Economics

Chair
- John L. Solow

Undergraduate major: economics (B.A., B.S., B.B.A.)
Undergraduate minor: economics
Graduate degrees: M.A. in economics; Ph.D. in economics
Faculty: http://tippie.uiowa.edu/economics/faculty.cfm
Web site: http://tippie.uiowa.edu/economics/

Economics is the study of how societies allocate limited resources to achieve competing ends. Using both empirical and deductive methods, economics analyzes incentives, constraints, organizational forms, and market forces to understand patterns of production, exchange, and consumption of goods and services. It treats diverse issues such as wealth and poverty, government expenditures and taxation, prosperity and depression, inflation and unemployment, relations between management and labor, economic growth, environmental protection, health care delivery, the war on drug abuse, free trade versus protectionism, U.S. competitiveness in international markets, and the quality of American education.

The Department of Economics offers degree programs for undergraduates and for graduate students. It also partners with the Departments of Philosophy, Political Science, and Sociology to offer the undergraduate major in ethics and public policy, an interdisciplinary program administered by the Department of Philosophy (College of Liberal Arts and Sciences); see Ethics and Public Policy in the Catalog.

Undergraduate Programs of Study
- Major in economics (Bachelor of Arts, Bachelor of Science, Bachelor of Business Administration)
- Minor in economics

The Tippie College of Business and the College of Liberal Arts and Sciences offer the major in economics. Students may complete the major with their choice of three degrees. The Bachelor of Arts and Bachelor of Science are awarded by the College of Liberal Arts and Sciences; the Bachelor of Business Administration is awarded by the Tippie College of Business.

The B.A. in economics is designed to achieve a balance of economic theory, mathematical tools, and field applications. The B.S. maintains a similar balance but emphasizes development of analytical tools; it prepares students for graduate work in economics or related business and technical fields. The B.B.A. emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management.

Each program provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. Economics also provides excellent preparation for the study of law and for graduate study in fields such as business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

All students majoring in economics choose one of three tracks: business economics, policy economics, or analytical economics. They complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The applied field course requirement varies, depending on the student’s choice of track.

Bachelor of Arts, Bachelor of Science

The Bachelor of Arts with a major in economics requires a minimum of 120 s.h., including 31-32 s.h. of work for the major. The Bachelor of Science with a major in economics requires a minimum of 120 s.h., including 33-35 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences General Education Program.

The B.A. and B.S. programs focus on economic theory, mathematical tools, and field applications; the B.S. program also includes an emphasis on developing skill using analytic tools. Both programs offer good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

The economics major for the B.A. and B.S. requires a set of courses in mathematics and statistics (10-11 s.h. for B.A. students, 15-17 s.h. for B.S. students) and a set of courses in economic theory (6 s.h. for B.A. and B.S. students). It also requires a set of applied field courses (15 s.h. for B.A. students, 12 s.h. for B.S. students) in one of three tracks: business economics, policy economics, or analytical economics.

The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector. The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector.

Students may be able to count a limited amount of transfer credit toward the major, but they must complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics or ECON:3140 Advanced Microeconomics, ECON:3150 Intermediate Macroeconomics, and three of the applied field courses required for their track.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see “Prerequisites” below. For help in developing a study plan, visit the Department of Economics web site.

The economics major (B.A. or B.S.) requires the following course work.
MATHEMATICS AND STATISTICS COURSES (B.A.)
Students earning a B.A. complete the following mathematics and statistics course work.
Both of these:
ECON:2800 Statistics for Strategy Problems 3 s.h.
MATH:1380 Calculus and Matrix Algebra for Business 4 s.h.
One of these:
STAT:1020 Elementary Statistics and Inference 3 s.h.
STAT:1030 Statistics for Business 4 s.h.

MATHEMATICS AND STATISTICS COURSES (B.S.)
Students earning a B.S. complete the following mathematics and statistics course work.
All of these:
ECON:4800 Introduction to Econometrics 3 s.h.
MATH:1850 & MATH:1860 Calculus I-II 8 s.h.
One of these:
STAT:3100-STAT:3101 Introduction to Mathematical Statistics I-II 6 s.h.
STAT:3120 Probability and Statistics 4 s.h.
The department recommends that students planning to pursue a graduate degree in economics take STAT:3100-STAT:3101 rather than STAT:3120. It also recommends that they take additional courses in mathematics, including MATH:2700 Introduction to Linear Algebra, MATH:2850 Calculus III, and MATH:3600 Introduction to Ordinary Differential Equations.

ECONOMIC THEORY COURSES (B.A. AND B.S.)
B.A. and B.S. students complete the following economic theory course work.
One of these:
ECON:3100 Intermediate Microeconomics 3 s.h.
ECON:3140 Advanced Microeconomics 3 s.h.
And:
ECON:3150 Intermediate Macroeconomics 3 s.h.

APPLIED FIELD COURSES (B.A. AND B.S.)
B.A. students complete a total of five applied field courses (15 s.h.) in their track; B.S. students complete a total of four applied field courses (12 s.h.) in their track.

Analytical Economics Track (B.A. and B.S.)
Four (B.A. students) or three (B.S. students) of these:
ECON:4090 Natural Resource Economics 3 s.h.
ECON:4110 International Economics 3 s.h.
ECON:4140 Labor Economics 3 s.h.
ECON:4160 Public Sector Economics 3 s.h.
ECON:4170 Monetary Economics 3 s.h.
ECON:4180 Industrial Organization 3 s.h.
ECON:4190 Mathematical Economics 3 s.h.
ECON:4200 Game Theory 3 s.h.
ECON:4700 Topics in Analytical Economics 3 s.h.
And (B.A. and B.S. students):
One additional economics course numbered from ECON:3250 through ECON:4700, excluding these five courses ECON:3870, ECON:3871, ECON:3872, ECON:3999, and ECON:4050

Business Economics Track (B.A. and B.S.)
Five (B.A. students) or four (B.S. students) of these:
ECON:3325 Personnel Economics 3 s.h.
ECON:3335 Money, Banking, and Financial Markets 3 s.h.
ECON:3345 Global Economics and Business 3 s.h.
ECON:3350 Industry Analysis 3 s.h.
ECON:3355 Economic and Business Forecasting 3 s.h.
ECON:3370 Household Finance 3 s.h.
ACCT:2200 Managerial Accounting 3 s.h.
MGMT:2100 Introduction to Management 3 s.h.

Policy Economics Track (B.A. and B.S.)
Four (B.A. students) or three (B.S. students) of these:
ECON:3345 Global Economics and Business 3 s.h.
ECON:3610 Development of Local and Regional Economies 3 s.h.
ECON:3620 Economic Growth and Development 3 s.h.
ECON:3625 Environmental and Natural Resource Economics 3 s.h.
ECON:3640 Regional and Urban Economics 3 s.h.
ECON:3650 Policy Analysis 3 s.h.
ECON:3690 Sports Economics 3 s.h.
ECON:3750 Transportation Economics 3 s.h.
ECON:3760 Health Economics 3 s.h.
ECON:3790 Antitrust Economics 3 s.h.
ECON:3800 Law and Economics 3 s.h.
ECON:3875 Topics in Policy Economics 3 s.h.
And (B.A. and B.S. students):
One additional economics course numbered from ECON:3250 through ECON:4700, excluding these five courses ECON:3870, ECON:3871, ECON:3872, ECON:3999, and ECON:4050

Prerequisites (B.A.)
Students must complete all of a course’s prerequisites before they may register for the course.
Prerequisites for ECON:2800 Statistics for Strategy Problems:
MATH:1380 Calculus and Matrix Algebra for Business, and STAT:1020 Elementary Statistics and Inference or STAT:1030 Statistics for Business
Prerequisites for most upper-level undergraduate courses in economics:
ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics
Prerequisites for ECON:3100 Intermediate Microeconomics and ECON:3140 Advanced Microeconomics:
ECON:1100 Principles of Microeconomics and MATH:1380 Calculus and Matrix Algebra for Business

Prerequisites for ECON:3150 Intermediate Macroeconomics:
ECON:1200 Principles of Macroeconomics and MATH:1380 Calculus and Matrix Algebra for Business

Prerequisite for ECON:3355 Economic and Business Forecasting:
ECON:2800 Statistics for Strategy Problems

Prerequisites for courses numbered ECON:3790 or above:
ECON:3100 Intermediate Microeconomics or ECON:3150 Intermediate Macroeconomics, or both, depending on the course

Prerequisite for ECON:4200 Game Theory:
MATH:1380 Calculus and Matrix Algebra for Business

**Prerequisites (B.S.)**

Students must complete all of a course's prerequisites before they may register for the course.

Prerequisites for most upper-level undergraduate courses in economics:
ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics

Prerequisites for ECON:3100 Intermediate Microeconomics and ECON:3140 Advanced Microeconomics:
ECON:1100 Principles of Microeconomics and MATH:1850 Calculus I

Prerequisites for ECON:3150 Intermediate Macroeconomics:
ECON:1200 Principles of Macroeconomics and MATH:1850 Calculus I

Prerequisite for ECON:3355 Economic and Business Forecasting:
ECON:2800 Statistics for Strategy Problems

Prerequisites for courses numbered ECON:3790 or above:
ECON:3100 Intermediate Microeconomics or ECON:3150 Intermediate Macroeconomics, or both, depending on the course

Prerequisite for ECON:4200 Game Theory:
MATH:1850 Calculus I

Prerequisite for ECON:4800 Introduction to Econometrics:
STAT:3101 Introduction to Mathematical Statistics II or STAT:3120 Probability and Statistics

Prerequisite for MATH:1860 Calculus II:
MATH:1850 Calculus I

Prerequisite for STAT:3100 Introduction to Mathematical Statistics I:
MATH:1560 Engineering Mathematics II: Multivariable Calculus or MATH:1860 Calculus II

Prerequisite for STAT:3101 Introduction to Mathematical Statistics II:
STAT:3100 Introduction to Mathematical Statistics I

Prerequisite for STAT:3120 Probability and Statistics:
MATH:1560 Engineering Mathematics II: Multivariable Calculus or MATH:1860 Calculus II

**Bachelor of Business Administration**

The Bachelor of Business Administration with a major in economics requires a minimum of 120 s.h., including 18 s.h. of work for the major. The program emphasizes economic foundations of business fields: accounting, finance, marketing, business law, and management. It provides good educational background for a variety of positions in business and government as well as for the study of law and for graduate study.

All students must complete the B.B.A. common requirements: the General Education courses, the prerequisites for admission to the college, prerequisites for declaring the business major, the business core, and the experiential learning requirement; see “Common B.B.A. Requirements” in the Bachelor of Business Administration section of the Catalog.

The economics major for the B.B.A. requires a set of courses in mathematics and statistics, which students take as part of the B.B.A. common requirements, and a set of courses in economic theory (6 s.h.). It also requires a set of applied field courses (12 s.h.) in one of three tracks: business economics, policy economics, or analytical economics.

The analytical economics track is for students planning to earn a graduate degree in a discipline that is highly quantitative or who plan to pursue technical and/or analytical work in the public or private sector. The business economics track is designed for students who intend to work in the private sector. The policy economics track is for students interested in earning a degree in law or a graduate degree in a discipline that is not highly quantitative, or in seeking a decision-making position in the public or private sector.

Students may request permission to apply a limited amount of transfer credit or correspondence credit toward the major, but they should take the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics or ECON:3140 Advanced Microeconomics, and ECON:3150 Intermediate Macroeconomics.

Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others; see “Prerequisites” below. For help in developing a study plan, visit the Department of Economics web site.

The economics major for the B.B.A. requires the following course work.

**MATHEMATICS AND STATISTICS COURSES (B.B.A.)**

Students take these courses as part of the B.B.A. common requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ECON:2800 Statistics for Strategy Problems</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>MATH:1380 Calculus and Matrix Algebra for Business</td>
<td>4 s.h.</td>
</tr>
<tr>
<td>STAT:1030 Statistics for Business</td>
<td>4 s.h.</td>
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</tbody>
</table>

**ECONOMIC THEORY COURSES (B.B.A.)**

One of these:

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
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<tbody>
<tr>
<td>ECON:3100 Intermediate Microeconomics</td>
<td>3 s.h.</td>
</tr>
<tr>
<td>ECON:3140 Advanced Microeconomics</td>
<td>3 s.h.</td>
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</tbody>
</table>
And:
ECON:3150 Intermediate Macroeconomics 3 s.h.

APPLIED FIELD COURSES (B.B.A.)
Students earning a B.B.A. complete a total of four applied field courses (12 s.h.) in their track.

Analytical Economics Track (B.B.A.)
Three of these:
ECON:4090 Natural Resource Economics 3 s.h.
ECON:4110 International Economics 3 s.h.
ECON:4140 Labor Economics 3 s.h.
ECON:4170 Public Sector Economics 3 s.h.
ECON:4180 Monetary Economics 3 s.h.
ECON:4190 Mathematical Economics 3 s.h.
ECON:4200 Game Theory 3 s.h.
ECON:4700 Topics in Analytical Economics 3 s.h.
And:
One additional economics course numbered from ECON:3250 through ECON:4700, excluding these five courses ECON:3870, ECON:3871, ECON:3872, ECON:3999, and ECON:4050

Business Economics Track (B.B.A.)
Four of these:
ECON:3325 Personnel Economics 3 s.h.
ECON:3335 Money, Banking, and Financial Markets 3 s.h.
ECON:3345 Global Economics and Business Forecasting 3 s.h.
ECON:3355 Economic and Business Forecasting 3 s.h.
ECON:3370 Household Finance 3 s.h.

Policy Economics Track (B.B.A.)
Three of these:
ECON:3345 Global Economics and Business 3 s.h.
ECON:3610 Development of Local and Regional Economies 3 s.h.
ECON:3620 Economic Growth and Development 3 s.h.
ECON:3625 Environmental and Natural Resource Economics 3 s.h.
ECON:3640 Regional and Urban Economics 3 s.h.
ECON:3650 Policy Analysis 3 s.h.
ECON:3690 Sports Economics 3 s.h.
ECON:3750 Transportation Economics 3 s.h.
ECON:3760 Health Economics 3 s.h.
ECON:3790 Antitrust Economics 3 s.h.
ECON:3800 Law and Economics 3 s.h.
ECON:3875 Topics in Policy Economics 3 s.h.

Prerequisites (B.B.A.)
Students must complete all of a course’s prerequisites before they may register for the course.

Prerequisites for most upper-level undergraduate courses in economics:
ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics
Prerequisites for ECON:3100 Intermediate Microeconomics:
ECON:1100 Principles of Microeconomics and MATH:1380 Calculus and Matrix Algebra for Business
Prerequisites for ECON:3150 Intermediate Macroeconomics:
ECON:1200 Principles of Macroeconomics and MATH:1380 Calculus and Matrix Algebra for Business
Prerequisite for ECON:2800 Statistics for Strategy Problems:
STAT:1030 Statistics for Business
Prerequisites for courses numbered ECON:3790 and above:
ECON:3100 Intermediate Microeconomics or ECON:3150 Intermediate Macroeconomics, or both, depending on the course

B.A. or B.S. with Teacher Licensure
Economics majors in the College of Liberal Arts and Sciences (B.A. and B.S. students) who are interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education’s Teacher Education Program (TEP) in addition to the requirements for the major and all requirements for graduation. The TEP requires several College of Education courses and student teaching. Contact the Office of Education Services for details.

Students must satisfy all degree requirements and complete Teacher Education Program licensure before degree conferral.

Four-Year Graduation Plan
The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University’s Four-Year Graduation Plan. (Courses in the major are those required to complete the major; they may be offered by departments other than the major department.)

Bachelor of Arts, Bachelor of Science
Before the fifth semester begins: ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, and the math component of quantitative courses required for major
Before the seventh semester begins: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, one economics course numbered 3000 or above, and at least 90 s.h. earned toward the degree
Before the eighth semester begins: three economics courses numbered 3000 or above and the statistics component of the quantitative course requirement

During the eighth semester: enrollment in all remaining course work in the major, all remaining General Education courses, and a sufficient number of semester hours to graduate

Bachelor of Business Administration
The following checkpoints are designed for students who enter the University as first-year pre-business students. In order to stay on the plan, students must maintain the grade-point average required for guaranteed admission to the Tippie College of Business and must apply for admission to the college by the established deadline.

Pre-business students must take BUS:3000 Business Communication and Protocol during their first semester after admission to the Tippie College of Business. Students admitted to the Tippie College of Business directly from high school must take BUS:3000 during their second year.

Before the third semester begins: ECON:1100 Principles of Microeconomics or ECON:1200 Principles of Macroeconomics, MATH:1380 Calculus and Matrix Algebra for Business, and STAT:1030 Statistics for Business, or equivalent courses

Before the fifth semester begins: ACCT:2100 Introduction to Financial Accounting, ACCT:2200 Managerial Accounting, and ECON:1100 Principles of Microeconomics or ECON:1200 Principles of Macroeconomics (whichever has not already been taken), or equivalent courses; and all General Education requirements

Before the seventh semester begins: all business core requirements, approximately half of the course work in the major (varies by major), and at least 90 s.h. earned toward the degree

During the eighth semester: all remaining course work in the major and a sufficient number of semester hours to graduate

Honors in the Major (B.A. and B.S.)
College of Liberal Arts and Sciences students majoring in economics have the opportunity to graduate with honors in the major. Departmental honors students must complete ECON:3100 Intermediate Microeconomics and ECON:3150 Intermediate Macroeconomics before their senior year. Interested students should consult the department's honors advisor by the second semester of their junior year.

Honors students in economics typically register for ECON:3999 Honors Seminar in the fall of their senior year. To graduate with honors in the major, they define and complete a research project under the guidance of a supervising faculty member, earning up to 6 s.h. in ECON:4999 Honors Thesis in Economics. They present the thesis orally to a committee of three faculty members, typically the undergraduate honors advisor, the student's research supervisor, and a third faculty member agreed upon by the student and the honors advisor.

Departmental honors students must be members of the University of Iowa Honors Program, which requires students to maintain a cumulative University of Iowa g.p.a. of at least 3.33 and to fulfill other requirements; visit Honors at Iowa to learn about the University's honors program.

Honors in Business (B.B.A.)
Qualified B.B.A. students have the opportunity to pursue honors study in the Tippie College of Business. For more information, see “Honors in Business” in the Bachelor of Business Administration section of the Catalog and visit the Tippie College of Business Honors Program web site.

Minor
The minor in economics requires a minimum of 15 s.h. in economics courses, including 12 s.h. taken at the University of Iowa in Department of Economics courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Course work in the minor may not be taken pass/nonpass.

Courses for Nonmajors
Students in the College of Liberal Arts and Sciences may wish to use economics courses as part of other majors or the General Education Program. The introductory courses ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics are approved for the Social Sciences area of General Education; they introduce the field of economics and the specialized topics of upper-division courses. The intermediate theory courses ECON:3100 Intermediate Microeconomics and ECON:3150 Intermediate Macroeconomics provide a deeper foundation in the core theories and methods of the discipline. They serve as preparation for upper-division field courses or as terminal courses in an economics study plan.

Course work in economics relates to majors in many other fields. For example, political science majors could elect ECON:3650 Policy Analysis; international studies majors, ECON:3345 Global Economics and Business; environmental planning and policy majors, ECON:3625 Environmental and Natural Resource Economics; pre-law students, ECON:3790 Antitrust Economics and ECON:3800 Law and Economics; mathematics and engineering majors, ECON:3100 Intermediate Microeconomics and ECON:4190 Mathematical Economics; and statistics majors, ECON:4800 Introduction to Econometrics.

Undergraduate Economics Forum
Students are invited to join the undergraduate Economics Forum. The group sponsors programs to help students plan for careers or graduate study and holds social events, special lectures, and round-table discussions. It provides opportunities for students to meet other economics majors and department faculty members.

Graduate Programs of Study

• Master of Arts in economics
• Doctor of Philosophy in economics

The department partners with the College of Law to offer a joint degree program; see "Joint Ph.D./J.D." later in this section. It also participates in the M.B.A. program, which is offered by the Tippie School of Management; see Master of Business Administration Program in the Catalog.
Master of Arts
The Master of Arts is offered only to students working toward a Ph.D. in economics.

Doctor of Philosophy
The Doctor of Philosophy program in economics requires a minimum of 72 s.h. of graduate credit. The program provides rigorous training in economic theory, econometrics, and applied economics. It has six components: a coordinated sequence of core courses, a qualifying examination, a research paper, a set of major field courses, a dissertation proposal and comprehensive examination, and a dissertation. Requirements are as follows.

CORE SEQUENCE
First semester:
- ECON:5000 Economic Analysis I 3 s.h.
- ECON:5100 Microeconomics I 3 s.h.
- ECON:5200 Macroeconomics I 3 s.h.
Second semester:
- ECON:5010 Economic Analysis II 3 s.h.
- ECON:5110 Microeconomics II 3 s.h.
- ECON:5210 Macroeconomics II 3 s.h.
Third semester:
- ECON:5800 Econometrics 3 s.h.
Fourth semester:
- ECON:5810 Applied Econometrics 3 s.h.

QUALIFYING EXAMINATION
The qualifying examination is normally taken the summer after the first year.

RESEARCH PAPER
The research paper is normally completed the summer after the second year.

MAJOR FIELD COURSES
Each student chooses a major study area in addition to the core courses. The requirement for the major area is a minimum of 24 s.h. of intensive study in a field and in courses that enable students to understand the relationship between their specialty and related fields.

DISSERTATION PROPOSAL AND COMPREHENSIVE EXAMINATION
Students must defend a dissertation proposal in a comprehensive examination within one year of completing the research paper requirement.

DISSERTATION
Submission of the completed dissertation and an oral defense of the dissertation research completes the Ph.D. program.

Admission
Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations of the Graduate College. Application deadline for admission and financial support is January 15 for fall semester entry.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English and who do not hold a baccalaureate or advanced degree from an accredited college or university in the United States must take the Test of English as a Foreign Language (TOEFL) and have their scores sent to the University.

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions.

Joint Ph.D./J.D.
The Department of Economics and the College of Law offer a joint Doctor of Philosophy/Juris Doctor program; for information about the J.D. degree, see "Juris Doctor" in the College of Law section of the Catalog. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the joint degree program.

Special Seminar
Each year the department offers a seminar program that brings eminent economists from other universities and from government agencies to the University of Iowa campus. Presentations by Department of Economics faculty members and students also are featured.

Courses
Lower-Level Undergraduate
Students may take ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics in either order or simultaneously. They are approved for the Social Sciences area of the College of Liberal Arts and Sciences General Education Program.

ECON:1100 Principles of Microeconomics 4 s.h.
Organization, workings of modern economic systems; role of markets, prices, competition in efficient allocation of resources and promotion of economic welfare; alternative systems; international trade. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

ECON:1200 Principles of Macroeconomics 4 s.h.
National income and output, employment and inflation; money, credit; government finance; monetary, fiscal policy; economic growth, development; international finance. Requirements: B.B.A. students cannot use this course for General Education social sciences. GE: Social Sciences.

ECON:1300 First-Year Seminar 1 s.h.
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

ECON:2800 Statistics for Strategy 3 s.h.
Problems
Continuation of STAT:1030; working knowledge of statistical techniques, scientific data-based approach to problem formulation and solution, statistical techniques in the context of real data analysis, assessment of defects in statistical analyses, using data for making business decisions, choosing appropriate statistical procedures, developing skill in communicating statistical results to audiences without knowledge of statistics. Prerequisites: MATH:1380 and STAT:1030.

**Upper-Level Undergraduate and Graduate**

**ECON:3100 Intermediate Microeconomics** 3 s.h.
Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity; conditions that markets require for efficient allocation of resources; market imperfections; strategy behavior of economic agents. Prerequisites: ECON:1100 and MATH:1380.

**ECON:3140 Advanced Microeconomics** 3 s.h.
Mathematical treatment of the economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity and the conditions required by those markets for an efficient allocation of resources; market imperfections; and the strategic behavior of economic agents. Prerequisites: ECON:1100 and (MATH:1380 or MATH:1850). Recommendations: MATH:1850.

**ECON:3150 Intermediate Macroeconomics** 3 s.h.
Measurement of macroeconomic indicators; economic growth and business cycles; use of macroeconomic models to study the role of government fiscal and monetary policies. Prerequisites: ECON:1200 and MATH:1380.

**ECON:3250 American Economic History** 3 s.h.

**ECON:3325 Personnel Economics** 3 s.h.
Microeconomic analysis of labor markets, related institutions; labor supply decisions made by workers, labor demand decisions made by firms, market equilibrium; economic analysis of unions; returns to education; family decisions. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3335 Money, Banking, and Financial Markets** 3 s.h.
Role of money, institutions in determination of income, employment, prices in domestic and world economy. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3345 Global Economics and Business** 3 s.h.
Modern theories of international trade and investment; role of tariffs and other restrictions of international trade; foreign exchange markets, international monetary arrangements, international economic policy. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3350 Industry Analysis** 3 s.h.
Structural evolution; imperfect competition, resource allocation; development of public policy on monopoly; selected industries. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3355 Economic and Business Forecasting** 3 s.h.
How to develop and utilize forecasts; emphasis on modern statistical methods and software applied to quantitative forecasting problems; specific applications to business and economics include forecasting sales, market prices, inventory, macroeconomic factors (interest rates, exchange rates, levels of employment). Prerequisites: ECON:1100 and ECON:1200 and ECON:2800.

**ECON:3370 Household Finance** 3 s.h.
Micro- and macroeconomic theory applied to economic decisions of families, households; practical and theoretical issues in income generation, spending and saving decisions, risk management and asset allocation, investments, and intergenerational wealth transfers. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3610 Development of Local and Regional Economies** 3 s.h.
Theories, methods, and public policy in regional economic development; business and industrial locations, theories of regional growth and development, tools for regional economic analysis, technology and knowledge economy, globalization and trade, economic development finance and policy. Recommendations: introductory microeconomics. Same as URP:3136.

**ECON:3620 Economic Growth and Development** 3 s.h.
Determinants of rising living standards; accumulation of physical and human capital; predictions of economic growth models compared to observed changes in living standards. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3625 Environmental and Natural Resource Economics** 3 s.h.
Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: ECON:1100 and ECON:1200. Same as URP:3135.

**ECON:3640 Regional and Urban Economics** 3 s.h.
Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: ECON:1100 and ECON:1200. Same as URP:3134.

**ECON:3650 Policy Analysis** 3 s.h.
Economic functions of government in modern economies; economic decision making; budgetary processes; effects of government expenditures, taxation on allocation of resources, distribution of income, economic growth, stability. Prerequisites: ECON:1100 and ECON:1200.
ECON:3690 Sports Economics 3 s.h.
Theory and literature of economic issues in professional sports; issues such as relative advantages of large-and small-market teams, city subsidies for baseball and football stadiums, star players' true value to their teams; ideas from introductory economics (such as demand and cost curves) combined with additional economic theory, statistical evidence, and information about particular sports. Prerequisites: ECON:1100 and ECON:1200.

ECON:3750 Transportation Economics 3 s.h.
Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200.

ECON:3760 Health Economics 3 s.h.
Structure of America's health care industry, economic analysis applied to its problems of production, pricing, distribution; cost-effectiveness, financing of medical costs, role of government. Prerequisites: ECON:1100 and ECON:1200.

ECON:3790 Antitrust Economics 3 s.h.
Topics in federal antitrust policy; merger policy, monopolization, predatory pricing, collusion, vertical restrictions, resale price maintenance, enforcement; case law, economics literature. Prerequisites: ECON:3100 or LAW:8146.

ECON:3800 Law and Economics 3 s.h.
Law examined through analytic tools of microeconomics; impact of legal rules on resource allocation, risk bearing, distribution of economic well-being. Prerequisites: ECON:1100.

ECON:3870 Federal Reserve Challenge 0 s.h.
Experience doing what Federal Reserve economists do every day: study the real U.S. economy, make forecasts and policy recommendations, defend their views to academic and professional economists; development of analytical skills, teamwork, how to build presentations. Prerequisites: ECON:3100 and ECON:3150.

ECON:3871 Federal Reserve Challenge II 0 s.h.
Participation in Federal Reserve Challenge after completion of ECON:3870. Prerequisites: ECON:3870.

ECON:3872 Individual Study in International Economics 1-3 s.h.
Basic economic theory used as foundation to examine international trade, macroeconomic policy, and financial market issues; focus on multinational firms that trade and/or produce across national borders and viewed within context of recent events.

ECON:3875 Topics in Policy Economics arr.
Topics vary. Prerequisites: ECON:1100 and ECON:1200.

ECON:3999 Honors Seminar 1-3 s.h.

ECON:4050 Readings and Independent Study in Economics arr.

ECON:4090 Natural Resource Economics 3 s.h.
Economics of natural resources; interaction between economic theory, empirical evidence, and public policy; land, water, fish, trees, minerals; externalities. Prerequisites: ECON:3100.

ECON:4110 International Economics 3 s.h.
Neoclassical model of international trade, imperfect competition and international trade and investment, role of trade barriers; regional trade agreements and the World Trade Organization. Requirements: ECON:3100 and ECON:3150, or graduate standing.

ECON:4140 Labor Economics 3 s.h.
Labor supply and demand; investments in human capital, compensating wage differentials, discrimination, long-term contracts, occupational choice, family decisions, unions, immigration. Prerequisites: ECON:3100.

ECON:4160 Public Sector Economics 3 s.h.
Economic functions of government; budgetary processes; effects of government expenditures, taxation on resource allocation, income distribution, economic growth and stability. Prerequisites: ECON:3100 and ECON:3150.

ECON:4170 Monetary Economics 3 s.h.
Demand for and supply of money; money's role in economy; empirical studies of money's impact; problems with monetary control. Prerequisites: ECON:3100 and ECON:3150.

ECON:4180 Industrial Organization 3 s.h.
Market structure; effects of business practices, informational problems on market structure; appraisal of antitrust policies, government regulation of business. Prerequisites: ECON:3100.

ECON:4190 Mathematical Economics 3 s.h.
Mathematical structure of economic principles, problems, systems; may include constrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. Prerequisites: ECON:3100 and ECON:3150.

ECON:4200 Game Theory 3 s.h.
Basic concepts of game theory including dominance, backward induction, Nash equilibrium, evolutionary stability, commitment, credibility, asymmetric information, adverse selection, signaling; provides students with a working understanding of game theory; examples drawn from economics and politics. Prerequisites: ECON:3100 and ECON:3150 and MATH:1380.

ECON:4700 Topics in Analytical Economics arr.
Topics vary. Prerequisites: ECON:3100 and ECON:3150.

ECON:4800 Introduction to Econometrics 3 s.h.
Single equation linear statistical models, estimation and hypothesis testing; serial correlation, heteroscedasticity, generalized least squares estimation; specification analysis; errors in variables; emphasis on interpretation, application of econometric models, methods, use of computers. Prerequisites: STAT:3120.
ECON:4900 Academic Internship
Participation in approved internship program (e.g., Washington Center Internships).

ECON:4999 Honors Thesis in Economics 3 s.h.
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: ECON:3999 or BUS:3999. Requirements: admission to the Tippie College of Business honors program.

Graduate
Qualified undergraduates may enroll in graduate-level courses with consent of the department chair.

ECON:5000 Economic Analysis I 3 s.h.
Basic metric topology, convex analysis, function spaces, measure theory and integration.

ECON:5010 Economic Analysis II 3 s.h.
Behavior under uncertainty, macroeconomic models; dynamic programming, asset pricing, saving, consumption.

ECON:5100 Microeconomics I 3 s.h.
Consumer choice theory, producer theory, choice under uncertainty, basic game theory. Offered fall semesters.

ECON:5110 Microeconomics II 3 s.h.
General equilibrium and welfare analysis, adverse selection, the principal-agent problem, social choice, mechanism design. Offered spring semesters. Prerequisites: ECON:5100.

ECON:5200 Macroeconomics I 3 s.h.
Economic growth, business cycles, money and inflation. Offered fall semesters.

ECON:5210 Macroeconomics II 3 s.h.
Dynamic macroeconomic models; stochastic macroeconomics; time consistency equilibrium business cycle theory. Offered spring semesters. Prerequisites: ECON:5200.

ECON:5800 Econometrics 3 s.h.
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests. Prerequisites: STAT:4101.

ECON:5810 Applied Econometrics 3 s.h.
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms. Prerequisites: ECON:5800.

ECON:6310 Industrial Organization 3 s.h.
The firm, monopolistic competition, oligopoly and workable competition; industrial organization, nature of equilibrium under uncertainty. Prerequisites: ECON:5110.

ECON:6420 Macroeconomics III 3 s.h.
Current research in macroeconomics; development of research topics with emphasis on theoretical and empirical analysis. Prerequisites: ECON:5110 and ECON:5800.

ECON:6500 International Trade Theory 3 s.h.
The theory of international trade, including basic models of international trade; capital and labor mobility and trade; protection of international trade; the political economy of international trade; empirical applications of international trade.

ECON:6900 Contemporary Topics in Economics 3 s.h.
Topics not offered in other courses.

ECON:7000 Seminar in Economic Theory arr.

ECON:7010 Seminar in Economic Theory II arr.

ECON:7100 Seminar in Microeconomics 1 s.h.

ECON:7880 Workshop in Macro and Monetary Economics 1 s.h.

ECON:7950 Readings in Economics arr.