Economics

Undergraduate Programs Overview

Bachelor of Arts (B.A.) in Economics
The B.A. in Economics is more "liberal arts" in its focus than the B.S. degree. The B.A. degree requires completion of the BA foreign language requirement of the College of Arts and Sciences.

Bachelor of Science (B.S.) in Economics
The B.S. in Economics provides more in-depth development of the analytical and quantitative skills used in economic analysis. Students are required to complete calculus, econometrics, and additional quantitative coursework. The B.S. also offers very strong students the option of pursing the Dual B.S./M.A. program.

B.S./M.A. Dual Degree Program in Economics
The B.S./M.A. ("2+3") dual degree program in Economics is an accelerated program that allows students to complete a B.S. and a M.A. in Economics in five years. The program is targeted at students who are comfortable with mathematics and have demonstrated success in undergraduate-level quantitative and analytical economics courses.

Bachelor of Science (B.S.) in Actuarial Science
Principles of Microeconomics, Principles of Macroeconomics, as well as a couple of quantitative courses offered by the department are part of the B.S. in Actuarial Science program. In addition, the Principles courses fulfill the VEE requirements in Economics. These courses have received approval of the Society of Actuaries (SOA). For more information see the Actuarial Science undergraduate program.

Minor in Economics
The Department offers a minor in Economics to students who want to develop some knowledge in this field but wish to major in another discipline.

Certificate in Applied Econometrics and Data Analysis
This Certificate is designed to prepare students to perform applied econometric analysis in a variety of professional settings: banks, telecom companies, consulting firms, etc. BS students can further distinguish themselves with this Certificate, which can be combined with the BS, the MA, or completed as a freestanding certificate.

Certificate in Actuarial Studies
Principles of Microeconomics, Principles of Macroeconomics help satisfy the prerequisites for the Certificate in Actuarial Studies and help fulfill the VEE requirements in Economics. These courses have received approval of the Society of Actuaries (SOA). For more information on the Certificate in Actuarial Studies, see the Actuarial Science undergraduate program.

Courses in Geography
The department offers a number of courses in geography, both online and on campus.

Resources
A valuable campus resource available to economics students is the Economic Resources Center (ERC). The ERC serves as a University Computer lab, study, and meeting space. The ERC also provides peer tutors for undergraduate economics courses (especially for Principles of Microeconomics and Principles of Macroeconomics).

Graduate Programs Overview

Master of Arts (M.A.) in Economics
The M.A. in Economics is specifically designed for those seeking to work as professional economists. Students acquire knowledge and a versatile set of skills that are highly valued in the workplace. The M.A. program has an excellent track record in job placement and placement in top Ph.D. programs. A unique feature of the program is the large number of applied econometrics and quantitative courses offered. The program can accommodate prospective full-time students as well as those who wish to study part-time. Classes are small, and student-faculty interaction is encouraged.

About the Faculty
The economics faculty considers research an integral part of good teaching. Research projects in recent years have dealt with energy, public choice, industrial organization, property rights, wage discrimination, urban economic development, health economics, economics of science, economics of gender, poverty and welfare, economics of culture, and government regulations.

Career Outlook in Economics
Nearly every decision that a person, business, or government makes falls under the purview of economic analysis. In economics course work, students learn to think analytically and apply their knowledge to a broad range of topics and problems. These skills are highly valuable in our ever changing economy, as well as in everyday life. For this reason, those with economics degrees are in high demand in a wide number of occupations, whether in business or government. In addition, economics majors are especially sought after by law schools, M.B.A. programs and, of course, graduate programs in economics. Job prospects for those with economics degrees at both the undergraduate and graduate levels are expected to remain strong over the next decade. For additional information on the undergraduate program, contact the Director of Undergraduate Studies 516-5306 or 314-516-5353. Regarding the graduate program, contact the Director of Graduate Studies at 516-5553. Additional information is also available at the Department of Economics website.

Degrees
Economics BA
Economics BS
Economics BS/MA Dual Degree Program
Economics MA
Economics MA, Business Economics Emphasis

Minor
Economics Minor
Certificate
The ultimate objective of the course will be to provide students with a deeper understanding of firms so they can make better policy decisions as firm owners, managers, lawmakers, regulators, and voters.
ECON 3500 The Economics of Government Spending and Taxation: 3 semester hours
Prerequisites: MATH 1030 and ECON 1001. Analysis of the role of government expenditures and taxation. Topics include: (1) analysis of public goods and externalities, models of collective choice, elements of benefit-cost analysis and the theory of bureaucracy, governments as agents in markets; and (2) analysis of the economic role of governments, subsidies and taxes in the federal system, criteria for tax evaluation, the nature of tax legislation, private decision making under different tax institutions, and government borrowing.

ECON 3600 Market Structure, Strategy, and Pricing: 3 semester hours
Prerequisite: ECON 1001. A theoretical and empirical analysis of the actions of firms under alternative forms of market organization. The role of economies of scale, product differentiation, mergers, and advertising in affecting industry structure and the impact of the resulting industry structure on pricing, output, promotion, and technology decisions of firms.

ECON 3610 Economics of Sports, Gaming, and Gambling: 3 semester hours
Prerequisite: ECON 1001. This course focuses on applications of fundamental economic principles to the world of sports, gaming, and gambling. It analyzes incentives present in sports and the rise of e-sports. Legal and illegal gambling are analyzed in regard to their effect on the local economy and impact of legalized gambling on sports. In addition to professional sports, NCAA, Olympic, and sports popular around the world are explored.

ECON 3900 Selected Topics in Economics: 3 semester hours
Prerequisites: ECON 1001 and ECON 1002. Analysis of a selected economic topic. The topic selected will vary from semester to semester. This course may be taken for credit more than once so long as the topic discussed in each semester is different.

ECON 4030 Managerial Economics: 3 semester hours
Prerequisites: ECON 3001; MATH 1800 or MATH 1100 recommended. Application of microeconomic theory to decision-making processes in the business firm. Topics include pricing and profit strategy, cost analysis, decision making under uncertainty, technology, innovation, and productivity growth, and the structure and organization of firms. Problem-solving and case-study approach used.

ECON 4040 Booms and Busts in the Economy: Data and Theory: 3 semester hours
Prerequisites: ECON 3002 and ECON 3100. This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. Students explore the variability and co-movements of aggregate economic variables and consider alternative theoretical explanations of these phenomena. Students may not receive credit for both ECON 4040 and ECON 5040.

ECON 4100 Introduction to Econometrics: 4 semester hours
Prerequisites: ECON 1001 and ECON 1002; ECON 3100 or MATH 1320 or SCMA 3300; MATH 1800 or MATH 1100. An introduction to quantitative analysis of economic behavior. The ordinary least squares technique and the assumptions underlying it are developed. Methods designed to detect and correct for the violations of these assumptions are examined. Special emphasis is given to the practical application of the procedures discussed through the use of computer exercises.

ECON 4110 Applied Econometrics: 4 semester hours
Prerequisites: ECON 4100 or equivalent. Concepts, techniques, & advanced applications of econometrics. Emphasis on developing a critical understanding of the appropriateness and limitations of a variety of state-of-the-art techniques used to model economic or political processes. Topics will include joint tests of hypotheses, estimation of lagged effects, models of qualitative choice, simultaneous systems, and outlier diagnostics. This course includes laboratory work in quantitative economic analysis.

ECON 4120 Time Series Econometrics for Economics and Finance: 4 semester hours
Prerequisites: ECON 4100 or equivalent and a solid foundation in statistics. Introduction to application of econometric methods to timeseries data. Emphasis on model specification as it appears to macroeconomic or financial data. Topics include: Stationary and non-stationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macro-economics, international economics and/or financial markets.

ECON 4130 Business and Economic Forecasting: 4 semester hours
Prerequisites: ECON 4100 or equivalent. Alternative forecasting methodologies for economic time series will be analyzed and discussed. The focus of the course will be: (1) the development of time-series (ARIMA) models and their application to forecasting; (2) the use of standard econometric models for forecasting; and (3) evaluation and comparison of these methods and the conditions under which each is the appropriate methodology. This course includes laboratory work in quantitative economic analysis.

ECON 4150 Mathematical Economics: 3 semester hours
Prerequisites: MATH 1800 or MATH 1100, ECON 3001. This course uses calculus and other mathematical tools to analyze economic phenomena. In addition to exploring techniques used to solve unconstrained and constrained optimization problems, the course also examines how matrix algebra is used in economic modeling. This course allows students to mathematically analyze economic models which receive graphical treatment in lower level courses. Students may not receive credit for both ECON 4150 and ECON 5150.

ECON 4160 Geospatial Analysis in the Social Sciences: 3 semester hours
Prerequisites: Junior standing. ECON 1001 or consent of instructor. Analysis of geospatial data relating to a variety of social phenomena using geographic information systems (GIS) software. Students will learn how geospatial analysis can be integrated into research projects and presentations (e.g., creating maps to present and analyze social, political, and economic data). Students will also learn how criminal activity, economic activity, voting patterns and other social behavior are spatially correlated with demographic data. As a culminating project, students will learn how to apply GIS techniques, including but not limited to sophisticated spatial modeling of social behavior.

ECON 4170 Fundamentals of Cost-Benefit Analysis: 3 semester hours
Prerequisites: ECON 3001 or equivalent. The purpose of this course is to provide a systemic and rigorous way of thinking about the measurement of benefits and costs when evaluating public projects, programs or regulations. Cost-benefit analysis has wide application, including: environmental resource use, highway construction projects, safety regulations, taxation of cigarettes, and investment in higher education. Given the prevalence of cost-benefit analysis in government budgetary processes, this course will develop critical appraisal skills to evaluate the appropriateness of these analyses.
ECON 4210 Financial Markets and Institutions: 3 semester hours
Prerequisite: ECON 3200. Demand, supply and flow of funds in the macrofinancial system, including money, capital, futures and foreign exchange markets. Examines types and historical development of domestic and international financial intermediaries operations within these markets, decision-making within individual intermediaries, their regulatory environment, and how their portfolio decisions affect flows of funds in the financial system.

ECON 4550 Natural Resource Economics: 3 semester hours
Prerequisites: ECON 1001 or consent of instructor; junior standing. The relationship between human activity and the world's natural resources requires choices. This course uses an economics perspective to study these choices. This perspective uses the view of the environment as an asset for its starting point. Issues concerning the optimal and sustainable use of natural resources are examined in this context. Special emphasis is given to potential policy responses to environmental problems.

ECON 4900 Advanced Topics in Economic Analysis: 3 semester hours
Prerequisite: ECON 3001 or ECON 3002 or consent of instructor. Study of a specific topic in Economics that may vary from semester to semester. May be taken for credit more than once if the topics are different.

ECON 4980 Special Readings: 1-6 semester hours
Prerequisite: Consent of instructor; grade point of 3.0 or higher in Economics. Unscheduled, independent directed readings on topics mutually acceptable to student and instructor. Maximum credit limited to six hours.

ECON 4990 Internship in Applied Economics: 2-6 semester hours
Prerequisites: ECON 3001, junior standing and consent of instructor. Independent study involving work with an appropriate private firm or public agency. A maximum of six hours may be earned, only three of which may be applied to the Economics major.

ECON 4995 Internship in Actuarial Science: 1-3 semester hours
Same as MATH 4995. Prerequisites: Junior standing and consent of program director. Supervised off-campus training in a private or public sector position in which the student applies the knowledge and skills learned in their actuarial science coursework. The internship is monitored by a faculty member and the student must provide a written report at the end of the project. This course may be repeated for a maximum of 6 credit hours.

ECON 5001 Microeconomic Analysis: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001; ECON 3002 or BUS AD 5002; ECON 4150. Survey of Microeconomic comparative statistics. Detailed examination of demand and supply, product and factor markets. Partial equilibrium in competitive, imperfectly competitive and monopolistic markets.

ECON 5002 Macroeconomic Analysis: 3 semester hours
Prerequisites: ECON 3200; ECON 3001 or BUS AD 5001; ECON 3002 or BUS AD 5002; and ECON 4150. Aggregate economic theory, including analysis of the determinants of income, output, employment, and prices. Employment and price-level effects of consumer and investment demand, the money supply and interest rates, and government policies.

ECON 5052 Microeconomics for the School Curriculum: 1-3 semester hours
Prerequisites: Bachelor's degree from an accredited institution or consent of instructor. Analysis of market forces, with emphasis on business firms, households, productive factor markets, price determination and resource allocation. Special reference to topics included in the elementary and secondary school social science curricula.

ECON 5055 Economic Issues for School Curriculum: 1-3 semester hours
Prerequisite: Junior standing and consent of instructor. An analysis of selected economic issues appropriate to instruction in secondary and elementary schools. May be taken more than once for credit provided the topic of the course is different each time. May not normally be used by economics majors to meet degree requirements.

ECON 5100 Econometric Theory and Methods: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001; ECON 3002 or BUS AD 5002; ECON 4100; ECON 4150 or equivalent. A rigorous review of statistical models and methods relevant to the estimation and testing of economic relationships. Emphasis on the theoretical underpinnings of techniques commonly used for multivariate analysis and hypothesis testing. Topics include ordinary least squares, generalized least squares, and instrumental variables estimation.

ECON 5110 Topics in Applied Econometrics: 3 semester hours
Prerequisites: ECON 4100, or ECON 5100 or SCMA 5300. Concepts and application of advanced econometric techniques. Students will develop a thorough understanding of the appropriateness and application of a variety of state-of-the art techniques. Topics will include specification tests, polynomial distributed lags, discrete choice, pooled time-series cross-section, simultaneous equations and outlier detection.

ECON 5120 Advanced Topics in Time Series Econometrics: 3 semester hours
Prerequisites: ECON 4100 or equivalent and a solid foundation in statistics. Application of econometric methods to time-series data. Emphasis on model specification as it applies to macroeconomic or financial data. Advanced topics include: Stationary and nonstationary time-series, seasonality, random walks, unit roots, Dickey-Fuller tests, cointegration, ARCH/GARCH models, and general to specific modeling (ADLs). Specific applications to macro-economics, international economics and/or financial markets.

ECON 5130 Advanced Topics in Business and Economic Forecasting: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001; ECON 3002 or BUS AD 5002; ECON 4150; ECON 4100 or SCMA 5300. This course develops the alternative techniques which are used to forecast economic time series. Each forecasting technique will be evaluated in terms of its theoretical soundness and predictive track record. Students will also learn to use these techniques to differentiate among competing economic models.

ECON 5150 Mathematical Methods for Economics: 3 semester hours
Prerequisites: MATH 1100 or MATH 1800, ECON 3001. This course presents the mathematics used in economics at an advanced level. Subjects covered include multivariate calculus, linear algebra, comparative statics, and unconstrained and constrained optimization. Emphasis is placed on the interpretation of mathematical results in economic terms. Students may not receive credit for both ECON 4150 and ECON 5150. This course may not be used by Economics students to meet M.A. degree requirements.

ECON 5200 Monetary Theory and Policy: 3 semester hours
Prerequisites: ECON 3200; ECON 3001 or BUS AD 5001; ECON 3002 or BUS AD 5002; and ECON 4150. An examination of how monetary policy has affected the economy in the past and how it can improve economic performance in the future. Topics include: the origins of money, money supply, money demand, the determinants of real and nominal interest rates, the term structure of interest rates, the impact of discretionary monetary policy on the domestic economy and foreign exchange markets, and the domestic economy and foreign exchange markets, and the relationship between monetary policy and federal government deficits.
ECON 5210 Financial Markets: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001; ECON 3002, and ECON 3200. Demand, supply, and flow of funds in allocating credit and distributing risk in the macrofinancial system. The saving investment process, the rationale for financial markets, and the role of financial intermediaries are studied within the framework of the flow of funds accounts. Special attention is given to the operation of money, capital, futures, and foreign financial markets and the impact of public policy on the structure and performance of financial markets.

ECON 5300 International Trade: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001. Survey of the modern theories of international trade and their applications including factor endowments and other, trade restrictions, foreign investment, trade and economic development, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.

ECON 5301 International Monetary Analysis: 3 semester hours
Prerequisites: ECON 3200 and ECON 3002 or BUS AD 5002. Application of macroeconomic theory to the international monetary system. Topics include the balance of payments, exchange rates, international linkages, world inflation, capital flows, and the gold standard.

ECON 5400 Labor Economics: Theory and Public Policy: 3 semester hours
Prerequisites: ECON 3001 or BUS AD 5001. This course examines labor supply, labor demand, and market determination of wages. Topics covered include the effect of technological change on employment, trends in labor force participation, the impact of government taxes and transfers on labor supply, poverty, and its economic consequences, the human capital model and its implications for investment in education and on-the-job training, and theories of economic discrimination and empirical measurement issues. Throughout the course, current public policy debates are examined using the theoretical models developed.

ECON 5550 Economics for Public Policy Analysis: 3 semester hours
Prerequisite: Graduate standing. This course focuses on the role of the government in the economy, with particular attention paid to the way government affects the allocation of resources and the distribution of income. This course covers microeconomic principles and key economic concepts used in public policy analysis. Practical application of theoretical concepts is emphasized. This course may not be used by Economics students to meet M.A. degree requirements.

ECON 5900 Advanced Topics in Economic Analysis: 3 semester hours
Prerequisite: Consent of the instructor. Study of a specific economics topic, which may vary from semester to semester. May be taken more than once if the topic is different.

ECON 5980 Directed Readings: 1-6 semester hours
Prerequisite: Consent of the instructor. Independent study through readings, reports, research projects, and conferences.

Geography Courses

GEOG 1001 Introduction to Geography (MOTR GEOG 101): 3 semester hours
An introduction to geography as a social science. The identification and explanation of order in the human landscape. A survey of the social, political, economic, and psychological factors which influence geographic patterns.