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.

Before a graduation plan in economics will be approved, students in the College of Arts and Science must have a cumulative GPA of 2.5 after at least 12 credits at MU and an overall GPA in economics of 2.67 after at least 8 credits in economics course work at MU.

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)

Departmental Honors

Candidates for Economics departmental honors must be Economics majors with a GPA of 3.30 overall and a GPA of 3.50 or higher in Economics courses taken at the University of Missouri-Columbia. Candidates must complete ECONOM 4371 Introductory Econometrics, ECONOM 4995 Honors Thesis, and ECONOM 4971 Supplemental Senior Seminar in Economics, during the 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.

Faculty

Cook Chair C. Otrok**
Foster Professor R. Harstad**
Lay Chair J. H. Haslag**
Research Professor W. A. Brock
Associate Professor S. P. Aura**, C. Gu**, C. Koedel**, O. Loginova**, J. I. Miller**, V. Trindade*
Assistant Professor A. Hedlund*, D. Kaplan**
Associate Teaching Professor G. Chikhladze, M. Lee
Associate Research Professor M. Ehler
Assistant Research Professor B. Kisida, E. Parsons*
Assistant Adjunct Professor K. Choe
Adjunct Professor E. M. Basker, R. Ratti, L. Thomas
Postdoctoral Fellow D. Kim
Professor Emeritus J. Kuhlman, C. F. Menezes, R. Wallace
Associate Professor Emeritus C. Geiss, D. Schilling*

* 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.
Graduate

- MA in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/ma-economics)
- Econometrics and Quantitative Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/ma-economics-econometrics-and-quant-econ)
- PhD in Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/phd-economics)
- Econometrics and Quantitative Economics (http://catalog.missouri.edu/undergraduategraduate/collegeofartsandscience/economics/phd-economics-econometrics-and-quant-econ)

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 pre-Journalism and Journalism majors; departmental consent required

ECONOM 1014: Principles of Microeconomics

A basic examination of the economy at the individual consumer, firm and market level. Simple economic models used to analyze the workings of the economy. Topics include opportunity costs, gains from trade, efficiency and markets, non-competitive markets, game theory, the importance of free trade, the markets response to economic shocks and the effect of government intervention. Not open to students who have completed ECONOM 1014 or ECONOM 1024, ECONOM 1051, or AG_EC 1041.

Credit Hours: 3

ECONOM 1015: Principles of Macroeconomics

Macroeconomics generally refers to a collection of questions about how scarcity affects a collection of people interacting with one another. In this course, our focus is on understanding how scarcity affects welfare of a nation. Topics include Gross Domestic Product, government spending and taxation, economic growth, monetary and fiscal policy, unemployment and inflation, and exchange rates. Not open to students who have completed ECONOM 1015 or AG_EC 1042.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024

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 1014, ECONOM 1051, or AG_EC 1041. Math Reasoning Proficiency Course.

Credit Hours: 3
**Prerequisites:** MATH 1100 or MATH 1120 or equivalent with grade of C or better

**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

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**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

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**ECONOM 3004: 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

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**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 1014 or ECONOM 1024 or ECONOM 1051

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**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 1051, or AG ECON 1041 with a minimum grade of C-

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**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

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**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 1051) and MATH 1400, or equivalent. Not open to economics majors

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**ECONOM 3271: Introduction to Applied Econometric Practice**
Introduction to the use of regression analysis of economic data, including simple and multiple regression, dummy variables. Econometric problems considered include heteroscedasticity, autocorrelation, multicollinearity and simultaneous equation issues.

**Credit Hours:** 3  
**Prerequisites:** ECONOM 1014 or ECONOM 1024 and ECONOM 1015, or ECONOM 1051H and STAT 2500

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**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

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**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

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**ECONOM 3950: Practicum in Economics**
Practical experience in consulting, teaching or research guided by faculty advisor. Graded on S/U basis only.

**Credit Hour:** 1-3  
**Prerequisites:** consent of Director of Undergraduate Studies and faculty advisor  
**Recommended:** Grade of B or higher in ECONOM 4351 and ECONOM 4371

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**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

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**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 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 4322: Economics of Regulation and Antitrust (cross-leveled with ECONOM 7322). Economic issues concerning the role of government regulation. The course examines the rationale for and effects of regulatory policies in public utilities, transportation, and communications industries.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

ECONOM 4325: The International Monetary System (cross-leveled with ECONOM 7325). Study of macroeconomic and monetary relationships between the U.S. and the world. Topics include balance of payments, foreign exchange rates, history of the international monetary system.
Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 4351

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 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 1051

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 1015 or ECONOM 1051

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 1051), 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 1051), 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 1051) 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 1015 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 1024 or ECONOM 1051, 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 4360: Economic Development
(same as PEA_ST 4360; cross-leveled with ECONOM 7360). The study of less-developed countries including problems of measuring economic growth, analysis of sources of economic growth, causes of changes in economic and structure, development and trade policies. The consequences of goals and assumptions for development policy are analyzed.

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

ECONOM 4361: 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 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.

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

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 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 4384: Structural Change in Economic History
(cross-leveled with ECONOM 7384). Explores changes in the structure
of the American economy from its earliest colonial beginnings. Structural
change, an integral part of growth, is related to technical change,
population growth and to the content and form of economic theory.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 and ECONOM 1015,
or ECONOM 1051

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
(cross-leveled with ECONOM 7775). Development of Calculus of
Variations and Optimal Control Theory. Applications. Extensions to
stochastic and robust control.

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 4971: Supplemental Senior Seminar in Economics
Content description is the same as ECONOM 4970. Required for
Economics honors students and double majors in Economics who take
a capstone course in another major. No credit for students who have
completed ECONOM 4970. Not open to non-majors. Graded on A-F
basis only.

Credit Hour: 1

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 7085: Problems in Economics
Individual study in Economics.

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 7351

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 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 7322: Economics of Regulation and Antitrust
(cross-leveled with ECONOM 4322). Economic issues concerning the role of government regulation. The course examines the rationale for and effects of regulatory policies in public utilities, transportation, and communications industries.

Credit Hours: 3
Prerequisites: ECONOM 3251 or ECONOM 7351

ECONOM 7325: The International Monetary System
(cross-leveled with ECONOM 4325). Study of macroeconomic and monetary relationships between the US and the world. Topics include balance of payments, foreign exchange rates, history of the international monetary system.

Credit Hours: 3
Prerequisites: ECONOM 3229

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 7332: Microeconomics for Managers
(cross-leveled with ECONOM 4332). Microeconomic concepts presented at the intermediate level, graphic treatment with limited calculus, managerial issues presented at the MBA level. (Not open to economics majors).

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024, MATH 1300; permission required for MBA program

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: STAT 2500 and ECONOM 4351

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 or instructor's consent

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 7360: Economic Development
(cross-leveled with ECONOM 4360, PEA_ST 4360). The study of less-developed countries including problems of measuring economic growth, analysis of sources of economic growth, causes of changes in economic and structure, development and trade policies. The consequences of goals and assumptions for development policy are analyzed.

Credit Hours: 3
Prerequisites: ECONOM 3229 and ECONOM 3251 or ECONOM 4351.; graduate standing required

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

Credit Hours: 3
Prerequisites: ECONOM 3229 or ECONOM 4351 or equivalent

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 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 equivalent

ECONOM 7373: Structural Change in Economic History
(cross-leveled with ECONOM 4384). Explores changes in the structure of the American economy from its earliest colonial beginnings. Structural change, an integral part of growth, is related to technical change, population growth and to the content and form of economic theory.

Credit Hours: 3
Prerequisites: ECONOM 1014 or ECONOM 1024 and ECONOM 1015, or ECONOM 1051H or instructor's consent

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

Credit Hours: 1-3
Prerequisites: ECONOM 7370 or instructor's consent

ECONOM 8001: Topics in Economics- General
Organized study of selected topics. Subjects and earnable credit may vary from semester to semester.

Credit Hours: 3
Prerequisites: instructor's consent

ECONOM 8085: Problems in Economics
Graduate students may select topics for study and investigation subject to approval by supervising faculty.

Credit Hours: 1-99

ECONOM 8090: Research in Economics
Thesis research for M.A. degree. Graded on a S/U basis only.

Credit Hours: 1-99

ECONOM 8340: Game Theory
Game theory is the study of strategic behavior by agents who perceive themselves as "large" 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.

Credit Hours: 3
Prerequisites: ECONOM 4351 or equivalent; MATH 1320 or equivalent. Graded on A-F basis only

ECONOM 8370: Mathematics for Economics
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.

Credit Hours: 3
Prerequisites: ECONOM 4351 or equivalent; MATH 1320 or equivalent. Graded on A-F basis only

ECONOM 8413: Research Workshop I
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.

Credit Hours: 3
Prerequisites: ECONOM 8451, ECONOM 8453, and ECONOM 8472 or instructor's consent

ECONOM 8451: Microeconomic Theory
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.

Credit Hours: 3

ECONOM 8453: Macroeconomic Theory
Basic models in macroeconomics will be covered with emphasis on assumptions and on how hypotheses can be tested. Course is an introductory survey for students intending to develop ability for research in macroeconomics.

Credit Hours: 3
Prerequisites: ECONOM 4353 or equivalent; at least concurrent enrollment in ECONOM 8451. Instructor's consent required for non graduate level students

ECONOM 8470: Dynamic Optimization
Topics to be covered include calculus of variations, optimal control theory, dynamic programming in discrete time variables, and economic modeling. The Euler Equation, the Transversality Condition and the Bellman Equation will also be covered.

Credit Hours: 3
Prerequisites: ECONOM 7370

ECONOM 8472: Econometric Methods I
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.

Credit Hours: 3
Prerequisites: STAT 7710 or instructor's consent

ECONOM 8473: Applied Econometrics
Topics include: nonlinear least squares, numerical optimization, maximum likelihood and basic panel data and time series methods. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: ECONOM 7371 and MATH 7140 or equivalent, or instructor's consent

ECONOM 9001: Topics in Economics
Selected current topics in economics.

Credit Hours: 3

ECONOM 9085: Problems in Economics
Graduate students may select topics for study and investigation subject to approval by supervising faculty.

Credit Hour: 1-99

ECONOM 9090: Research in Economics
Thesis research for Ph.D. degree. Graded on a S/U basis only.

Credit Hour: 1-99

ECONOM 9311: Advanced Labor Economics I
Analysis of the determination of wages and employment and the relation of trade unionism to the economy.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9412: Advanced Labor Economics II
Applications of contemporary analytical techniques to labor market topics chosen by the instructor.

Credit Hours: 3
Prerequisites: ECONOM 9411 and ECONOM 9452 or instructor's consent

ECONOM 9413: Research Workshop II
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.

Credit Hour: 1-3
Prerequisites: ECONOM 9452, ECONOM 9454 and ECONOM 9474; PhD standing

ECONOM 9415: Advanced Public Economics I
Tax incidence and optimal taxation in static economies and issues of taxation in dynamic economies.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9416: Advanced Public Economics II
Macroeconomic issues of government finance. Theoretical and empirical analysis of Ricardian equivalence.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9426: International Trade
Pure theory of international trade and commercial policy.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9427: Topics in International Trade
The course will cover recent research in International Trade and important issues related to the impact of trade on economic growth and development. Topics include the relationship between trade and growth, the impact of international trade on firms, households and economic growth. Graded on A-F basis only.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent

ECONOM 9430: Advanced Money and Banking
The working and structure of institutional arrangements, welfare aspects of structural policies, operation of money and credit markets, and behavior of returns on assets.

Credit Hours: 3
Prerequisites: ECONOM 9452 or instructor's consent
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Course Description</th>
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</thead>
<tbody>
<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. Credit Hours: 3, Prerequisites: ECONOM 9452 or instructor's consent</td>
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<tr>
<td>ECONOM 9446</td>
<td>Advanced Empirical Methods</td>
<td>Empirical and modeling techniques for evaluation of microeconomic policy questions. Credit Hours: 3, Prerequisites: ECONOM 8451, ECONOM 8472, Recommended: Concurrent enrollment in ECONOM 8473 or ECONOM 9473</td>
</tr>
<tr>
<td>ECONOM 9447</td>
<td>Topics in Microeconomic Policy Analysis</td>
<td>(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 8472, ECONOM 9446, Recommended: Concurrent enrollment in ECONOM 8473 or ECONOM 9473</td>
</tr>
<tr>
<td>ECONOM 9451</td>
<td>Advanced Microeconomic Theory I</td>
<td>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. Graded on A/F basis only. Credit Hours: 3, Prerequisites: ECONOM 9451 or instructor's consent; PhD standing</td>
</tr>
<tr>
<td>ECONOM 9452</td>
<td>Advanced Microeconomic Theory II</td>
<td>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</td>
</tr>
<tr>
<td>ECONOM 9453</td>
<td>Advanced Macroeconomic Theory I</td>
<td>Aggregate models of life-cycle microfoundations, of macroeconomics fluctuations and growth. Graded on A-F basis only. Credit Hours: 3, Prerequisites: departmental consent; PhD standing</td>
</tr>
<tr>
<td>ECONOM 9454</td>
<td>Advanced Macroeconomic Theory II</td>
<td>Analyzes topics in income analysis, including capital theory and economic dynamics. Credit Hours: 3, Prerequisites: ECONOM 9453 or instructor's consent</td>
</tr>
<tr>
<td>ECONOM 9455</td>
<td>Monopoly and Competition</td>
<td>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</td>
</tr>
<tr>
<td>ECONOM 9457</td>
<td>Computational Economics</td>
<td>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</td>
</tr>
<tr>
<td>ECONOM 9460</td>
<td>Development Economics</td>
<td>Theories of economic development critically examined. Sources and consequences of growth processes analyzed in context of economic theory and historical occurrence. Credit Hours: 3, Prerequisites: ECONOM 8451 and ECONOM 8472</td>
</tr>
<tr>
<td>ECONOM 9471</td>
<td>Advanced Game Theory</td>
<td>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</td>
</tr>
<tr>
<td>ECONOM 9472</td>
<td>Econometric Theory I</td>
<td>Analysis of linear regression models from an advanced statistical perspective. Credit Hours: 3, Prerequisites: Department consent required</td>
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<tr>
<td>ECONOM 9473</td>
<td>Econometric Theory II</td>
<td>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</td>
</tr>
<tr>
<td>ECONOM 9474</td>
<td>Advanced Topics in Econometrics I</td>
<td>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</td>
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<tr>
<td>ECONOM 9475</td>
<td>Advanced Topics in Econometrics II</td>
<td>Equips students with some essential tools for conducting publishable econometric research. Topics at the discretion of the instructor - typically microeconometrics. Credit Hours: 3</td>
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</table>
Prerequisites: ECONOM 9473 or instructor's consent

ECONOM 9477: 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

ECONOM 9480: Independent Readings for Ph.D. Comprehensive Examinations
Independent Readings for Ph.D. Comprehensive Exam. Graded on S/U basis only.
Credit Hour: 1-6

ECONOM 9484: Economic History
Techniques of the new economic history are explored in the context of European economic development.
Credit Hours: 3
Prerequisites: ECONOM 8451