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 pursuing 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.

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, telecomm 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, as well as a number of quantitative courses offered by the Department help satisfy the prerequisites for the Certificate in Actuarial Studies and help fulfill the VEE requirements in Economics and Applied Statistics. These courses have received approval of the Society of Actuaries (SOA). For more information on the Certificate in Actuarial Studies, see the Mathematics Department undergraduate program (http://bulletin.umsl.edu/artsandsciences/mathematicsandcomputerscience/#undergraduatetext).

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 at 516-5562 or 516-5306. Regarding the graduate program, contact the Director of Graduate Studies at 516-5553. Additional information is also available at the Department of Economics website.

Undergraduate Studies

General Education Requirements

All undergraduate economics majors must meet the university and college general education requirements (http://bulletin.umsl.edu/ generaleducationrequirements). Candidates for the B.A. degree may take any foreign language to meet this requirement. Candidates for the B.S. degree take mathematics and quantitative courses instead of the foreign language requirement. Courses in economics may be used to meet the university social sciences requirement.

Satisfactory/Unsatisfactory Option

Courses outside the major field and ECON 1001, Principles of Microeconomics, and ECON 1002, Principles of Macroeconomics, may be taken on a satisfactory/unsatisfactory basis.

Prerequisites

All prerequisites for economics courses must be completed with a C- or better.
Bachelor of Arts in Economics

Candidates for the B.A. degree must take at least 33, but no more than 45, hours in economics. At least 27 hours must be above the 2000 level. All core courses for the major must be completed with a grade of C- or better.

The following core courses are required:

- ECON 1001 Principles Of Microeconomics 3
- ECON 1002 Principles Of Macroeconomics 3
- ECON 2800 History Of American Economic Development or ECON 3800 History Of Economic Thought 3
- ECON 3001 Intermediate Microeconomics 3
- ECON 3002 Intermediate Economic Theory:Macroeconomics 3
- ECON 3100 Economic Statistics 3
- ECON 3200 Money, Banking And Monetary Theory 3

Education Majors

Education majors specializing in economics must fulfill the requirements for the B.A. degree. These majors are responsible for obtaining an adviser in the Department of Economics.

Bachelor of Science in Economics

Candidates for the B.S. degree must complete at least 36, but no more than 45, hours in economics. At least 30 hours must be at or above the 2000 level. All core courses for the major must be completed with a grade of C- or better.

The following core courses are required:

- ECON 1001 Principles Of Microeconomics 3
- ECON 1002 Principles Of Macroeconomics 3
- ECON 3001 Intermediate Microeconomics 3
- ECON 3002 Intermediate Economic Theory:Macroeconomics 3
- ECON 3100 Economic Statistics 3
- ECON 3200 Money, Banking And Monetary Theory 3

The M.A. in Economics requires 30 credit hours; at least 21 hours must be completed in residence.

The following 3 courses (9 credit hours) are required:

- ECON 5001 Microeconomic Analysis 3
- ECON 5002 Macroeconomic Analysis 3
- ECON 5100 Econometric Theory And Methods 3

In addition, 21 credit hours of electives must be completed. At most, six of these credit hours may be economics courses at the 4000 level (excluding ECON 4100 and ECON 4150) which cannot be utilized as part of the M.A. degree); all other electives must be at the 5000 level or higher. Of the 30 hours taken in the M.A. program, 12 of these hours (per the approval of the Graduate Director) will also count toward the undergraduate B.S. requirements. All other requirements for the B.S. degree remain in effect.

Admission Requirements

Applicants must have completed between 60 and 108 credit hours. Applicants must have a minimum G.P.A. of 3.0 (both overall and in economics courses) and must be nominated by a full-time regular economics faculty member. Applicants must have completed all of the general education requirements as well as college algebra (or a higher level mathematics course), introductory microeconomics and introductory macroeconomics. Those accepted with fewer than 90 semester credit hours are accepted only on a provisional basis. Once the student has completed 90 semester hours of coursework (typically including ECON 3001, ECON 3002, ECON 3100, ECON 3200, MATH 1800, and preferably ECON 4100) with a satisfactory G.P.A. (minimum G.P.A. of 3.0 overall and in economics courses) the provisional status is dropped.

It is recommended that applicants apply when they have completed 90 credit hours; further, it is recommended that applicants should complete intermediate microeconomics (ECON 3001) and/or introductory econometrics (ECON 4110) before applying.
Awards of Degree

Both degrees (the B.S. and M.A.) will be awarded when all requirements for the entire program have been completed. In other words, the B.S. and M.A. degrees will be simultaneously awarded at the completion of study.

Students who officially withdraw from the B.S./M.A. Dual Degree Program in Economics and who have successfully completed all of the requirements for the B.S. degree will be awarded the B.S. degree.

Departmental Honors

A student may earn departmental honors with a GPA of 3.6 in economics and the recommendation of the department.

Minor in Economics

Candidates for a minor in economics must take a minimum of 15 hours in economics.

The following courses are required:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 1001</td>
<td>Principles Of Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 1002</td>
<td>Principles Of Macroeconomics</td>
<td>3</td>
</tr>
</tbody>
</table>

For the remaining 9 hours, 3 hours must be at or above the 2000 level and 6 hours must be at or above the 3000 level. It is recommended that students take ECON 3001, Intermediate Economic Theory: Microeconomics and/or ECON 3002, Intermediate Economic Theory: Macroeconomics. ECON 3100, Economic Statistics, cannot be counted towards the economics minor if the student has also taken LOG OM 3300 or the equivalent.

A GPA of 2.0 or better is required for courses presented for the minor. The satisfactory/unsatisfactory (s/u) option may be applied to ECON 1001 and only.

Certificate in Applied Econometrics and Data Analysis

The Certificate is designed to prepare students to perform applied econometric analysis in a variety of professional settings: banks, telecommunications companies, consulting firms, etc. Those with economics degrees are in high demand in a large number of occupations, whether in business or government; students with advanced econometrics skills who understand how to apply these techniques in real-world settings are in even higher demand.

The Certificate in Applied Econometrics is designed to provide the education needed for employment in analysis positions in business or government. The Certificate will be attractive to economics majors with a quantitative focus, (applied) math majors, and selected students from other social sciences.

The Certificate consists of 6 courses met through 3 required courses and 3 electives which must be selected from the list below. At least 4 of these courses must be completed in residency at UMSL.

(Nota that all of these courses have prerequisites that the student must complete before taking the selected course.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 4100</td>
<td>Introduction To Econometrics</td>
<td>4</td>
</tr>
<tr>
<td>ECON 4110</td>
<td>Applied Econometrics</td>
<td>4</td>
</tr>
</tbody>
</table>

Electives

The remaining 3 electives must come from the following list:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 4120</td>
<td>Time Series Econometrics For Economics And Finance</td>
<td>4</td>
</tr>
<tr>
<td>or ECON 4130</td>
<td>Business And Economic Forecasting</td>
<td>4</td>
</tr>
</tbody>
</table>

See table with course names below.

Complementary Areas of Study

The department encourages all majors to develop breadth in related disciplines. Course work and minors are available in a number of areas such as business administration, computer science, statistics, and political science. In addition, courses offered by the department help satisfy the prerequisites for courses required for the Certificate in Actuarial Studies (http://bulletin.umsl.edu/artsandsciences/mathematicsandcomputerscience/undergraduatetext) and have been approved by the Society of Actuaries (SOA) to satisfy the VEE requirements in Economics and Applied Statistics. Students should check with their advisers for recommendations concerning courses in these areas. The department suggests the following supplemental course work for students interested in pursuing doctoral-level graduate work in economics or careers in general business. It also encourages all students to obtain work experience by enrolling in the Internship in Applied Economics (ECON 4990).

Graduate School Preparation

It is recommended that students considering doctoral-level graduate work in economics also take:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 1900</td>
<td>Analytic Geometry And Calculus II</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2000</td>
<td>Analytic Geometry And Calculus III</td>
<td>5</td>
</tr>
<tr>
<td>MATH 2020</td>
<td>Introduction To Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2450</td>
<td>Elementary Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4100</td>
<td>Real Analysis I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 4200</td>
<td>Mathematical Statistics I</td>
<td>3</td>
</tr>
</tbody>
</table>

General Business Preparation

It is recommended that students interested in pursuing careers in business also take:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCTNG 2400</td>
<td>Fundamentals Of Financial Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>
Learning Outcomes

Students completing the B.A. and B.S. in Economics are expected to have achieved the following learning outcomes:

- Use economic reasoning to interpret and evaluate social, political, and economic arguments, and policies.
- Use mathematical methods to interpret and analyze economic models to assess their logical validity and to model economic phenomena.
- Use statistical methods to interpret and analyze economic data and to assess the empirical validity of economic propositions.
- Employ their understanding of key market institutions such as property rights and contracts and economic organizations such as the Federal Reserve System and the International Monetary Fund to analyze economic behavior and evaluate public policy.
- Identify the causes and consequences of poverty and prosperity across and within societies.
- Predict changes in key macroeconomic variables in response to changes in social, political, and economic policy as well as non-economic events such as terrorist attacks, natural disasters, and changes in consumer confidence.
- Write a research paper that employs sound economic reasoning and, where appropriate, uses data and statistical methods to analyze an economic policy.

Master of Arts in Economics

Admission Requirements

An undergraduate major in economics is not required for acceptance into the program. Application for admission may be submitted at any time, although class work formally begins in late August, mid-January, and mid-June. Candidates must meet the general admission requirements of the Graduate School, submit GRE scores (Advanced Economics optional), and submit two letters of recommendation from persons qualified to judge the candidate’s potential for success in the program.

The admissions decision is based on the applicant's academic transcript, GRE scores, letters of recommendation, and a personal narrative on the application form.

Degree Requirements

The M.A. in Economics requires 30 credit hours; at least 21 hours must be completed in residence.

Candidates need not have an undergraduate degree in economics. However, students are expected to have taken intermediate micro- and macro-economics, mathematical economics, and introductory econometrics prior to the beginning of the core curriculum. Students that do not have these courses will take these courses first; credits earned in these courses do not count towards the 30 hours required for the MA.

Required Core Courses

The following courses or their equivalents are required for the M.A. in Economics. Students with previous education in economics or business may waive some of these courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 5001</td>
<td>Microeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5002</td>
<td>Macroeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECON 5100</td>
<td>Econometric Theory And Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives

Candidates must complete at least 21 hours of electives. A maximum of 6 hours of economics electives may be taken at the 4000 level. With the approval of the graduate coordinator, students may take up to 9 hours of graduate courses outside the Department of Economics. In particular, students interested in business economics may take up to three approved graduate business courses for their electives.

Departmental Honors

A student may earn departmental honors with a GPA of 3.75 in all required courses for the M.A. degree and the recommendation of the department.

Complementary Areas of Study

Students with a public policy focus can complete the M.A. in Economics and the Public Policy Administration (PPA) Graduate Certificate in Policy and Program Evaluation (PPE) (http://bulletin.umsl.edu/graduateschool/publicpolicyadministration/#graduatetext). It is possible to earn the Certificate without any additional coursework beyond what is required for the M.A. alone.

Learning Outcomes

Students completing the M.A. in Economics are expected to have achieved the following learning outcomes:

- Interpret and analyze economic models and assess their validity.
- Use theoretical and empirical tools to design effective business and government policies.
- Use econometric methods to interpret and analyze economic data, to assess the empirical validity of economic propositions, evaluate business and government policies, and to forecast economic variables.
- Develop at least one topic area of expertise through familiarity with the relevant scholarly and professional literatures, policy issues, institutions, and current data trends.
- Develop at least one methodological area of expertise through the acquisition of the theoretical and empirical tools needed to understand scholarly and professional contributions to the literature to facilitate lifelong professional development and refinement of expertise.
- Write a professional quality research paper.
- Develop sufficient proficiency in the use of theoretical and empirical tools and in understanding of economic institutions to excel in a Ph.D. program.

Sample Four Year Plans

Economics BA (p. 5)  Economics BS (p. 5)
Economics BS

First Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTDSC 1003 3</td>
<td>1</td>
<td>ECON 1001</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 1100</td>
<td>3</td>
<td>MATH 1100</td>
<td>3</td>
</tr>
<tr>
<td>MATH 1030</td>
<td>3</td>
<td>Foreign Language 1002</td>
<td>5</td>
</tr>
<tr>
<td>Foreign Language 1001</td>
<td>5</td>
<td>EXPLORE – Humanities &amp; Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>CORE – Communication Proficiency</td>
<td>3</td>
<td>Elective or minor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
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</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTDSC 1003 3</td>
<td>1</td>
<td>ECON 3001</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language 2101</td>
<td>3</td>
<td>EXPLORE – Math &amp; Sciences</td>
<td>3</td>
</tr>
<tr>
<td>EXPLORE – Humanities &amp; Fine Arts</td>
<td>3</td>
<td>EXPLORE – Humanities &amp; Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>EXPLORE – Math &amp; Sciences</td>
<td>3</td>
<td>CORE – Information Literacy</td>
<td>3</td>
</tr>
<tr>
<td>Cultural Diversity Requirement</td>
<td>3</td>
<td>Elective or minor</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
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</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 3100</td>
<td>3</td>
<td>ECON 3002</td>
<td>3</td>
</tr>
<tr>
<td>ECON 2800</td>
<td>3</td>
<td>ECON 3100</td>
<td>3</td>
</tr>
<tr>
<td>ECON 3200</td>
<td>3</td>
<td>2000+ Elective or minor</td>
<td>9</td>
</tr>
<tr>
<td>EXPLORE – Social Sciences</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective or minor</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fall</th>
<th>Hours</th>
<th>Spring</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 2000+ level courses</td>
<td>6</td>
<td>ECON 2000+ level courses</td>
<td>6</td>
</tr>
<tr>
<td>Elective or minor</td>
<td>9</td>
<td>Elective or minor</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Hours: 120

1 INTDSC 1003 is required only for first-time freshmen and transfer students with less than 26 college credits.

Please Note: This plan is an example of what a four year plan could look like for a typical student. Placement exam scores in math as well as the completion of coursework may change the plan. It should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor each semester. All requirements are subject to change.

Economics Courses

**ECON 1000 Economics in Everyday Life: 3 semester hours**
This course is an introduction to economic concepts, analysis, and issues for non-majors. ECON 1000 does not substitute for ECON 1001 or ECON 1002. Students who have already completed ECON 1001 or ECON 1002 may not take ECON 1000 for credit.

**ECON 1001 Principles of Microeconomics: 3 semester hours**
Prerequisite: MATH 1030. Introduction to the determinants of household demand, production and cost, and market prices. Applies the principles of individual decision-making behavior to understanding goods, services and resource markets.

**ECON 1002 Principles of Macroeconomics: 3 semester hours**
Prerequisite: MATH 1030 and ECON 1001. Introduction to the determination of levels of and changes in aggregate income, output, employment and prices. Applies economic principles of choice to the formulation and achievement of public policies that affect national employment, income distribution, and economic growth.

**ECON 1005 Family Economics and Household Development: 3 semester hours**
Provides social service professionals that work with low income individuals and families with an understanding of the principles of personal financial management. Case studies are used to apply course content and to develop training strategies for clients to improve household financial management. The role of financial institutions and government policies as well as their impact on low income families is also examined. Resources to use with clients will be identified. ECON 1005 does not count toward a major or minor in Economics.
ECON 1052 Microeconomics for the School Curriculum: 3 semester hours
Analysis of market forces, with emphasis on business firms, households, and productive-factor markets, price determination and resource allocation. Special reference to topics included in elementary and secondary school social science curricula. ECON 1052 may not be used by Economics majors to meet degree requirements.

ECON 1500 Entertainment Economics: The Movie Industry: 3 semester hours
Same as MEDIA ST 1500. This survey course examines the interrelationships between economics and the movie industry. It explores the impact of economic factors on the production, distribution and exhibition of movies, focusing on the rise and fall of the studio system, role of technological change in the evolution of cinematography and the movie marketplace, financing and market segmentation, globalization and changing industrial structure within which films are produced. To the extent that movies reflect and contribute to popular economic perspectives, this course also evaluates the soundness of the movie industry’s depiction of a variety of economic doctrines. Classes will consist of lecture, discussion, and brief film screenings. This course does not count towards the hours required for an economics major.

ECON 2010 The Business Firm: History, Theory, and Policy: 3 semester hours
Prerequisites: ECON 1000 or ECON 1001 or consent of instructor. This course presents a history of the development of modern business firms and examines the evolution of the economic theory of the firm. Special attention is paid to the role that firms play in fostering social and economic development. 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 2410 Work, Families, And Public Policy: 3 semester hours
Same as GS 2410. Prerequisites: ECON 1000 or ECON 1001. This course compares the economic behavior of women and men in both the labor market and the household. Topics include: the family as an economic (production) unit, gender differences in labor force participation, occupations and earnings; the effectiveness of human capital theory and labor market discrimination in explaining the male-female wage gap; remedies for reducing the wage gap; family structure and economic well-being; and alternative policies to alleviate poverty. Students who have completed ECON 3400 may not take ECON 2410 for credit.

ECON 2610 The Economics of Professional Sports: 3 semester hours
Prerequisites: ECON 1000 or ECON 1001 or consent of instructor. This course will survey the economic organization of professional sports team industries and the relationship of sports teams to their employees, fans, and governments. Economic issues relating to salaries and labor disputes, monopoly practices, cartels and pricing, team location decisions, and public subsidies for professional sports teams will be analyzed.

ECON 2600 Money, Banking And Monetary Theory: 3 semester hours
Prerequisites: ECON 1001 and ECON 1002. Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory: integration of monetary phenomena with national income theory. Analysis of current policy issues.

ECON 2800 History of American Economic Development: 3 semester hours
Same as HIST 2800. Prerequisites: ECON 1000 or ECON 1001 or consent of instructor. Uses economic concepts to explain historical developments in the American economy, beginning with the hunter-gatherers who crossed the Bering land bridge around 12,000 BC. Main topics include the Native American economies, European exploration and conquest, the colonial economies, indentured servitude, the American Revolution, the US Constitution, westward expansion, transportation, the Industrial Revolution, state banking and free banking, slavery, the Civil War, post-bellum agriculture, the rise of big business and anti trust, banking panics, the Federal Reserve Act, the First and Second World Wars, the New Deal, and the growth of government in the postwar economy.

ECON 3001 Intermediate Microeconomics: 3 semester hours
Prerequisite: MATH 1030 and ECON 1001. Analysis of prices in terms of equilibrium of the business firm and consumer demand in markets of varying degrees of competition.

ECON 3002 Intermediate Macroeconomics: 3 semester hours
Prerequisite: MATH 1030, ECON 1001 and ECON 1002; ECON 3200 is recommended. Study of national income, expenditure and the forces determining the level of economic activity. Special emphasis on the theory of income determination and its application to public policy.

ECON 3003 Game Theory and Strategic Decision Making: 3 semester hours
Prerequisites: ECON 1001. When the best course of action depends on the decisions made by others, strategy becomes important. Game theory provides the tools for analyzing such strategic decision making. Strategic behavior is analyzed in the context of business, logistics, biology, war, government, politics, and everyday life. A wide variety of in-class experiments are used to illustrate key concepts.

ECON 3055 Economic Issues for the School Curriculum: 1-3 semester hours
Prerequisites: 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. This course does not fulfill the undergraduate economics requirement for education majors.

ECON 3100 Economic Statistics: 3 semester hours
Prerequisite: MATH 1030, ECON 1001, and ECON 1002. Introduction to economic data sources, data interpretation and statistical inference as used in economic analysis. Emphasizes the testing of economic hypotheses and the development and estimation of economic models. Introduces the use of statistical software used in economics.

ECON 3200 Money, Banking And Monetary Theory: 3 semester hours
Prerequisites: ECON 1001 and ECON 1002. Factors influencing bank reserves and the money supply. Ability of the Federal Reserve System and the Treasury to control these factors. Introduction to monetary theory: integration of monetary phenomena with national income theory. Analysis of current policy issues.

ECON 3300 International Economic Analysis: 3 semester hours
Prerequisite: ECON 1001. Introduction to the theories of international trade and factor movements including determinants of trade, the effects of trade on sectors and on overall economic performance, trade restrictions, and balance of payments and exchange rates. Discussion of current institutions and economic developments in the global economy.


**ECON 3320 Economic Development: 3 semester hours**
Prerequisites: ECON 1001 and ECON 1002. Survey of economic growth as applied to developed and underdeveloped countries. Analysis of development policies with emphasis on case studies. Case studies may include the United States, Western Europe or Latin America.

**ECON 3400 Labor Economics: 3 semester hours**
Prerequisites: ECON 1001. Examines the labor market in the economy, considers the theories of labor supply, labor demand, and market determination of wages. Other topics include noncompetitive markets, international labor markets, the theory of human capital, compensating wage differentials, labor market discrimination, unions and collective bargaining, unemployment, and poverty and the distribution of income.

**ECON 3450 Labor in the Global Political Economy: 3 semester hours**
This course will examine current issues, trends, and developments which are shaping labor in today's global economy. Students will analyze the shifting balance of power between labor and capital, the role of government, and evaluate the strategic options for workers and unions operating in a global environment. ECON 3450 may not be used by economics majors to meet degree requirements.

**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 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 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 process 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 Analysis of Business Cycles: 3 semester hours**
Prerequisites: ECON 3002, ECON 3100, and ECON 3200 or equivalent. This course focuses on the empirical regularities in macroeconomics commonly referred to as the business cycle. It examines the variability and co-movements of aggregate economic variables and explores alternative theoretical explanations of these phenomena.

**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 time-series 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 or BUS AD 5000 or BUS AD 5001. 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.

**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 4510 Public Choice: 3 semester hours
Prerequisites: ECON 3001 or consent of instructor. Public choice is the analysis of government and governmental institutions through the logic of economics. It assumes the same principles that economists use to analyze actions in the marketplace, and applies them to actions made in collective decision-making. Topics include: the efficiency of democracy, voting methods, the incentives of legislators, bureaucrats and lobbyists, political competition, and public institutions and economic growth.

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 5010 Microeconomics for Policy Analysis: 3 semester hours
Same as P P ADM 6080. Prerequisite: Graduate Student Standing. This course introduces microeconomic analysis of consumers, firms, and government, with an emphasis on policy applications. It assumes no prior training in economics and is appropriate for graduate students in public policy administration, nonprofit management, political science, gerontology, criminology and criminal justice, and other related fields. This course may not be used by economics students to meet M.A. degree requirements.

ECON 5051 Macroeconomics for the School Curriculum: 1-3 semester hours
Prerequisite: Junior standing. Analysis of forces affecting the national economy, with emphasis on income determination, employment, money and banking, and international trade and finance. Special reference to topics included in elementary and secondary school social science curricula. ECON 5051 may not be used by Economics majors to meet degree requirements.

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 regression 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 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 5500 Public Sector Microeconomics: 3 semester hours
Same as P P ADM 6210. Prerequisites: ECON 3001 or BUS AD 5001 and P P ADM 6080. Application of tools of intermediate microeconomics to address public sector issues. Special emphasis is placed on critically analyzing current public policy debates using the models developed. Topics covered include: cases in which competitive market fails to allocate resources efficiently (e.g. externalities and public goods), importance of property rights, incentive effects of the tax and transfer system, and the fundamentals of cost-benefit analysis.

ECON 5510 Public Choice: 3 semester hours
Prerequisites: ECON 3001 or consent of instructor. Public choice is the analysis of government and governmental institutions through the logic of economics. It assumes the same principles that economists use to analyze actions in the marketplace, and applies them to actions made in collective decision-making. Topics covered include: the efficiency of democracy, voting methods, the incentives of legislators, bureaucrats and lobbyists, political competition, and public institutions and economic growth.

ECON 5530 Economics of Telecommunications: 3 semester hours
Prerequisites: ECON 3001, BUS AD 5000 or BUS AD 5001; and ECON 4150. Application of economic theory and techniques to the telecommunications industry. Topics include demand theory for telephone access and use, consumer surplus models for subscription choice, nonlinear pricing strategies including pure and mixed bundling and multipart tariffs, the incentives of the firm under various regulatory regimes, a comparison of rate-of-return regulation and incentive (price cap) regulation, and the impact of carrier-of-last-resort responsibilities.

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

GEG 1001 Introduction to Geography: 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.

GEG 1002 World Regions: 3 semester hours
Survey of the major regions of the world. Designed to give the student an awareness of the character of each of these major regions through the interrelationships of the various attributes of place. Each semester the geographic perspective will be applied in greater depth to one significant country such as Afghanistan, Iraq, or North Korea.
GEOG 2001 Cultural Geography: 3 semester hours
This course examines the effect of geography on culture and cultural groups. Essential to the geographic perspective is identifying the effect on cultures of the current trend toward increasing globalization. Topics include language, religion, attitudes, and the effect of technology. The major goals are to increase awareness of the diversity of human cultures and to prepare students for a world of increasing intercultural communication and conflict. Satisfies cultural diversity.

GEOG 4900 Advanced Readings in Geography: 3 semester hours
Prerequisite: Consent of Instructor. This course will provide a more in-depth analysis of the various factors which influence geographic patterns employing methods appropriate to graduate level instruction. The topic selected will vary from semester to semester. This course may be taken for credit more than once as long as the topic discussed in each semester is different.

Home Economics Courses
HOME EC 1110 Nutrition in Health: 3 semester hours
A study of dietary nutrients essential for health, proper selection of foods to provide them and current issues affecting them.