ECONOMICS

The undergraduate degree in economics emphasizes knowledge and awareness of:

- the conditions for efficiency in free market production and exchange;
- contemporary theories concerning economic growth, inflation, unemployment, distribution of income and international environment;
- specialized fields of economics, such as international economics and finance, natural resources and environment, the economics of gender and discrimination and public economics;
- the descriptive statistics commonly used by economists; and
- the institutional characteristics of the US economy, and how these differ from those in other economies.

In addition, students completing the degree in economics are expected to acquire the ability and skills to:

- apply the tools of microeconomic theory to reach sound conclusions for simple economic problems;
- follow arguments concerning macroeconomic theory to distinguish between sound and fallacious reasoning and to understand how differences in policy prescription may arise;
- perform statistical analysis such as multiple regression and understand similar analyses performed by others; and
- communicate economic reasoning in writing, understand similar writing by others and appreciate the diversity of views that may reasonably exist about economic problems.

Course code for this program is ECON.

Economics Honors Program

The honors program in economics provides an opportunity for highly motivated majors to undertake individualized research and to graduate with honors (cum laude, magna cum laude, summa cum laude) in economics. Economics majors with senior standing and both economics and overall GPAs of 3.40 or better are eligible to participate. Participants enroll in the economics honors seminars, which provide instruction in research methodology essential to the preparation of the honors thesis. Students interested in the economics honors program should contact the departmental honors advisor during their junior year.

Bachelor's Degree

- Economics - Bachelor of Arts (BA) (catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/economics/economics-bachelor-arts-ba)

Minor

- Economics - Minor (catalog.colorado.edu/undergraduate/colleges-schools/arts-sciences/programs-study/economics/economics-minor)

Faculty

While many faculty teach both undergraduate and graduate students, some instruct students at the undergraduate level only. For more information, contact the faculty member's home department.

Antman, Francisca Marie (https://experts.colorado.edu/display/fisid_144606)
Associate Professor; PhD, Stanford University

Baranov, Oleg Valeryevich (https://experts.colorado.edu/display/fisid_149617)
Assistant Professor; PhD, University of Maryland College Park Campus

Barham, Tania C. J. (https://experts.colorado.edu/display/fisid_140077)
Associate Professor; PhD, University of California-Berkeley

Boileau, Martin (https://experts.colorado.edu/display/fisid_113872)
Professor; PhD, Queen's Univ, Kingston (Canada)

Burr, Chrystie (https://experts.colorado.edu/display/fisid_152969)
Assistant Professor; PhD, University of Arizona

Cadena, Brian C (https://experts.colorado.edu/display/fisid_145740)
Associate Professor; PhD, University of Michigan Ann Arbor

Carballo, Jeronimo Rafael (https://experts.colorado.edu/display/fisid_155949)
Assistant Professor; PhD, University of Maryland College Park Campus

Carlos, Ann M (https://experts.colorado.edu/display/fisid_105534)
Professor; PhD, Univ of Western Ontario (Canada)

Chen, Yongmin (https://experts.colorado.edu/display/fisid_108989)
Professor; PhD, Boston University

De Bartolome, Charles A M (https://experts.colorado.edu/display/fisid_101302)
Professor; PhD, University of Pennsylvania

Flores, Nicholas E (https://experts.colorado.edu/display/fisid_107603)
Professor; PhD, University of California-San Diego

Glahe, Fred R.
Professor Emeritus

Graves, Philip E (https://experts.colorado.edu/display/fisid_102050)
Professor; MA, Northwestern University

Greenwood, Michael J.
Professor Emeritus

Howe, Charles W.
Professor Emeritus

Hsiao, Frank S. T.
Professor Emeritus

Hughes, Jonathan Edward (https://experts.colorado.edu/display/fisid_147335)
Associate Professor; PhD, University of California-Davis

Iyigun, Fevzi Murat (https://experts.colorado.edu/display/fisid_118373)
Professor; PhD, Brown University

Jaworski, Taylor
Assistant Professor; PhD, University of Arizona

Jobin, Nicole V (https://experts.colorado.edu/display/fisid_103920)
Instructor; PhD, University of Colorado Boulder
Economics

Kaempfer, William H (https://experts.colorado.edu/display/fisid_102376)
Professor; PhD, Duke University

Kaffine, Daniel Thomas (https://experts.colorado.edu/display/fisid_153280)
Associate Professor; PhD, University of California-Santa Barbara

Kaplan, Jules Gordon (https://experts.colorado.edu/display/fisid_106077)
Instructor; PhD, University of Colorado Boulder

Keller, Wolfgang (https://experts.colorado.edu/display/fisid_141891)
Professor; PhD, Yale University

Kim, Jin-Hyuk (https://experts.colorado.edu/display/fisid_149615)
Assistant Professor; PhD, Cornell University

Kimball, Miles (https://experts.colorado.edu/display/fisid_157993)
Professor; PhD, Harvard University

Klein, Jennifer
Instructor; PhD, University of California Santa Barbara

Lillydahl, Jane
Professor Emeritus

Liu, Xiaodong (https://experts.colorado.edu/display/fisid_144508)
Associate Professor; PhD, Ohio State University

Mansfield, Richard (https://experts.colorado.edu/display/fisid_157743)
Assistant Professor; PhD, Yale University

Markusen, James R (https://experts.colorado.edu/display/fisid_103187)
Professor Emeritus

Martins-Filho, Carlos B (https://experts.colorado.edu/display/fisid_147510)
Professor; PhD, University of Tennessee-Knoxville

Maskus, Keith E (https://experts.colorado.edu/display/fisid_103414)
Professor; PhD, University of Michigan Ann Arbor

McKinnish-Harllee, Terra Greenw (https://experts.colorado.edu/display/fisid_115558)
Professor; PhD, Carnegie Mellon University

McNown, Robert
Professor Emeritus

Mertens, William G (https://experts.colorado.edu/display/fisid_105762)
Senior Instructor; PhD, University of Colorado Boulder

Morey, Edward R (https://experts.colorado.edu/display/fisid_102256)
Professor; PhD, Univ of British Columbia (Canada)

Nigai, Sergey
Assistant Professor; PhD, ETH Zurich

Owen, Wyn F.
Professor Emeritus

Peri, Alessandro (https://experts.colorado.edu/display/fisid_157820)
Assistant Professor; PhD, Universidad Carlos III de Madrid, Getafe, Spain

Poulson, Barry
Professor Emeritus

Rondina, Giacomo (https://experts.colorado.edu/display/fisid_154419)
Assistant Professor; PhD, University of Wisconsin-Madison

Roper, Don E.
Professor Emeritus

Savage, Scott James (https://experts.colorado.edu/display/fisid_121239)
Professor; PhD, Curtin Univ of Tech (Western Australia)

Shiue, Carol Hua (https://experts.colorado.edu/display/fisid_141892)
Professor; PhD, Yale University

Singell, Larry D.
Professor Emeritus

Udis, Bernard
Professor Emeritus

Waldman, Donald M (https://experts.colorado.edu/display/fisid_100468)
Professor; PhD, University of Wisconsin-Madison

Zax, Jeffrey S (https://experts.colorado.edu/display/fisid_100898)
Professor; PhD, Harvard University

Zhang, Shuang (https://experts.colorado.edu/display/fisid_151517)
Assistant Professor; PhD, Cornell University

ECON 1078 (3) Mathematical Tools for Economists 1
Teaches mathematical skills and logical thinking for use in economics. Topics include algebra, graphs, functions, and probability. Includes many "real world" examples and some illustrative computer assignments.

ECON 1088 (3) Mathematical Tools for Economists 2
Continuation of ECON 1078. Teaches mathematical skills for use in economics. Topics include derivatives, optimization and integration. These skills are used on "real world" problems and illustrated with computer assignments. For more information about the math placement referred to in the "Enrollment Requirements", contact your academic advisor.

MAPS Course: Social Science
ECON 2020 (4) Principles of Macroeconomics
Provides an overview of the economy, examining the flows of resources and outputs and the factors determining the levels of income and prices. Explores policy problems of inflation, unemployment and economic growth.
Requisites: Requires prerequisite course of ECON 2010 (minimum grade C-).
Additional Information: Arts Sci Core Curr: Contemporary Societies

ECON 3070 (4) Intermediate Microeconomic Theory
Explores theory and application of models of consumer choice, firm and market organization, and general equilibrium. Extensions include intertemporal decisions, decisions under uncertainty, externalities, and strategic interaction.
Requisites: Requires prerequisite courses of ECON 2010 and ECON 1088 or MATH 1081 or MATH 1300 or MATH 1310 or APPM 1350 (all min grade C-). Restricted to students with 22-180 units completed.
Additional Information: Departmental Category: Theory and History of Economic Thought

ECON 3080 (3) Intermediate Macroeconomic Theory
Introduces theories of aggregate economic activity including the determination of income, employment, and prices; economic growth; and fluctuations. Macroeconomic policies are explored in both closed and open economy models. ECON 3070 ECON and 3080 may be taken in any order; there is no recommended sequence.
Requisites: Requires prerequisite courses of ECON 2020 and ECON 1088 or MATH 1081 or MATH 1300 or MATH 1310 or APPM 1350 (all min grade C-). Restricted to students with 22-180 units completed.
Additional Information: Departmental Category: Theory and History of Economic Thought

ECON 3403 (3) International Economics and Policy
Examines national and supranational policies that affect the international economy, with attention to trade barriers, economic nationalism and regionalism, international political economy, exchange market intervention, and international transmission of economic perturbations. Credit given in this course is not included in the calculation of an economics major GPA. May not be taken after either ECON 4413 or ECON 4423.
Requisites: Requires prerequisite courses of ECON 2010 and ECON 2020 (all minimum grade C-). Economic (ECON) majors are restricted from taking this course. ECON minors are allowed to enrolled.
Additional Information: Arts Sci Core Curr: Contemporary Societies

ECON 3455 (3) Environmental Economics
Highlights causes of excessive environmental pollution and tools for controlling it through economic analysis, values of preservation and distribution of costs and benefits from environmental protection programs. Credit given in this course is not included in the calculation of an economics major GPA.
Equivalent - Duplicate Degree Credit Not Granted: ECON 4545
Requisites: Requires prerequisite course of ECON 2010 (minimum grade C-). Economic (ECON) majors are restricted from taking this course. ECON minors are allowed to enrolled.
Additional Information: Arts Sci Core Curr: Contemporary Societies

ECON 3535 (3) Natural Resource Economics
Integrates economic analysis with life science aspects of natural resource systems to develop social policies for use of natural resources. Studies economists' approaches to resources policy analysis and applies them to energy, forestry, fisheries, mineral and water systems. Credit given in this course is not included in the calculation of an economics major GPA.
Equivalent - Duplicate Degree Credit Not Granted: ECON 4535
Requisites: Requires prerequisite course of ECON 2010 (minimum grade C-). Economic (ECON) majors are restricted from taking this course. ECON minors are allowed to enrolled.
Additional Information: Arts Sci Core Curr: Contemporary Societies

ECON 3616 (3) Employment, Wages and the Future of Work
Examines how automation, globalization and information technology are changing which jobs get done, by whom and how much they pay. Illustrates how basic labor supply and demand theory helps predict the impact of technological progress on occupational composition, income inequality and the nature of work itself. These theoretical tools also guide our search for appropriate public policy responses. Credit given in this course is not included in the calculation of an economics major GPA.
Requisites: Requires a prerequisite course of ECON 2010 (minimum grade C-). Economic (ECON) majors are excluded from taking this course. ECON minors are allowed to enrolled.
Additional Information: Departmental Category: Labor and Human Resources

ECON 3784 (3) Economic Development and Policy
Introductory course in Economic Development, designed for non-majors. Students are introduced to the major issues in development economics. Explores empirical, theoretical and policy issues in economic development. Emphasis is placed on the controversial issues in this literature, requiring students to explore competing, and often conflicting, perspectives of these issues.
Requisites: Requires prerequisite courses of ECON 2010 and ECON 2020 (all minimum grade C-). Economic (ECON) majors are restricted from taking this course. ECON minors are allowed to enrolled.
Additional Information: Departmental Category: Economic Development

ECON 3818 (4) Introduction to Statistics with Computer Applications
Introduces statistical methods and their applications in quantitative economic analysis.
Requisites: Requires prerequisite courses of ECON 2010 and 2020 and either ECON 1088 or MATH 1081 or MATH 1300 or MATH 1310 or APPM 1350 (all minimum grade C-). Restricted to students with 22-180 units completed.
Additional Information: Departmental Category: Quantitative Economics

ECON 4050 (3) Market Design
Develops foundations for the modern market design practices. Economists are increasingly involved in studying and designing practical market mechanisms. Includes topics such as designing efficient matching markets (students to schools, doctors to hospitals), designing auction mechanisms (Google, Facebook, government) and designing market platforms (eBay, Amazon).
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Theory and History of Economic Thought
ECON 4060 (3) Choice Theory and Economic Ethics: Good, Bad and Happiness
Critiques how economists model and judge behavior. How do we judge is contrasted with other moral philosophies. Economists assume individuals behave in their own best interests. What does this mean and is it true? Looks at research from psychology and neuroscience. Quizzes and a multi-step research paper, designed for students who love to question, research, write and rewrite.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior).
Recommended: Prerequisite ECON 3080.
Additional Information: Departmental Category: Theory and History of Economic Thought

ECON 4070 (3) Topics in Microeconomics
Studies utility maximization under uncertainty, risk, game theory, moral hazard, and adverse selection. Applications include insurance markets and the theory of contracts.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Theory and History of Economic Thought

ECON 4111 (3) Money and Banking Systems
Discusses money, financial institutions and the monetary-financial system in a modern economy.
Requisites: Requires prerequisite course of ECON 3080 (minimum grade C-).
Additional Information: Departmental Category: Money and Banking

ECON 4211 (3) Public Economics: the Economics of the Government Sector
Focuses on taxation and public expenditures. Topics include economic rationale for government action, economic theory of government behavior, and effects of government policies on allocation of resources and distribution of income.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C-).
Additional Information: Departmental Category: Public Economics

ECON 4221 (3) Political and Public Choice Economics
Explores decision-making in non-traditional market settings, specifically political market settings, using economic models. We investigate policy outcomes as the product of interactions among individuals in political markets, and analyze how governmental decisions are the result of rational optimizing behavior, even if they do not lead to policies that maximize national welfare.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C-).
Additional Information: Departmental Category: Public Economics

ECON 4231 (3) Applied Economic Analysis and Public Policy
 Applies economic analysis to current issues of public policy. Reviews basic public finance and economic justifications for government action. Examines structure and procedures of Colorado State Legislature. Chooses current legislative issues, reviews relevant economic literature and applies implications through briefing papers and testimony at legislative hearings. Explores the challenges of integrating informed economic analysis into legislative process.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Public Economics

ECON 4242 (3) Urban Economics: The Economics of Cities
Considers the economic forces which drive households and jobs to congregate in metropolitan areas. It then considers the forces within the city which determine how the established cities "look" - how rents vary with location, the distribution of jobs and households within a city, urban sprawl, and the sorting of households between neighborhoods. Finally it considers some government policies relating to land use and housing.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C-).
Additional Information: Departmental Category: Urban and Regional Economics

ECON 4292 (3) Migration, Immigrant Adaptation, and Development
Examines historical and current patterns of migration with an emphasis in international movement. Looks at leading migration theories related to both origin- and destination-based explanations while critically looking at the role of development as a potential cause and consequence of population movement. Finally, covers some aspects of immigrants' social and economic adaptation to their host society.
Equivalent - Duplicate Degree Credit Not Granted: GEOG 4292 and GEOG 5292
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Urban and Regional Economics

ECON 4309 (3) Economics Honors Seminar 1
For information consult the department's director of honors. Open only to qualified seniors.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3818 and ECON 3080 (all minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).
Additional Information: Arts Sciences Honors Course

ECON 4339 (3) Economics Honors Seminar 2
For information consult the department's director of honors. This course does not count toward major requirements.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3080 and ECON 3818 (all minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).
Additional Information: Departmental Category: Independent Study and Other Courses

ECON 4413 (3) International Trade
Focuses on theories of international trade and its impacts on economic welfare. Analyzes commercial policy, including tariffs, non-tariff barriers, retaliation, regional integration, and factor migration.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: International Trade and Finance

ECON 4423 (3) International Finance
Covers balance of payments; foreign exchange market, income, trade, and capital flows; asset markets adjustment mechanisms; stabilization policies in an open economy; and problems of international monetary systems.
Requisites: Requires prerequisite course of ECON 3080 (minimum grade C-).
Additional Information: Departmental Category: International Trade and Finance
ECON 4504 (3) The New Institutional Economics: Institutions, Contracts and Economic Outcomes
Understand the conceptual tool kit of the New Institutional Economics. The concepts include transaction costs, property rights, credible commitment, and most importantly the roles of formal and informal institutions. We will examine the impact of institutions on contracting and organizations. The goal is to understand how the underlying institutions determine the degree to which societies improve their economic performance.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3080, and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C-).
Additional Information: Arts Sci Core Curr: Historical Context
Departmental Category: Economic History

ECON 4514 (3) Economic History of Europe
Covers evolution of modern economic growth and development in Europe, emphasizing institutional change.
Requisites: Requires prerequisite course of ECON 3070 or ECON 3080 (minimum grade C-).
Additional Information: Arts Sci Core Curr: Historical Context
Departmental Category: Economic History

ECON 4524 (3) Economic History of the United States
Evolution of modern economic growth and development in the U.S. from colonial times to the present emphasizing institutional change.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3080 (all minimum grade C-).
Departmental Category: Economic History

ECON 4534 (3) Chinese Economic History in Comparative Perspective
Surveys the economic history of China in a comparative perspective, to understand the history of economic development in China in terms of existing economic theories of growth. The approximate timeline is from the 18th century to the 20th century.
Recommended: Prerequisite ECON 3070.
Additional Information: Departmental Category: Economic History
Departmental Category: Asia Content

ECON 4535 (3) Natural Resource Economics
Analysis of problems associated with socially optimal use of renewable and nonrenewable natural resources over time. Problems of common property resources, irreversible forms of development, and preservation of natural areas.
Equivalent - Duplicate Degree Credit Not Granted: ECON 3535
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Natural Resources and Environmental Economics

ECON 4545 (3) Environmental Economics
Examines the effects of economic growth on the environment; application of economic theory of external diseconomies, cost-benefit analysis, program budgeting, and welfare economics to problems of the physical environment.
Equivalent - Duplicate Degree Credit Not Granted: ECON 3545
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Natural Resources and Environmental Economics

ECON 4555 (3) Transportation Economics and Policy
Provides an overview of the characteristics and structure of transportation markets including aggregate demand, vehicle and mode choice, surface freight and air travel. Explores market failures in the transportation sector including market power and externalities such as pollution, congestion and accidents as well as policies aimed at addressing these issues.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C-).
Additional Information: Departmental Category: Natural Resources and Environmental Economics

ECON 4616 (3) Labor Economics
Examines the influence of markets, unions, and government on labor allocation and remuneration. Analyzes human capital, discrimination, mobility and migration, productivity, unemployment, and inflation. Compares outcomes under competition with those in a world marked by shared market power and bargaining.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Labor and Human Resources

ECON 4626 (3) The Economics of Inequality and Discrimination
Examines the unique insights available through economic analysis regarding the causes, mechanisms, and consequences of inequality and discrimination. Examines the extent of inequality, the varieties and extents of discrimination, and explores the economic models that suggest explanations.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Arts Sci Core Curr: Human Diversity
Departmental Category: Labor and Human Resources

ECON 4646 (3) Topics in Health Economics
Growth in health expenditures worldwide over the past three decades has led to an increase in research in health economics and its importance in public policy in developed and developing countries. The purpose of this course is to encourage students to read, think, and do research on issues in health economics. This course will cover issues that are pertinent to the US, other developed and developing countries. It will cover the basics of health economics such as health production functions and the role for government as well as touching on topical issues such as health care reform.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Recommended: Prerequisite ECON 3818.
Additional Information: Departmental Category: Labor and Human Resources

ECON 4697 (3) Industrial Organization and Regulation
Explores neoclassical theory of the firm, the determinants of industrial structure, and the purposes and institutions of public policy to control or maintain a competitive environment.
Requisites: Requires prerequisite course of ECON 3070 (minimum grade C-).
Additional Information: Departmental Category: Industrial Organization
ECON 4717 (3) Economics of Entrepreneurship
Introduces economic analysis of entrepreneurship, its financing, performance and public policy issues. We will investigate in depth the business of venture capital and start-ups. Aims to understand both academic and practical implications from the burgeoning literature on economics of entrepreneurship and private equity.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 (all minimum grade C).
**Additional Information:** Departmental Category: Industrial Organization

ECON 4774 (3) Economic Reform in Developing Countries
Explores competing paradigms of economic development, emphasizing the confrontation between the structuralist/managerial paradigm and the neoclassical public choice paradigm. Analyzes economic reforms under way in developing countries, including stabilization policy and structural adjustment. Also explores political reforms, including the pluralist revolution and the design of a constitutional framework in developing societies.
**Requisites:** Requires prerequisite course of ECON 3070 or ECON 3080 (minimum grade C).
**Additional Information:** Departmental Category: Economic Development

Departmental Category: Asia Content

ECON 4784 (3) Economic Development
Explores empirical, theoretical, and policy issues in economic development. Examines topics with reference to the developing countries: income distribution and poverty, demographic change, labor force employment and migration, human capital, physical capital, natural resources and the environment, industrial structure, international trade, and finance.
**Requisites:** Requires prerequisite course of ECON 3070 or ECON 3080 (minimum grade C).
**Additional Information:** Departmental Category: Economic Development

Departmental Category: Asia Content

ECON 4794 (3) Economic Growth
Introduces theories explaining why differences in standards of living among countries are so large. Examines a variety of data on historical experiences of economic growth. Surveys recent research on why some countries are so rich and some are so poor, and why some countries grow so quickly and others grow so slowly.
**Requisites:** Requires prerequisite course of ECON 3070 or ECON 3080 (minimum grade C).
**Additional Information:** Departmental Category: Economic Development

ECON 4797 (3) Antitrust and Regulation
Explores two major branches of Industrial Organization—antitrust and regulation. Focus is on developing qualitative and quantitative skills for the legal-economic analysis of issues and problems across a variety of industries. Case studies are used to illustrate concepts, including mergers, collusive agreements, monopolization, and networks. Individual and group projects help develop advocacy and public speaking skills.
**Requisites:** Requires prerequisite course of ECON 3070 (minimum grade C).
**Additional Information:** Departmental Category: Industrial Organization

ECON 4808 (3) Introduction to Mathematical Economics
Introduces the use of mathematics in economics. Topics include vectors and matrices, differential calculus, and optimization theory, with economic applications.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C).
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4818 (3) Introduction to Econometrics
Provides undergraduate economics majors with an introduction to econometric theory and practice. Develops the multiple regression model and problems encountered in its application in lecture and individual applied projects.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C).
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4838 (3) Microcomputer Applications in Economics
Teaches basic concepts in Java programming applied to economic models. Development of Web pages and dynamic modeling will be introduced. Students will gain a foundation that can be applied to creating advanced applications relating to analysis of statistical data and custom projects.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C).
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4848 (3) Applied Econometrics
Introduces students to the practice of applied regression analysis. Summarizes and reviews the regression technique, explores U.S. census data sources, introduces an advanced statistical software package and provides structured exercises in regression analysis of census data. Concludes with independent research projects analyzing social and economic issues using regression analysis and census data.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C).
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4858 (3) Financial Econometrics
Introduces statistical models, estimation and testing procedures used in analyzing financial data for advanced undergraduates. Topics include the modeling of returns, portfolio theory, the capital asset pricing model, options pricing and fixed income securities.
**Requisites:** Requires prerequisite course of ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (minimum grade C).
**Recommended:** Prerequisite ECON 4818.
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4868 (3) Simulation Modeling in Microeconomics
Computer simulation modeling translates theory into computer code to examine questions numerically; for example, the effects of taxes or emissions permits on welfare and income distribution. We use GAMS (general algebraic modeling system); a version may be downloaded for free. Students must have access to a computer (not needed in the classroom).
**Requisites:** Requires prerequisite course of ECON 3070 (minimum grade C).
**Additional Information:** Departmental Category: Quantitative Economics

ECON 4897 (3) Economics of Organizations
Introduces students to the economic analysis of relationship between firms and incentives within firms. The first part covers classical theories of firm boundaries and contractual relationship between firms. The second part focuses on compensation and incentive issues within firms.
**Requisites:** Requires prerequisite courses of ECON 3070 and ECON 3818 or APPM 4520 or APPM 4570 or CHEN 3010 or CVEN 3227 or MATH 4520 (all minimum grade C).
**Additional Information:** Departmental Category: Industrial Organization
ECON 4909 (3-4) Independent Study
Department enforced prerequisites: completion of at least 12 hours of ECON classes and a minimum GPA of 3.00. Department consent required.
Repeatability: Repeatable for up to 9.00 total credit hours. Allows multiple enrollment in term.
Requisites: Requires prerequisite courses of ECON 2010 and ECON 2020 and ECON 3070 or ECON 3080 (all minimum grade C-).
Additional Information: Departmental Category: Independent Study and Other Courses

ECON 4929 (3) Special Topics In Economics
This course number is assigned to upper-level Economics electives that become available on an incidental basis. Refer to the Economics Department for a detailed description of current content. Formerly ECON 4999.
Repeatability: Repeatable for up to 6.00 total credit hours.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3080 (all minimum grade C-). Restricted to students with 57-180 credits (Juniors or Seniors).
Additional Information: Departmental Category: Independent Study and Other Courses
Departmental Category: Asia Content

ECON 4939 (2-6) Internship/Seminar
Offers students the opportunity to integrate theoretical concepts of economics with practical experience in economics-related institutions. The theoretical portion arises from seminars and readings, the practical from activities in organizations related to the economics field. A maximum of 3 credit hours counts toward major requirements. Department consent required.
Requisites: Requires prerequisite courses of ECON 3070 and ECON 3080 and ECON 3818 (all minimum grade C-). Restricted to students with 57-180 credits (Junior or Senior) Economic (ECON) majors or minors only.
Grading Basis: Letter Grade
Additional Information: Departmental Category: Independent Study and Other Courses