, public choice, and public trust. (3 cr) (Sp)

Econ 6510. Applied Resource and Environmental Economics. Introduction to economic tools used for applied natural resource and environmental policy analysis. Role of economics in resource management. Introduction to the application of regional economic models, cost-benefit analysis, and the valuation of amenity and other nonpecuniary resource services for Regulatory Impact Reviews, Environmental Impact Statements, etc. Prerequisite: Econ 6500. (3 cr) (F)

Econ 6660 (d5660). Training and Organizational Development. Theoretical basis for training and development in organizations. Practical experience in the design and development of training and other educational programs in an organizational setting. Prerequisites: Econ 2010 required for 5660; graduate standing required for 6660. (2 cr) (Sp)

Econ 6670. Employee Relations and the Labor Movement. Comprehensive survey of union-management relationships, including labor markets and the labor movement, labor history and law, union organization and government, and contract negotiation and administration. Includes exercises and cases in negotiations and grievance processes. Also taught as MHR 6670. (3 cr) (Sp)

Econ 6700. Regional and Community Economic Development. Extension of microeconomic foundations of regional and urban economics to recent advances in economic growth and development, economic structure, land-use, public finance, housing, social welfare, environmental quality, and transportation. Prerequisite: Econ 6100. (3 cr) (Sp)

Econ 6710. Community Planning and Impact Analysis. Focuses on tools used by local and regional economic development specialists as they relate to planning and impact assessment. Specific topics will include I/O models, IMPLAN models, and computable CGE modeling approaches as they are used in a planning environment. Prerequisite: Econ 6700. (3 cr) (F)

Econ 6900. Readings and Conference. Directed readings. Credits from this course toward any economics graduate degree require approval of the student's advisory committee, the department graduate committee, and the department head. Prerequisites: Econ 5000 and 5010. (1-3 cr) (F,Sp,Su) ®

Econ 6910. Independent Research. Directed readings. Credits from this course toward any economics graduate degree require approval of the student's advisory committee, the department graduate committee, and the department head. Prerequisites: Econ 5000 and 5010. (1-3 cr) (F,Sp,Su) ®

Econ 6970. Thesis Research. Master's level research. (1-9 cr) (F,Sp,Su) ®

Econ 6990. Continuing Graduate Advisement. Master's level advisement. (1-9 cr) (F,Sp,Su) ®

Econ 7060 (d6060). Research Methods. Provides introduction to application of scientific methods in economics, with an emphasis on proposal writing. (2 cr) (Sp)

Econ 7130 (d6100). Microeconomic Theory I. Provides a rigorous introduction to graduate-level microeconomic theory. While the specific focus is on the theoretical construct of graduate-level microeconomic models, the broad objective of the class is to lay the foundation for empirical applications in microeconomics. To meet this broad objective, the course covers theory of the firm, consumer theory, market structure, theory of public goods and externalities, and welfare economics. (3 cr) (F)

Econ 7140. Microeconomic Theory II. Extends the theoretical foundations of microeconomics with an emphasis on model building in economics. Topics include static games of complete and incomplete information, dynamic games of complete and incomplete information, imperfectly competitive markets, risk and uncertainty, public goods, general equilibrium, and information economics. Prerequisites: Econ 7130, 7360. (3 cr) (Sp)

Econ 7150. Microeconomic Theory III. Explores the uses of microeconomic theory in fields such as Game Theory, Industrial Organization, and Labor Economics. Study of topics such as multi-stage and repeated games, bargaining, principal-agent models of economic behavior, auctions and bidding, labor market discrimination, price discrimination and two-part tariffs, and the labor-leisure choice. Course is based on both classic and contemporary papers in each of these fields. Prerequisite: Econ 7140. (3 cr) (F)

Econ 7230 (d6000). Macroeconomic Theory I. Lays a foundation of advanced macroeconomic analysis, integrating theory, data, and computational methods. Special attention given to real-world issues, with an emphasis on how economists use macro models and data to improve business and public policy decisions. Topics covered include neoclassical and endogenous growth theories, real business cycle and new Keynesian theories of economic fluctuations, monetary theory, macroeconomic policy, and open-economy macroeconomics. (3 cr) (F)

Econ 7240. Macroeconomic Theory II. Extends the foundations of Econ 7230 with a more in-depth look at the theory and computational aspects of various models of economic growth and business cycles. Prerequisites: Econ 7230, 7360. (3 cr) (Sp)

Econ 7250. Macroeconomic Theory III. Focuses on emerging topics in macroeconomics, relying heavily on skills acquired in Econ 7230 and 7240. Topics to be covered include, but are not limited to, endogenous growth, real and monetary business cycle, capital theory, fiscal and monetary policy, and economic transition. Prerequisite: Econ 7240. (3 cr) (F)

Econ 7310. Econometrics I. Begins with a review of probability and statistics. Remainder of course is spent discussing the Classical linear regression model, least squares and maximum likelihood estimation, finite and asymptotic sample properties, inference, prediction, and nonlinear optimization. Prerequisite: Econ 7360. (3 cr) (Sp)

Econ 7320. Econometrics II. Extension of Econ 7310, covering topics such as nonspherical disturbances, panel data, simultaneous equations, time series and distributed lag models, and limited and qualitative dependent variable models. Prerequisite: Econ 7310. (3 cr) (F)

Econ 7330. Econometrics III. Provides in-depth coverage of current topics/techniques in applied econometric time series analysis, with an emphasis on econometric model development, estimation, and interpretation. Topics include difference equations, lag operators, stationary ARMA processes, modeling economic time series including trends and volatility, testing for trends and unit roots, vector autoregressions, the Kalman filter including the state space representation of a dynamic system, cointegration, and error-correction models. Prerequisite: Econ 7320. (3 cr) (Sp)

Econ 7350. Mathematical Economics I. Includes linear equations, matrix algebra, multivariate calculus, static optimization, comparative static analysis, constrained optimization, and Kuhn-Tucker conditions. (3 cr) (F)

Econ 7360. Mathematical Economics II. Extends the presentation of Econ 7350 by covering applications of constrained optimization, the envelope theorem and applications, differential equations, dynamic economics, and optimal control. Prerequisite: Econ 7350. (3 cr) (F)

Econ 7400. International Trade Theory and Policy. Focuses on recent developments in the theory of trade and trade policy, including: (1) the incorporation of imperfect competition into the theory of international trade, (2) international factor movements, (3) the empirical investigation of trade flows, and (4) strategic trade policies. Prerequisites: Econ 7140, 7240. (3 cr) (Sp)

Econ 7500. Resource Economics. Focuses on formal economic models associated with optimal exploitation of renewable and nonrenewable resources. Applications to minerals, groundwater, energy resources, soil, forests, fisheries, rangelands, watersheds, wildlife, etc. Prerequisites: Econ 7140, 7240. (3 cr) (F)

Econ 7510. Environmental Economics. Covers the theory of environmental policy. Topics include, but are not limited to, externalities, uncertainty and the choice of policy instruments, market imperfections and the number of participants, nonconvexities in the production set, the charges and standards approach, marketable emission permits, the environment and development, international environmental issues, and ecological economics. Prerequisites: Econ 7140, 7240. (3 cr) (Sp)

Econ 7700. International Finance. Focuses on the international monetary system and currency markets, with an emphasis on balance of payment adjustment and exchange rate determination. Different exchange rate regimes are introduced, and issues regarding exchange rate overshooting and currency substitution are addressed. Topics covered also include the international banking system, international investment decisions on funding and capital structure, foreign exchange risk hedging and management, and foreign exchange instruments and techniques. Prerequisites: Econ 7130, 7230, 7360. (3 cr) (F)

Econ 7800. Development Economics. Focuses on a broad introduction to formalized economic models associated with developing regions/countries and theories of growth. Examines the interconnection between development and economic inequality, poverty and undernutrition, population growth, rural-urban migration, and agricultural development theories. Prerequisites: Econ 7140, 7240. (3 cr) (Sp)

Econ 7970. Dissertation Research. PhD dissertation research. (1-9 cr) (F,Sp,Su) ®

Econ 7990. Continuing Graduate Advisement. PhD-level advisement. (1-9 cr) (F,Sp,Su) ®

¹Parenthetical numbers preceded by *d* indicate a *dual* listing.

® Repeatable for credit. Check with major department for limitations on number of credits that can be counted for graduation.

© This course is also offered by correspondence through Continuing Education Independent and Distance Education.

*Taught 2002-2003.