Economics

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The Department of Economics takes a global view of economics, with an emphasis on applied problems. An economics major prepares students for careers in business and government and for graduate work in areas such as economics, business and law. A basic understanding of economics develops insight into the many issues facing contemporary society, such as corporate downsizing, environmental pollution, urban decay, poverty, international trade, health care, educational reform, politics and sports deals.

In addition to the BA and the BS degrees in the College of Arts and Science, the Department of Economics offers an emphasis area within the Bachelor of Science in Business Administration (BSBA) degree in the Trulaske College of Business. The department also offers MA and PhD degrees in Economics as well as a minor.

Faculty
Cook Chair C. Otrok**
Lay Chair J. H. Haslag**
Professor D. M. Mandy**, J. Milyo**, S. Ni**, X. Wang**
Associate Professor S. P. Aura**, C. Gu**, C. Koedel**, O. Loginova**, J. I. Miller**
Assistant Professor A. Carlson, A. Hedlund*, D. Kaplan**, B. Street
Research Professor W. A. Brock
Associate Research Professor M. Ehler
Associate Teaching Professor G. Chikhladze
Assistant Teaching Professor E. Parsons*

* Graduate Faculty Member - membership is required to teach graduate-level courses, chair master's thesis committees, and serve on doctoral examination and dissertation committees.
** Doctoral Faculty Member - membership is required to chair doctoral examination or dissertation committees. Graduate faculty membership is a prerequisite for Doctoral faculty membership.

Undergraduate

• BA in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/ba-economics)
• BS in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/bs-economics)
• Minor in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/minor-economics)

Before a graduation plan in economics will be approved, students in the College of Arts and Science must have a cumulative GPA of 2.0 or a 2.0 GPA in economics coursework.

Departmental Honors

Candidates for Economics departmental honors must be Economics majors with at least a cumulative GPA of 3.30 and, in Economics courses taken at the University of Missouri-Columbia, at least a GPA of 3.50 for BA majors or a 3.25 for BS majors. Candidates must complete ECONOM 4371 Introductory Econometrics and ECONOM 4995 Honors Thesis during their junior or senior year and must receive a grade of B or higher in order to be awarded Department Honors.

Double Majors, Dual Degrees and Five-Year Program

For double majors and dual degrees, students must satisfy all requirements of both degree programs. Some courses may be allowed to count toward both degrees. Carefully chosen elective courses in addition to required courses can facilitate double majors and dual degrees.

Common double majors in the College of Arts and Science are:
• BA with majors in Economics and Political Science, Psychology, History, English or Communication
• BS with majors in Economics and Statistics or Mathematics

Common dual degrees with other schools and colleges are:
• BA with majors in Economics and Journalism or Education
• BS with majors in Economics and Engineering, Accountancy, Finance, or Marketing

By planning their courses carefully, Economics majors can earn a bachelor’s and a master’s degree in economics in five years. Students who are in the BA or BS programs are good candidates for this program. Students must be accepted to this program by the beginning of their senior year.

Students interested in pursuing any of these options should contact the Undergraduate Academic Advisor in economics for further advising.

Economics Emphasis Area in Business Administration Major

See the Trulaske College of Business for requirements for the Bachelor of Science with a major in Business Administration (BS BA) with an emphasis in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofbusiness/businessadministration/bsba-business-administration-emphasis-economics).

Graduate

• MA in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/ma-economics)
  • with emphasis in Econometrics and Quantitative Economics (http://catalog.missouri.edu/undergraduategraduate/
About the Program
The Department of Economics offers graduate work leading to the master of arts and the doctor of philosophy degrees. The program prepares students for careers in government and private enterprises, colleges, universities and research institutions through training in the techniques and applications of economic analysis, interpretation of data and the formulation and appraisal of public policy. Admission may be granted at any time to qualified students.

Degrees Offered
- MA and PhD in Economics

Specializations
The department offers fields of specialization in monetary economics, international economics, econometrics, public economics, industrial organization, labor economics, and quantitative microeconomic policy analysis.

Dual Degrees
The Departments of Mathematics and Economics offer selected students the option of obtaining dual degrees: an MS degree in Applied Mathematics and an MA degree in Economics. The Departments of Economics and Statistics offer selected students the option of obtaining dual degrees: an MA degree in Statistics and an MA degree in Economics within an integrated program. Whereas obtaining separate master’s degrees would nominally require a minimum of 60 credit hours of course work, students enrolled in the dual master’s degree program may obtain degrees based on 48 credit hours of course work. Students may be able to complete degree requirements within 2½ years.

Financial Support
Student financial support is available to graduate students as teaching and research assistantships, allocated based on promise and performance in the program. In addition, direct fellowship support may also be available to selected candidates. Tuition is waived for students who receive assistantship or fellowship support. February 1 is the deadline for applications for assistantships for the school year beginning in August, but earlier submissions are desirable. Late applications will be accepted subject to the availability of openings and funds.

ECONOM 1000: General Economics
One semester course covering similar material as covered in ECONOM 1014 and ECONOM 1015. Topics include opportunity costs, gains from trade, efficiency and markets, non-competitive markets, game theory, government spending and taxation, economic growth, monetary and fiscal policy, unemployment and inflation, exchange rates. Includes applications for Journalism students. Not open to students who have completed ECONOM 1014 or ECONOM 1024 and, ECONOM 1015 or AG_EC 1041 and AG_EC 1042. Graded on A-F basis only.

Credit Hours: 5
Prerequisites: Open only to majors in Education, Health Professions, Human Environmental Science and Journalism (including Journalism pre-majors)

ECONOM 1014: Principles of Microeconomics
A broad survey of microeconomics, from the basic market model and its many applications to market failures and policy responses. Topics include potential trade offs between efficiency and equity in competition and trade policy; determinants of wage differentials, poverty and inequality; and evaluation of the benefits and costs of government interventions in markets. Not open to students who have completed ECONOM 1000, ECONOM 1024 or ECONOM 1051.

Credit Hours: 3
ECONOM 1014 - MOTR ECON 102: Introduction to Microeconomics

ECONOM 1014H: Principles of Microeconomics-Honors
A broad introduction to microeconomics that is similar in coverage to ECONOM 1014, but with a more rigorous and quantitative approach. Not open to students who have completed ECONOM 1000, ECONOM 1024, or ECONOM 1051. Math Reasoning Proficiency Course. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: Honors eligibility required and a grade of “C” or higher in MATH 1050, MATH 1100, or equivalent

ECONOM 1015: Principles of Macroeconomics
An introduction to the study of how macroeconomic forces and public policy affect the welfare of a nation. Topics include understanding the business cycle, economic growth, inflation, interest rates, and unemployment, as well as the effects of fiscal and monetary policy. Not open to students who have completed ECONOM 1000 or ECONOM 1051. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024
ECONOM 1015 - MOTR ECON 101: Introduction to Macroeconomics

ECONOM 1015H: Principles of Macroeconomics - Honors
A broad introduction to macroeconomics that is similar in coverage to ECONOM 1015, but with a more rigorous approach. Not open to students who have completed ECONOM 1000 or ECONOM 1051. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 or equivalent; Honors eligibility required
ECONOM 1024: Fundamentals of Microeconomics
This course uses mathematical reasoning to provide an elementary quantitative introduction to fundamental concepts in microeconomics. It uses college algebra and simple geometric concepts to describe the behavior of economic units, such as consumers, firms and resource owners, and to depict their interaction through production and exchange in perfect and imperfect markets. Not open to students who have completed ECONOM 1000, ECONOM 1014, or ECONOM 1051. Math Reasoning Proficiency Course.

Credit Hours: 3
Prerequisites: A grade of "C" or higher in MATH 1050, MATH 1100 or the equivalent

ECONOM 1025: Fundamentals of Macroeconomics
This course uses mathematical reasoning to provide an elementary quantitative introduction to fundamental concepts in macroeconomics. It uses college algebra and simple geometric concepts to analyze the source of economic growth and fluctuations. Not open to students who have completed ECONOM 1000, ECONOM 1015, or ECONOM 1051. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024; and a grade of "C" or better in MATH 1050, MATH 1100 or equivalent

ECONOM 1051H: General Economics - Honors
One semester course covering similar material as covered in ECONOM 1014 and ECONOM 1015. Topics include opportunity costs, gains from trade, efficiency and markets, non-competitive markets, game theory, government spending and taxation, economic growth, monetary and fiscal policy, unemployment and inflation, exchange rates. Not open to students who have completed ECONOM 1014 or ECONOM 1024 and ECONOM 1015. Math Reasoning Proficiency Course.

Credit Hours: 5
Prerequisites: Honors eligibility required and C- or higher in MATH 1050 or MATH 1100

ECONOM 2004: Undergraduate Topics in Economics - Social Science
Organized study of selected topics in Economics; applied or theoretical economics; covers subjects not included in regularly offered courses.

Credit Hour: 1-3
Prerequisites: instructor's consent

ECONOM 2004H: Undergraduate Topics in Economics - Social Science - Honors
Organized study of selected topics in Economics; applied or theoretical economics; covers subjects not included in regularly offered courses.

Credit Hour: 1-3
Prerequisites: instructor's consent; honors eligibility required

ECONOM 2004W: Undergraduate Topics in Economics - Social Science - Writing Intensive
Organized study of selected topics in Economics; applied or theoretical economics; covers subjects not included in regularly offered courses.

Credit Hour: 1-3
Prerequisites: instructor's consent; honors eligibility required

ECONOM 3224: Introduction to International Economics
A topical course which emphasizes the application of basic economic analysis to real and current international economic issues. Topics include free trade, protectionism, free trade areas, multilateral trade negotiations, trade and development, exchange rates, the International Monetary System, and economic integration.

Credit Hours: 3
Prerequisites: ECONOM 1000, ECONOM 1014, ECONOM 1024 or ECONOM 1051

ECONOM 3229: Money, Banking and Financial Markets
Operation of the U.S. financial and economic system. Covers interest rates, banking regulation, the money supply process and the conduct of the Federal Reserve, inflation and the macroeconomy, exchange rates and the international financial system, rational expectations, and efficient markets.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024) and ECONOM 1015, or ECONOM 1000, or ABM 1041 with a minimum grade of C-

ECONOM 3229H: Money, Banking and Financial Markets - Honors
Operation of the U.S. financial and economic system. Covers interest rates, banking regulation, the money supply process and the conduct of the Federal Reserve, inflation and the macroeconomy, exchange rates and the international financial system, rational expectations, and efficient markets.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 and ECONOM 1015, or ECONOM 1051. Honors eligibility required

ECONOM 3251: Theory of the Firm
Theory of rational behavior in consumption, production, and pricing decisions of households and firms. Topics include the economics of the firm in the context of partial equilibria in product and factor markets under competition, monopoly, oligopoly and monopolistic competition as well as game theory. No credit for students who have completed ECONOM 4351.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024 or ECONOM 1000) and MATH 1400, or equivalent. Not open to economics majors

ECONOM 3323: Capitalism, Democracy and Society
This is a one-credit seminar course for students interested in careers involving social science research and analysis; topics covered will be a selection of classic and contemporary debates in the social sciences.

Credit Hour: 1
Prerequisites: ECONOM 1014 and ECONOM 1015, or ECONOM 1051

ECONOM 3940: Internship
Internship experience for students interested in economics. Supervised internship work with approval of Director of Undergraduate Studies and academic adviser. Graded on S/U basis only.

Credit Hour: 1-3
Prerequisites: ECONOM 1014 or ECONOM 1051

ECONOM 4004: Topics in Economics- Social Science
Study in applied or theoretical economics; covers subjects not included in regularly offered courses.
Credit Hour: 1-3
Prerequisites: instructor's consent

ECONOM 4004W: Topics in Economics- Social Science - Writing Intensive
Study in applied or theoretical economics; covers subjects not included in regularly offered courses.
Credit Hour: 1-3
Prerequisites: instructor's consent

ECONOM 4311: Labor Economics
(cross-leveled with ECONOM 7311). Surveys theoretical explanations of wage and employment determination in contemporary labor markets.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4311W: Labor Economics - Writing Intensive
Surveys theoretical explanations of wage and employment determination in contemporary labor markets.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4315: Public Economics
(cross-leveled with ECONOM 4315). Analyzes economic effects of government expenditures, taxes and debt. Expenditure and taxation principles, tax reform, cost-benefit analysis, fiscal policy.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4315W: Public Economics - Writing Intensive
Analyzes economic effects of government expenditures, taxes and debt. Expenditure and taxation principles, tax reform, cost-benefit analysis, fiscal policy.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4317: Urban Economics
(cross-leveled with ECONOM 7317). This is a class in urban economics. Topics covered include: formation of cities, land markets, housing markets, economics of transportation and commuting, cities as engines of growth and issues affecting cities such as crime, poverty and migration. Graded on A-F basis only.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4317W: Urban Economics - Writing Intensive
(cross-leveled with ECONOM 7317). This is a class in urban economics. Topics covered include: formation of cities, land markets, housing markets, economics of transportation and commuting, cities as engines of growth and issues affecting cities such as crime, poverty and migration. Graded on A-F basis only.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4320: History of Economic Thought
(cross-leveled with ECONOM 7320). Origins of modern economic thought in the context of social and intellectual environment of the time in which they originated, their contribution to their period and to modern thought.
Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024) and ECONOM 1015, or ECONOM 1051

ECONOM 4320W: History of Economic Thought
Origins of modern economic thought in the context of social and intellectual environment of the time in which they originated, their contribution to their period and to modern thought.
Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024) and ECONOM 1015, or ECONOM 1051

ECONOM 4326: Economics of International Trade
(cross-leveled with ECONOM 7326). The microeconomic theory of international trade. Topics include comparative advantage, the theory of commercial policy, economic integration, trade with less developed countries and the trade effects of economic growth.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4326W: Economics of International Trade - Writing Intensive
(cross-leveled with ECONOM 7326). The microeconomic theory of international trade. Topics include comparative advantage, the theory of commercial policy, economic integration, trade with less developed countries and the trade effects of economic growth.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4329: The Banking System and the Money Market
(cross-leveled with ECONOM 7329). Organization of the money market; credit control procedures and aims, effect of bank expansion and contraction on money market and national income deregulation.
Credit Hours: 3
Prerequisites: ECONOM 1015 or ECONOM 1000

ECONOM 4329W: The Banking System and the Money Market - Writing Intensive
Organization of the money market; credit control procedures and aims, effect of bank expansion and contraction on money market and national income deregulation.
Credit Hours: 3
Prerequisites: ECONOM 1015 or ECONOM 1051
ECONOM 4340: Introduction to Game Theory
(cross-leveled with ECONOM 7340). An introduction to the theory of games, viewed as a set of tools used widely in economics to study situations in which decision-makers (consumers, firms, governments, etc.) interact. The course introduces the basic theory, emphasizing the concepts and their economic applications.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4345: Economics of Education
(cross-leveled with ECONOM 7345). Economic theory is used to analyze the market for educational services and education policy. Topics include: human capital theory, cost and performance measures for public and private schools, market based approaches to school reform, school finance, higher education cost and access.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024 or ECONOM 1000), and STAT 2500 or equivalent

ECONOM 4345W: Economics of Education - Writing Intensive
Economic theory is used to analyze the market for educational services and education policy. Topics include: human capital theory, cost and performance measures for public and private schools, market based approaches to school reform, school finance, higher education cost and access.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024 or ECONOM 1005), and STAT 2500 or equivalent

ECONOM 4351: Intermediate Microeconomics
(cross-leveled with ECONOM 7351). Theory of rational behavior in consumption, production, and pricing decisions of households and firms. Partial equilibria in product and factor markets under competition, monopoly, oligopoly and monopolistic competition. A brief introduction to general equilibrium and welfare economics is provided. Calculus is employed. No credit for students who have completed ECONOM 3251.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024 or ECONOM 1000), and MATH 1400 or equivalent

ECONOM 4351H: Intermediate Microeconomics - Honors
Theory of rational behavior in consumption, production, and pricing decisions of households and firms. Partial equilibria in product and factor markets under competition, monopoly, oligopoly and monopolistic competition. A brief introduction to general equilibrium and welfare economics is provided. Calculus is employed. No credit for students who have completed ECONOM 3251.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 or ECONOM 1051, and MATH 1400, or equivalent. Honors eligibility required

ECONOM 4353: Intermediate Macroeconomics
(cross-leveled with ECONOM 7353). The study of the structure and performance of national economics. Topics include: long-term economic growth, aggregate economic fluctuations, unemployment, and inflation; consequences for national economies of being part of the global economic system; government policies and macroeconomic performance.

Credit Hours: 3
Prerequisites: ECONOM 1015 or ECONOM 1000, and MATH 1400 or equivalent

ECONOM 4355: Industrial Organization and Competitive Strategy
(cross-leveled with ECONOM 7355). Analyzes the structure of industry, its impact on the operations of the firm and significance for public policy. The focus is on strategic interaction among firms with market power. Topics include oligopoly, competition, collusion, price discrimination, product differentiation, advertising, entry and exit.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4355W: Industrial Organization and Competitive Strategy - Writing Intensive
Analyzes the structure of industry, its impact on the operations of the firm and significance for public policy. The focus is on strategic interaction among firms with market power. Topics include oligopoly, competition, collusion, price discrimination, product differentiation, advertising, entry and exit.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4357: Health Economics
(cross-leveled with ECONOM 4357, PUB_AF 4357). Analyzes the economics of health care in the United States with particular attention paid to the role of government. It examines the demand for health care and the structure and consequences of public and private health insurance; the supply of health care, including professional training, licensure, specialization and compensation, hospital competition and finance, and the determinants and consequences of technical change in medicine and health care reform.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351 and STAT 2500, or equivalent

ECONOM 4357W: Health Economics - Writing Intensive
Analyzes the economics of health care in the United States with particular attention paid to the role of government. It examines the demand for health care and the structure and consequences of public and private health insurance; the supply of health care, including professional training, licensure, specialization and compensation, hospital competition and finance, and the determinants and consequences of technical change in medicine and health care reform.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351 and STAT 2500, or equivalent

ECONOM 4357W: Health Economics - Writing Intensive
Analyzes the economics of health care in the United States with particular attention paid to the role of government. It examines the demand for health care and the structure and consequences of public and private health insurance; the supply of health care, including professional training, licensure, specialization and compensation, hospital competition and finance, and the determinants and consequences of technical change in medicine and health care reform.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351 and STAT 2500, or equivalent

ECONOM 4367: Law and Economics
(cross-leveled with ECONOM 7367, PUB_AF 7367). This course is a survey of economic analyses of American legal institutions. Students will apply basic microeconomics, game theoretic and statistical concepts to the study of property, contracts, torts, the legal process, crime, and the judiciary.
ECONOM 4367W: Law and Economics - Writing Intensive
This course is a survey of economic analyses of American legal institutions. Students will apply basic microeconomics, game theoretic and statistical concepts to the study of property, contracts, torts, the legal process, crime, and the judiciary.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351, and STAT 2500, or equivalent

ECONOM 4370: Quantitative Economics
(cross-leveled with ECONOM 7370). The aim of this course is to provide an introduction to the mathematical language of economic theory. Topics include linear models, matrix algebra, rules of differentiation and comparative static analysis, optimization.

Credit Hours: 3
Prerequisites: MATH 1300 and MATH 1400 or MATH 1500 or equivalent

ECONOM 4371: Introductory Econometrics
(cross-leveled with ECONOM 7371). Study methods for quantitative analysis of economic data. Estimation techniques, tests of significance, prediction and forecasting reviewed with respect to problems presented by economic data and information demands of economic decision models.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351, and STAT 2500, or equivalent

ECONOM 4385: Problems in Economics
Development of a carefully considered research project under close supervision of a faculty member. Credit arranged by instructor.

Credit Hour: 1-3
Prerequisites: ECONOM 4351, ECONOM 4371, and instructor’s consent. Not open to non-majors

ECONOM 4775: Dynamic Optimization and its Applications to the Natural Sciences and Economics

Credit Hour: 1-3
Prerequisites: ECONOM 4370 or instructor’s consent

ECONOM 4940: Internship in Economics
Internship experience for Economics majors. 40 hours of supervised internship work with approval of Director of Undergraduate Studies and academic advisor. Graded on S/U basis only.

Credit Hour: 1-3
Prerequisites: C or higher in ECONOM 4351 and ECONOM 4371; Declared economics majors who have a minimum overall CUM GPA of 2.75 and have junior or senior standing

Recommended: Students must have completed at least 15 credit hours at MU

ECONOM 4965: Independent Study in Economics
Individual work, with conferences adjusted to needs of student.

Credit Hour: 1-3
Prerequisites: instructor’s consent

ECONOM 4970: Senior Seminar in Economics
Seminar for graduating seniors who are majoring in economics. Multiple writing assignments will emphasize synthesis of theoretical, empirical, and institutional economics. Not open to non-majors.

Credit Hours: 3

ECONOM 4995: Honors Thesis
Not open to non-majors. Capstone course required for Economics honors students.

Credit Hours: 3
Prerequisites: ECONOM 4351

ECONOM 7001: Topics in Economics - General
Study in applied or theoretical economics. Subjects and earnable credit may vary from semester to semester.

Credit Hour: 1-99
Prerequisites: instructor’s consent

ECONOM 7311: Labor Economics
(cross-leveled with ECONOM 4311). Surveys theoretical explanations of wage and employment determination in contemporary labor markets.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 7315: Public Economics
(cross-leveled with ECONOM 4315). Analyzes economic effects of government expenditures, taxes and debt. Expenditure and taxation principles, tax reform, cost-benefit analysis, fiscal policy.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 7317: Urban Economics
(cross-leveled with ECONOM 4317). This is a class in urban economics. Topics covered include: formation of cities, land markets, housing markets, economics of transportation and commuting, cities as engines of growth and issues affecting cities such as crime, poverty and migration. Graded on A-F basis only.

Credit Hours: 3

ECONOM 7320: History of Economic Thought
(cross-leveled with ECONOM 4320). Origins of modern economic thought in the context of social and intellectual environment of the time in which they originated, their contribution to their period and to modern thought.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 and ECONOM 1015 or ECONOM 1051H
ECONOM 7326: Economics of International Trade
(cross-leveled with ECONOM 4326). The microeconomic theory of international trade. Topics include comparative advantage, the theory of commercial policy, economic integration, trade with LDC’s and the trade effects of economic growth.

Credit Hours: 3
Prerequisites: ECONOM 7351 or instructor's consent

ECONOM 7329: The Banking System and the Money Market
(cross-leveled with ECONOM 4329) Organization of the money market; credit control procedures and aims, effect of bank expansion and contraction on money market and national income deregulation.

Credit Hours: 3
Prerequisites: ECONOM 1015 or ECONOM 1051

ECONOM 7340: Introduction to Game Theory
(cross-leveled with ECONOM 4340). An introduction to the theory of games, viewed as a set of tools used widely in economics to study situations in which decision-makers (consumers, firms, governments, etc.) interact. The course introduces the basic theory, emphasizing the concepts and their economic applications.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 7351 or instructor's consent

ECONOM 7345: Economics of Education
(cross-leveled with ECONOM 4345). Economic theory is used to analyze the market for educational services and education policy. Topics include: human capital theory, cost and performance measures for public and private schools, market based approaches to school reform, school finance, higher education cost and access.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024, or ECONOM 1051H and ECONOM 4371 or equivalent

ECONOM 7351: Intermediate Microeconomics
(cross-leveled with ECONOM 4351). Theory of rational behavior in consumption, production, and pricing decisions of households and firms. Partial equilibria in product and factor markets under competition, monopoly, oligopoly and monopolistic competition. A brief introduction to general equilibrium and welfare economics is provided. Calculus is employed. No credit for students who have completed 3251.

Credit Hours: 3
Prerequisites: (ECONOM 1014 or ECONOM 1024 or ECONOM 1051) and MATH 1400 or equivalent

ECONOM 7353: Intermediate Macroeconomics
(cross-leveled with ECONOM 4353). The study of the structure and performance of national economics. Topics include: long-term economic growth, aggregate economic fluctuations, unemployment, and inflation; consequences for national economies of being part of the global economic system; government policies and macroeconomic performance.

Credit Hours: 3
Prerequisites: ECONOM 1015 or ECONOM 1051 and MATH 1400 or equivalent

ECONOM 7355: Industrial Organization and Competitive Strategy
(cross-leveled with ECONOM 4355). Analyzes the structure of industry, its impact on the operations of the firm and significance for public policy. The focus is on strategic interaction among firms with market power. Topics include oligopoly, competition, collusion, price discrimination, product differentiation, advertising, entry and exit.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 7351

ECONOM 7357: Health Economics
(same as PUB_AF 7357; cross-leveled with ECONOM 4357). Analyzes the economics of health care in the United States with particular attention paid to the role of government. It examines the demand for health care and the structure and consequences of public and private health insurance; the supply of health care, including professional training, licensure, specialization and compensation, hospital competition and finance, and the determinants and consequences of technical change in medicine; and examination of recent proposals and initiatives for health care reform.

Credit Hours: 3
Prerequisites: STAT 2500 and ECONOM 4351

ECONOM 7361: Comparative Economic Systems
(cross-leveled with Econom 4361). Study of capitalism, market socialism, and central planning.

Credit Hours: 3
Prerequisites: ECONOM 3229 and ECONOM 3251 or ECONOM 4351

ECONOM 7370: Quantitative Economics
(cross-leveled with ECONOM 4370). The aim of this course is to provide an introduction to the mathematical language of economic theory. Topics include linear models, matrix algebra, rules of differentiation and comparative static analysis, optimization.

Credit Hours: 3
Prerequisites: MATH 1300 and MATH 1400 or MATH 1500 or equivalent

ECONOM 7371: Introductory Econometrics
(cross-leveled with ECONOM 4371). Study methods for quantitative analysis of economic data. Estimating techniques, tests of significance, prediction and forecasting reviewed with respect to problems presented by economic data and information demands of economic decision models.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351 and STAT 2500 and MATH 1320 or instructor's consent

ECONOM 7775: Dynamic Optimization and its Applications to the Natural Sciences and Economics

Credit Hour: 1-3
Prerequisites: ECONOM 7370 or instructor's consent
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<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credit Hours</th>
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<tr>
<td>ECONOM 8001</td>
<td>Topics in Economics - General</td>
<td>Organized study of selected topics. Subjects and earnable credit may vary from semester to semester.</td>
<td>3</td>
<td>Instructor's consent</td>
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<tr>
<td>ECONOM 8085</td>
<td>Problems in Economics</td>
<td>Graduate students may select topics for study and investigation subject to approval by supervising faculty.</td>
<td>1-99</td>
<td></td>
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<tr>
<td>ECONOM 8340</td>
<td>Game Theory</td>
<td>Game theory is the study of strategic behavior by agents who perceive themselves as &quot;large&quot; relative to the market and who therefore consider the effect of their behavior on others. This course examines the rigorous theory of strategic interaction of rational agents. May be repeated for credit.</td>
<td>3</td>
<td>ECONOM 4351 or equivalent; MATH 1320 or equivalent. Graded on A-F basis only.</td>
</tr>
<tr>
<td>ECONOM 8370</td>
<td>Mathematics for Economics</td>
<td>The aim of this course is to cover essential mathematics used in economics. Topics include introductory linear algebra, multivariate calculus, comparative statics analysis, unconstrained optimization, and equality constrained optimization. May be repeated for credit.</td>
<td>3</td>
<td>ECONOM 4351 or equivalent; MATH 1320 or equivalent. Graded on A-F basis only.</td>
</tr>
<tr>
<td>ECONOM 8413</td>
<td>Research Workshop I</td>
<td>Required course for economics MA students. Combines instruction, student presentations, and seminar participation to introduce research methods and practice. A major research paper are required.</td>
<td>3</td>
<td>ECONOM 8451, ECONOM 8453, and ECONOM 8473 or instructor's consent.</td>
</tr>
<tr>
<td>ECONOM 8451</td>
<td>Microeconomic Theory</td>
<td>MA-level course in microeconomic theory. The course relies extensively on calculus to survey theories of: rational behavior in consumption, production, and pricing decisions of households and firms; partial equilibria in product and factor markets under competition, monopoly, oligopoly and monopolistic competition; and general equilibrium and welfare.</td>
<td>3</td>
<td>ECONOM 4353 or equivalent; at least concurrent enrollment in ECONOM 8451. Instructor's consent required for non graduate level students.</td>
</tr>
<tr>
<td>ECONOM 8472</td>
<td>Econometric Methods I</td>
<td>Familiarizes students with fundamental techniques found and used in applied economic research. Topics include: ordinary least squares, generalized least square, instrumental variables, maximum likelihood estimation, and generalized methods of moments.</td>
<td>3</td>
<td>STAT 7710 or instructor's consent</td>
</tr>
<tr>
<td>ECONOM 8473</td>
<td>Applied Econometrics</td>
<td>Topics include: nonlinear least squares, numerical optimization, maximum likelihood and basic panel data and time series methods.</td>
<td>3</td>
<td>ECONOM 7371 and MATH 7140 or equivalent, or instructor's consent.</td>
</tr>
<tr>
<td>ECONOM 9001</td>
<td>Topics in Economics</td>
<td>Selected current topics in economics.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECONOM 9085</td>
<td>Problems in Economics</td>
<td>Graduate students may select topics for study and investigation subject to approval by supervising faculty.</td>
<td>1-99</td>
<td></td>
</tr>
<tr>
<td>ECONOM 9090</td>
<td>Research in Economics</td>
<td>Thesis research for Ph.D. degree. Graded on a S/U basis only.</td>
<td>1-99</td>
<td></td>
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<tr>
<td>ECONOM 9413</td>
<td>Research Workshop II</td>
<td>Introduces doctoral students to practices of preparing scholarly economic research by moving through the process of selecting a topic, identifying relevant literature, and communicating results. Graded on A-F basis only.</td>
<td>1-3</td>
<td>ECONOM 9452, ECONOM 9454 and ECONOM 9474; PhD standing</td>
</tr>
<tr>
<td>ECONOM 9430</td>
<td>Advanced Money and Banking</td>
<td>The working and structure of institutional arrangements, welfare aspects of structural policies, operation of money and credit markets, and behavior of returns on assets.</td>
<td>3</td>
<td>ECONOM 9452 or instructor's consent</td>
</tr>
<tr>
<td>ECONOM 9431</td>
<td>Central Banking Policies</td>
<td>Examines central banking procedures, policies and the role they play in maintaining economic stability. Special attention to connection of Federal Reserve System with money and capital markets.</td>
<td>3</td>
<td>ECONOM 9452 or instructor's consent</td>
</tr>
</tbody>
</table>
ECONOM 9446: Advanced Empirical Methods
Empirical and modeling techniques for evaluation of microeconomic policy questions.
Credit Hours: 3
Prerequisites: ECONOM 8451, ECONOM 8473
Recommended: Concurrent enrollment in ECONOM 8473 or ECONOM 9473

ECONOM 9447: Topics in Microeconomic Policy Analysis
(same as PUB_AF 9447). Applies the methods and techniques of microeconomics and to specific timely policy questions. Taught by applied-microeconomics faculty and focuses on current topics in labor economics, public economics, the economics of education, health economics, and other applied areas of microeconomics.
Credit Hours: 3
Prerequisites: ECONOM 8451, ECONOM 8473
Recommended: Concurrent enrollment in ECONOM 8473 or ECONOM 9473

ECONOM 9451: Advanced Microeconomic Theory I
The theory of rational behavior and partial equilibrium in markets. Topics include consumer behavior, theory of the firm, decisions making under uncertainty, perfect competition, monopoly and monopsony, and imperfect competition.
Credit Hours: 3
Prerequisites: ECONOM 9451 or instructor's consent; PhD standing

ECONOM 9452: Advanced Microeconomic Theory II
Survey of equilibrium theory and market failures in economics. Topics include the structure and modeling of games, and cooperative and non-cooperative equilibrium concepts.
Credit Hours: 3
Prerequisites: ECONOM 9451 or instructor's consent

ECONOM 9453: Advanced Macroeconomic Theory I
Aggregate models of life-cycle microfoundations, of macroeconomics fluctuations and growth. Graded on A/F basis only.
Credit Hours: 3
Prerequisites: ECONOM 9451 or instructor's consent

ECONOM 9454: Advanced Macroeconomic Theory II
Analyzes topics in income analysis, including capital theory and economic dynamics.
Credit Hours: 3
Prerequisites: ECONOM 9453 or instructor's consent

ECONOM 9455: Monopoly and Competition
A survey of the theoretical and empirical literature on the organization of industries. Includes study of monopolized markets, competitive markets, and strategic interaction among firms in imperfectly competitive markets. Both the rationale and practice of anti-trust policy are studied.
Credit Hours: 3
Prerequisites: ECONOM 9452 and ECONOM 9471 or instructor's consent

ECONOM 9457: Computational Economics
Covers numerical and computational methods to solve economic models at the research frontier. Emphasis is on practical applications to prepare students for independent research. Graded on A-F basis only.
Credit Hours: 3
Prerequisites: ECONOM 8451 and ECONOM 8453 and ECONOM 8472

ECONOM 9471: Advanced Game Theory
Presents core concepts in game theory and illustrates their uses with a range of applications.
Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9472: Econometric Theory I
Analysis of linear regression models from an advanced statistical perspective.
Credit Hours: 3
Prerequisites: Department consent required

ECONOM 9473: Econometric Theory II
Analysis of nonlinear regression models and other essential econometric tools not covered in ECONOM 9472 from an advanced statistical perspective.
Credit Hours: 3
Prerequisites: ECONOM 9472 or instructor's consent

ECONOM 9474: Advanced Topics in Econometrics I
Equips students with some essential tools for conducting publishable econometric research. Topics at the discretion of the instructor - typically time series analysis. Graded on A-F basis only.
Credit Hours: 3
Prerequisites: ECONOM 9473 or instructor's consent

ECONOM 9475: Advanced Topics in Econometrics II
Equips students with some essential tools for conducting publishable econometric research. Topics at the discretion of the instructor - typically microeconometrics.
Credit Hours: 3
Prerequisites: ECONOM 9473 or instructor's consent

ECONOM 9476: Advanced Topics in Econometrics III
Equips students with some essential tools for conducting publishable econometric research. Topics at the discretion of the instructor - typically the second semester of a two-semester time series sequence beginning with ECONOM 9474 or a two-semester microeconometrics sequence beginning with ECONOM 9476.
Credit Hours: 3
Prerequisites: ECONOM 9473 or instructor's consent