ECONOMICS

Our PhD program focuses on a solid core curriculum in economic theory and econometrics. Beyond this, we offer a number of specialized fields of study: econometrics, economic development, economic history, industrial organization, international trade and finance, labor and human resources, natural resources and environmental economics and public economics.

Course code for this program is ECON.

Master's Degree in Economics
The Department of Economics does not currently offer a stand-alone MA degree program, although students enrolled in our PhD program will earn their MA degree as they progress toward their doctorate.

Doctoral Degree
- Economics - Doctor of Philosophy (PhD) (catalog.colorado.edu/graduate/colleges-schools/arts-sciences/programs-study/economics/economics-doctor-philosophy-phd)

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; PhD, 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

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

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

Kim, Jin-Hyuk (https://experts.colorado.edu/display/fisid_149615)
Associate 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 Emerita

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, Distinguished Professor

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

McClosky, Adam
Assistant Professor; PhD, Boston University
McKinnish-Harlee, Terra (https://experts.colorado.edu/display/fisd_115558)
Professor; PhD, Carnegie Mellon University

McNown, Robert
Professor Emeritus

Mertens, William G (https://experts.colorado.edu/display/fisd_105762)
Senior Instructor; PhD, University of Colorado Boulder

Morey, Edward R (https://experts.colorado.edu/display/fisd_102256)
Professor; PhD, Univ of British Columbia (Canada)

Nigai, Sergei
Assistant Professor; PhD, ETH Zurich

Peri, Alessandro (https://experts.colorado.edu/display/fisd_157820)
Assistant Professor; PhD, Universidad Carlos III de Madrid, Getafe, Spain

Poulson, Barry
Professor Emeritus

Roper, Don E.
Professor Emeritus

Savage, Scott James (https://experts.colorado.edu/display/fisd_121239)
Professor; PhD, Curtin Univ of Tech (Western Australia)

Shiue, Carol Hua (https://experts.colorado.edu/display/fisd_141892)
Professor; PhD, Yale University

Singell, Larry D.
Professor Emeritus

Udis, Bernard
Professor Emeritus

Waldman, Donald M (https://experts.colorado.edu/display/fisd_100468)
Professor; PhD, University of Wisconsin-Madison

Zax, Jeffrey S (https://experts.colorado.edu/display/fisd_100898)
Professor; PhD, Harvard University

Zhang, Shuang (https://experts.colorado.edu/display/fisd_151517)
Assistant Professor; PhD, Cornell University

Courses

**ECON 7010 (3) Microeconomic Theory 1**
Analyses recent and contemporary literature on fundamentals of economic theory. Considers value theory with particular emphasis on methodology, theory of demand, theory of the firm, game theory, theory of distribution, general equilibrium theory, and welfare economics. Instructor consent required.

**ECON 7020 (3) Macroeconomic Theory 1**
Discusses behavior of consumption, investment, employment, production, and interest rates in the context of dynamic optimization models. Also considers government, economic growth, and business cycles. Instructor consent required.

**ECON 7030 (3) Microeconomic Theory 2**
Continuation of ECON 7010. Instructor consent required.

**ECON 7040 (3) Macroeconomic Theory 2**
Presents the theoretical and empirical application of dynamic macro programming models. Topics include consumption, investment, labor, money, and credit theories. Covers the theory of economic fluctuations and business cycles employing dynamic general equilibrium models. Instructor consent required.

**ECON 7050 (3) Advanced Economic Theory**
Discusses advanced topics in game theory and general equilibrium. Department enforced prerequisites: ECON 7010 and ECON 7030 and ECON 7818 and ECON 7828.

**ECON 7060 (3) Independent Study and Other Courses**

**ECON 7818 (3) Mathematical Statistics for Economists**
Provides the mathematical foundation for Ph.D. level statistical inference in economic research. The primary topics of the course are probability theory and mathematical statistics including hypothesis testing and classical estimation with an emphasis on the method of maximum likelihood. Instructor consent required.

**ECON 7828 (3) Econometrics**
Continuation of ECON 7818. Topics include regression analysis and extensions of the linear regression model to generalized least squares, time series data, and systems of equations. Instructor consent required.

**ECON 8010 (3) Economics of Risk and Time**
Focuses on new techniques for analyzing behavior in relation to risk and time.

**ECON 8020 (3) Business Cycle Theory and Monetary and Fiscal Policy**
Discusses monetary and non-monetary theories of business cycles in the light of empirical evidence and what those theories imply for monetary and fiscal policy. Emphasizes a deep understanding of the mechanisms within models, their comparative statics and comparative dynamics and the importance of, and evidence for, difference parameter values within business cycle models.

**ECON 8209 (3) Economics Research Methods Workshop 1**
Assists students starting their doctoral thesis by discussing methodology and evaluation of economic research. Presents and discusses student research proposals.

**ECON 8211 (3) Public Economics: Fundamental Principles**
Presents the fundamental principles of public goods, externalities, public choice, excess burden, optimal taxation, and tax incidence.

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ECON 8219 (3) Economics Research Methods Workshop 2
Continuation of ECON 8209. Assists students starting their doctoral thesis by discussing relevant economic research. Presents and discusses research papers.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Independent Study and Other Courses

ECON 8221 (3) Public Economics: Topics in Public Expenditures and Taxation
Explores advanced topics in public economics such as decentralization, state and local government, program analysis, taxation, international tax issues, political economy issues, and market failure.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Public Economics

ECON 8231 (3) Local Public Economics
Examines subnational governments and systems of governments, the effects of inter-governmental competition, appropriate tax and expenditure responsibilities, and variations in governing institutions. Covers congestible public goods, Tiebout mechanisms, and tax capitalization.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Public Economics

ECON 8413 (3) Seminar: International Trade Theory
Covers theories of comparative advantage, including the classical, factor-proportions, fixed-factor, and noncompetitive markets models. Examines trade policy including trade barriers, market distortions, strategic policy, regional integration, political economy, and factor migration.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: International Trade and Finance

ECON 8423 (3) Seminar: International Finance
Highlights foreign exchange markets, past and current international monetary mechanisms, and processes of adjustment. Examines the role of international financial markets for the behavior of consumption, investment, saving, and production. Also considers international transmission of business cycles.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: International Trade and Finance

ECON 8433 (3) International Economics 3
Explores advanced quantitative topics in international economics and focuses on data, estimation, calibration, and solutions of several classes of models in international trade. The seminar is a part of the graduate sequence in International Economics and complements the course on International Trade Theory.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: International Trade and Finance

ECON 8534 (3) Economic History of North America
Examines North America's past from the perspective of economics. Topics include growth and welfare in the colonial period; staple products, agricultural development, and the emerging industrialism in the antebellum period; transformation of the North American economy to 1914; the interwar years and the Great Depression; and economic integration since 1945.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Economic History

ECON 8535 (3) Environmental Economics I
Considers the allocation of society's scarce environmental resources and government attempts to achieve more efficient and equitable allocations. It is a course in applied welfare economics with an emphasis on market failure and valuation.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Natural Resources and Environmental Economics

ECON 8545 (3) Environmental Economics II
Provides advanced study of recent advances in environmental economics and explores opportunities for new research. Topics vary with interests of instructor and students.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Natural Resources and Environmental Economics

ECON 8676 (3) Seminar: Labor Economics 1
Focuses on the demand side of labor markets. Topics include standard static and dynamic models of labor demand, labor market discrimination, composition of compensation, labor hierarchies within enterprises, unionization, efficient contracts, and macroeconomics of labor markets.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Labor and Human Resources

ECON 8686 (3) Seminar: Labor Economics 2
Focuses on special topics in labor economics: dynamic theories of labor supply, employment, and unemployment; labor supply in a household framework; and labor market activity and income distribution. Explores both theoretical models and empirical tests in each area.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Labor and Human Resources

ECON 8747 (3) Industrial Organization Theory
Examines subnational governments and systems of governments, the effects of inter-governmental competition, appropriate tax and expenditure responsibilities, and variations in governing institutions. Covers congestible public goods, Tiebout mechanisms, and tax capitalization.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Industrial Organization

ECON 8757 (3) Industrial Organization and Public Policy
Highlights recent advances in environmental economics and explores opportunities for new research. Topics vary with the interests of instructor and students.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Industrial Organization

ECON 8776 (3) Industrial Organization and Public Policy
Focuses on special topics in labor economics: dynamic theories of labor supply, employment, and unemployment; labor supply in a household framework; and labor market activity and income distribution. Explores both theoretical models and empirical tests in each area.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Industrial Organization

ECON 8764 (3) History of Economic Development
Covers historical perspective the causes of economic development including why some areas develop faster than others and why development occurs more rapidly in some eras than others.
Requisites: Restricted to graduate students only.
Additional Information: Departmental Category: Economic History
ECON 8774 (3) Economic Development 1
Focuses on microeconomic issues surrounding economic development from a largely empirical perspective. This is one course in a two-semester sequence in development economics for PhD students. Topics covered in the two sections will vary to keep up with the current research but this course will cover a variety of papers covering different research design and program evaluation methods on topical areas including but not limited to, human capital development and long-run effects, environment and health, labor markets and migration, social capital and networks, micro-credit, and women's empowerment.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Economic Development

ECON 8784 (3) Economic Development 2
Focuses on microeconomic issues surrounding economic development from a largely empirical perspective. This is one course in a two-semester sequence in development economics for PhD students. Topics covered in the two sections will vary to keep up with the current research but this course will cover a variety of papers covering different research design and program evaluation methods on topical areas including but not limited to, distribution of resources within households, environmental and natural resources, as well as migration and gender issues relevant for developing countries.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Economic Development

ECON 8828 (3) Seminar: Econometrics 1
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Quantitative Economics

ECON 8838 (3) Seminar: Econometrics 2
Teaches the advanced level of econometrics theory. Topics include asymptotic theory, maximum likelihood estimation, limited dependent variables analysis and other frontier areas of econometrics such as the method of moment estimation, semiparametric and nonparametric estimation procedure.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Quantitative Economics

ECON 8848 (3) Applied Microeconometrics
Presents a "user's guide" to conducting empirical research in applied microeconomics. Begins with a primer on an industry-standard econometric software package including programming techniques and data management. Introduces advanced econometric techniques including panel data methods, IV, matching models, regression discontinuity and limited dependent variables models. Concludes with a research project requiring a replication and/or extension of an existing published paper.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Quantitative Economics

ECON 8858 (3) Computational and Structural Estimation Methods
Teaches students to construct a variety of applied economic models, obtain parameter values through calibration or estimation techniques and uses the resulting models to conduct policy simulations.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Quantitative Economics

ECON 8909 (1-3) Independent Study
Repeatable: Repeatable for up to 7.00 total credit hours.
**Additional Information:** Departmental Category: Independent Study and Other Courses

ECON 8999 (1-10) Doctoral Dissertation
All doctoral students must register for not fewer than 30 hours of dissertation credit as part of the requirements for the degree. For a detailed discussion of doctoral dissertation credit, refer to the Graduate School section.
**Repeatable:** Repeatable for up to 30.00 total credit hours.
**Requisites:** Restricted to graduate students only.
**Additional Information:** Departmental Category: Independent Study and Other Courses