

# ECONOMICS

## Overview

[www.econ.iastate.edu](http://www.econ.iastate.edu) (<http://www.econ.iastate.edu>)

Economics teaches the ability to reason clearly and to address complex issues using tools and decision-making models from economics, mathematics, and statistics, as well as concepts from the biological, physical, and social sciences. The study of economics also helps students to: develop an understanding of the interactions of technology, human activity, and the environment; apply systematic approaches to making optimal choices; analyze quantitative information; and communicate concepts and findings to industry professionals, organizations, governments, and the general public.

Strong training in economic reasoning serves as a foundation for a variety of rewarding careers and for advanced study in a range of professional and academic fields. Economics majors are provided the tools of critical analysis and human relations skills that are essential for being informed citizens, finding and excelling in many career fields, and becoming lifelong learners.

In addition to the Economics major, the Department of Economics offers degrees in Business Economics (<http://catalog.iastate.edu/previouscatalogs/2022-2023/collegeofbusiness/businesseconomics/>) and Agricultural Business (<http://catalog.iastate.edu/previouscatalogs/2022-2023/collegeofagricultureandlifesciences/agriculturalbusiness/>).

## Student Learning Outcomes

The Department of Economics at Iowa State University has general goals for its Bachelor of Science graduates. These goals are for students to be able to solve problems and think critically, engage in economic reasoning, demonstrate leadership skills, communicate effectively, make ethical decisions, understand the environmental impacts of human activities, meet the challenges of living and working in a culturally diverse and global community, develop a capacity for innovation and creativity, and value the importance of life-long learning. Regarding each of these general goals, there are more specific additional goals, namely:

1. Problem Solving/Critical Thinking:
  - a. Distinguish factual statements from opinions or value judgments.
  - b. Summarize, analyze, and interpret research data and policy issues.
  - c. Distinguish causal relationships from correlations.
  - d. Determine the accuracy of statements.
  - e. Understand the usefulness of abstractions and models.
  - f. Identify assumptions and detect bias.
  - g. Critically evaluate their arguments and those of others.
- h. Distinguish relevant information from irrelevant information.
- i. Establish priorities.
- j. Apply a holistic approach to solving complex, issue-laden, problems.
2. Economic Reasoning:
  - a. Distinguish positive ('what is') from normative ('what should be') economics.
  - b. Determine the opportunity cost of alternatives.
  - c. Apply the concepts of comparative advantage, specialization, and exchange to analyze resource allocation issues.
  - d. Identify the conditions under which markets allocate resources efficiently or markets fail.
  - e. Apply marginal economic analysis to solve problems.
  - f. Conduct comparative static analyses.
  - g. Pose and test hypotheses.
  - h. Use scientific methods to identify optimal choices among economic alternatives.
  - i. Identify decision-makers, objectives, choice variables, incentives, and constraints.
  - j. Understand how conclusions depend on assumptions.
3. Leadership:
  - a. Organize, facilitate, and participate effectively in a group, team, or organization.
  - b. Define a problem or opportunity, implement an action planning process, work toward a goal and justify actions taken.
4. Professional, Interpersonal and Cross-cultural Communications:
  - a. Communicate economic and business concepts to professionals, organizations, governments, and the general public.
  - b. Obtain information by accessing electronic or traditional media, listening, or by observation.
  - c. Read, listen, observe and reflect.
  - d. Speak and write clearly and persuasively.
  - e. Prepare and present effective visual, oral, written, and electronic presentations.
5. Ethics:
  - a. Define and assess their ethical perspectives, sense of moral responsibility, and values.
  - b. Identify and critically evaluate contemporary ethical and moral issues in professional and private life.
6. Environmental Awareness:
  - a. Explain the physical and biological interactions within ecosystems.
  - b. Explain how human activities impact the environment and how societies are affected by environmental change.
7. International/Multi-Cultural Awareness:

- a. U.S. Diversity – Students should achieve two of the following outcomes:
- Articulate how their personal life experiences and choices fit within the context of the larger mosaic of U.S. society, indicating how they have confronted and critically analyzed their perceptions and assumptions about diversity-related issues.
  - Analyze and evaluate the contributions of various underrepresented social groups in shaping the history and culture of the U.S.
  - Analyze individual and institutional forms of discrimination based on factors such as race, ethnicity, gender, religion, sexual orientation, class, etc.
  - Analyze how cultural diversity and cooperation among social groups affect U.S. society.
- b. International Perspectives – Students should achieve two of the following outcomes:
- Analyze the accuracy and relevancy of their own worldviews and anticipate how people from other nations may perceive that worldview.
  - Describe and analyze how cultures and societies around the world are formed, are sustained, and evolve.
  - Analyze and evaluate the influence of global issues in their own lives.
  - Describe the values and perspectives of cultures other than their own and discuss how the influence individuals' perceptions of global issues or events.
  - Communicate competently in a second language.
8. Entrepreneurship:
- Demonstrate innovation and creativity regardless of context.
  - Identify and pursue opportunities that produce value.
  - Be persistent in shepherding necessary resources and managing associated risk to facilitate change.
9. Life-long Learning:
- Articulate how continued learning after graduation will enrich their lives.
  - Identify and participate in new areas for learning beyond the classroom and after graduation.

international development, and government service. Candidates for the Bachelor of Science degree with a major in Economics must fulfill requirements established by the College of Liberal Arts and Sciences. For details of undergraduate curricula in liberal arts and sciences, see College of Liberal Arts and Sciences (<http://catalog.iastate.edu/previouscatalogs/2022-2023/collegeofliberalartsandsciences/#lascollegerequirementstext>). A double major in Economics and Agricultural Business is permitted. A double major in Economics and Business Economics is not permitted. A major in Business Economics with a minor in Economics is not permitted. A minor in Economics cannot be combined with a major in Agricultural Business, and minors in both Agricultural Business and Economics are not permitted.

Students majoring in Economics are required to take the following courses within the General Education Area of Mathematics:

Choose one of the following pairs:

7-8

MATH 160 Survey of Calculus  
& ECON 207 and Applied Economic Optimization

MATH 165 Calculus I  
& ECON 207 and Applied Economic Optimization \*

MATH 165 Calculus I  
& MATH 166 and Calculus II

Choose one of the following pairs:

6

STAT 226 Introduction to Business Statistics I  
& STAT 326 and Introduction to Business Statistics II

STAT 341 Introduction to the Theory of Probability and  
& STAT 342 Statistics I  
and Introduction to the Theory of Probability and  
Statistics II

Students planning to attend graduate programs in Economics or related fields are encouraged to take MATH 165 Calculus I, MATH 166 Calculus II, STAT 341 Introduction to the Theory of Probability and Statistics I, and STAT 342 Introduction to the Theory of Probability and Statistics II.

Students planning for careers in the finance industry or government sectors are encouraged to enroll in STAT 226 Introduction to Business Statistics I and STAT 326 Introduction to Business Statistics II.

Students must complete the following courses in economics:

ECON 101	Principles of Microeconomics	3
ECON 102	Principles of Macroeconomics	3
ECON 301	Intermediate Microeconomics	3-4
ECON 302	Intermediate Macroeconomics	3
ECON 371	Introductory Econometrics	4
Three credits of ECON 230-289, 300-389, 400-489 courses.		3

## Degree Requirements

### Economics Major, College of Liberal Arts and Sciences

The Economics major in the College of Liberal Arts and Sciences prepares students for advanced studies in Economics, Finance, and Analytics, for professional degrees such as medicine, law and business administration (MBA), and for careers in finance, business and economic research, management, insurance, brokerage, real estate, labor relations,

Nine credits of 400-489 level ECON courses.	9
ECON 492      Graduating Senior Survey	R

A minimum of 18 credits of economics coursework must be earned at Iowa State University. Economics majors must earn a minimum GPA of 2.0 across ECON 101 Principles of Microeconomics, ECON 102 Principles of Macroeconomics, ECON 301 Intermediate Microeconomics, and ECON 302 Intermediate Macroeconomics, with no grade in these lower than a C-.

Communication Proficiency Requirement: According to the University-wide Communication Proficiency Grade Requirement, students must demonstrate their communication proficiency by earning a grade of C or better in ENGL 250. In addition the Economics major requires a grade of C or better in ENGL 302 or ENGL 314.

ENGL 150      Critical Thinking and Communication	3
ENGL 250      Written, Oral, Visual, and Electronic Composition	3
or ENGL 250H      Written, Oral, Visual, and Electronic Composition: Honors	
ENGL 302      Business Communication	3
or ENGL 314      Technical Communication	

Students in all ISU majors must complete a three-credit course in both U.S. Diversity and in International Perspectives. The two courses may simultaneously meet the following graduation requirements: Social Science, Arts/Humanities, ECON 400-489, or Econ courses from approved list. Please discuss with our advisor.

LAS majors require a minimum of 120 credits, **including a minimum of 45 credits at the 300/400 level**. Three of the required 45 credits at the 300+ level must be earned in a general education group outside the group of your major. Economics majors must meet or complete the LAS world language requirement.

## Four Year Plan

### Bachelor of Science in Economics

#### Freshman

Fall	Credits	Spring	Credits
ECON 101	3	ECON 102	3
ENGL 150	3	ECON 207 <sup>a</sup>	3
LIB 160	1	Arts and Humanities	3
MATH 160 <sup>a</sup>	4	Natural Science	3
Arts and Humanities	3	Social Science	3
	<b>14</b>		<b>15</b>

#### Sophomore

Fall	Credits	Spring	Credits
ECON 301	4	ECON 302	3

ENGL 250	3	STAT 326 <sup>b</sup>	3
STAT 226 <sup>b</sup>	3	Elective or World Language	4
LAS 203 (or Elective)	1	Social Science	3
Elective or World Language	4	Natural Science	3
	<b>15</b>		<b>16</b>

#### Junior

Fall	Credits	Spring	Credits
ECON 371	4	ECON 400-489	3
ECON 230-289, 300-389, or 400-489	3	Electives	9
Arts and Humanities	3	International or Diversity	3
Elective	2		
International or Diversity	3		
	<b>15</b>		<b>15</b>

#### Senior

Fall	Credits	Spring	Credits
ECON 400-489	3	ECON 400-489	3
ENGL 302 or 314	3	ECON 492	R
Arts and Humanities	3	Natural Science	2
Electives	6	Electives	10
	<b>15</b>		<b>15</b>

Students in all ISU majors must complete a three-credit course in both U.S. Diversity and in International Perspectives. The two courses may simultaneously meet the following graduation requirements: Social Science, Arts/Humanities, ECON 400-489, or Econ courses from approved list. Please discuss with our advisor.

LAS majors require a minimum of 120 credits, **including a minimum of 45 credits at the 300/400 level**. Three of the required 45 credits at the 300+ level must be earned in a general education group outside the group of your major. Econ majors must meet or complete the LAS world language requirement. In addition, Econ majors must earn a minimum of 18 credits from courses taught by the Department of Economics at ISU.

<sup>a</sup> MATH 165 (Calculus I) and MATH 166 (Calculus II) may be substituted for MATH 160 and ECON 207.

<sup>b</sup> STAT 341 (Introduction to Theory of Probability & Stats I) and STAT 342 (Introduction to Theory of Probability & Stats II) may be substituted for STAT 226 and 326.

## Minor

### Economics Minor, College of Liberal Arts and Sciences

For a minor in Economics, students complete a minimum of 15 credits. The minor must include at least 9 credits that are not used to meet any other Department, College, or University requirement.

ECON 101	Principles of Microeconomics	3
ECON 102	Principles of Macroeconomics	3
ECON 301	Intermediate Microeconomics *	3-4
Six credits of ECON 230-289, 300-389, 400-489 courses.		6
<b>Total Credits</b>		<b>15-16</b>

\* Pre-reqs for ECON 301 include MATH 166 Calculus II or ECON 207 Applied Economic Optimization.

## Graduate Programs

### Graduate Programs in Economics and Agricultural Economics

The Department of Economics offers work toward the degrees Master of Science and Doctor of Philosophy with majors in Economics and Agricultural Economics. The Department also offers minors to students with majors in other departments. For more information, visit our web site at [www.econ.iastate.edu](http://www.econ.iastate.edu) (<http://www.econ.iastate.edu>).

Students do not need to have an undergraduate major in Economics or Agricultural Economics to qualify for graduate work in the Department. However, students must have completed undergraduate coursework in macroeconomics, microeconomics, statistics, calculus, and matrix algebra. Some background in math courses emphasizing logic and proofs is preferred, particularly for the Ph.D.

Candidates for the degree Master of Science (thesis option) are required to complete satisfactorily 30 credits of acceptable graduate work, including preparation of a thesis.

Candidates for the degree Master of Science (non-thesis option) may fulfill requirements by satisfactorily completing 32 credits of acceptable graduate work, including preparation of a creative component.

Programs of study for the doctorate are organized by each student in consultation with the major professor and the student's committee. Subject to staffing constraints, the Department offers coursework to support the following fields of concentration: agricultural economics, applied econometrics, environmental and resource economics, financial economics, human resources, industrial organization, international economics, and macroeconomics. Students must complete advanced courses in microeconomic and macroeconomic theory, quantitative methods and econometrics, and two fields from the list above. Students are required to participate in workshops and demonstrate competence in theory by passing qualifying examinations.