

# Economics

## Undergraduate Study

The department offers work for the degrees of bachelor of science with a major in agricultural business, bachelor of science with a major in business economics, and bachelor of science with a major in economics. The department also offers a minor in agricultural business and a minor in economics. In addition, the department participates in the interdepartmental programs in international agriculture and global resources systems offered by the College of Agriculture and Life Sciences, and the interdepartmental programs in international studies and women's studies offered by the College of Liberal Arts and Sciences. For further discussion of programs in agricultural business, see the statement below under College of Agriculture and Life Sciences. For programs in business economics, see the statement below under College of Business. For programs in economics, see the statement below under College of Liberal Arts and Sciences. Visit our web site at [www.econ.iastate.edu](http://www.econ.iastate.edu).

Graduates of the Department of Economics have unique skills that distinguish them from other graduates. They have the ability to think and reason clearly, and can address complex issues using tools and decision making models of economics, mathematics, statistics, as well as concepts from the biological, physical, and social sciences. Graduates develop human relations skills that are essential in the work place and the community. They are able to communicate economic and business concepts to other professionals, collective organizations, governments, and the general public using a variety of means. Graduates understand the interaction of technology, human activity, and the environment. They are able to apply concepts associated with making "optimal" choices among economic alternatives. Graduates are prepared for graduate work in law, economics, and business, as well as the world of work, having learned tools of critical analysis and skills essential to getting and keeping meaningful employment.

### 1. College of Agriculture and Life Sciences

#### 1.1. Major - Agricultural Business

The major in agricultural business prepares students for advanced studies and for careers in agricultural finance, management in agricultural supply and marketing industries, commodity merchandising and research, business research and management, farm and ranch operations, commercial farm management and appraisal, agricultural sales and marketing, agricultural reporting and public relations, agricultural extension, international activities, and government service. A major in agricultural business with a minor in economics is not permitted; however, a double major in agricultural business and economics is permitted.

Students majoring in Agricultural Business often choose elective coursework leading to minors in the College of Business or in the College of Agriculture and Life Sciences, or emphasizing specific areas within agricultural business such as finance, management, commodity analysis, research, agricultural sales and marketing, environmental economics, farm and ranch operations, international economics, agricultural extension, or government service.

The major in agricultural business requires a minimum of 120 credits and a 2.00 minimum GPA. Only 65 credits from a two-year institution may apply, which may include up to 16 technical credits. In addition, at most 9 P-NP credits of free electives can be applied toward the degree, and a minimum of 15 credits must be earned from courses taught by the Department of Economics at ISU. The major in agricultural business requires:

**International Perspective: 3 cr. from approved course list** (<http://tinyurl.com/bzbmvy9>).

**U.S. Diversity: 3 cr. from approved course list** (<http://tinyurl.com/atq6kpj>).

**Communication/Library: 13 cr.**

ENGL 150	Critical Thinking and Communication	3
ENGL 250	Written, Oral, Visual, and Electronic Composition	3
One of the following		3
ENGL 302	Business Communication	
ENGL 309	Report and Proposal Writing	
ENGL 314	Technical Communication	
One of the following		3
SP CM 212	Fundamentals of Public Speaking	
AGEDS 311	Presentation and Sales Strategies for Agricultural Audiences	

LIB 160	Information Literacy	1
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A grade of C or better must be earned in two of the English composition courses (ENGL 150, ENGL 250, and (ENGL 302 or ENGL 309 or ENGL 314)) and the speech fundamentals course (SP CM 212 or AGEDS 311).

<b>Total Credits</b>		<b>13</b>
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**Humanities and Social Sciences: 6 cr.**

ECON 102	Principles of Macroeconomics	3
Three credits from approved course list ( <a href="http://www.agstudent.iastate.edu/humanities.htm">www.agstudent.iastate.edu/humanities.htm</a> ).		3

**Ethics: 3 cr. from approved course list** ([www.agstudent.iastate.edu/ethics.htm](http://www.agstudent.iastate.edu/ethics.htm))

**Life Sciences: 6 cr.**

One of the following		3
BIOL 101	Introductory Biology	
BIOL 211	Principles of Biology I	
Three credits from approved course list ( <a href="http://www.agstudent.iastate.edu/life_science.htm">www.agstudent.iastate.edu/life_science.htm</a> ).		3

<b>Total Credits</b>		<b>6</b>
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**Mathematics: 13-14 cr.**

One of the following		4
MATH 160	Survey of Calculus	
MATH 165	Calculus I	
One of the following		3-4
ECON 207	Applied Economic Optimization	
MATH 166	Calculus II	
STAT 226	Introduction to Business Statistics I	3
STAT 326	Introduction to Business Statistics II	3

**Physical Sciences: 5 cr.**

CHEM 163 & 163L	College Chemistry and Laboratory in College Chemistry	5
Or		
PHYS 111	General Physics	5

**Agricultural, Food, or Natural Resources Sciences: 6 cr. from approved course list** (<http://tinyurl.com/lcs25jb>).

**General Economics: 9-10 cr.**

ECON 101	Principles of Microeconomics	3
ECON 301	Intermediate Microeconomics	3-4
One of the following		3
ECON 302	Intermediate Macroeconomics	
ECON 353	Money, Banking, and Financial Institutions	
ECON 492	Graduating Senior Survey	R

**Business and Agricultural Business: 29 cr.**

ACCT 284	Financial Accounting	3
FIN 301	Principles of Finance	3
Six credits from ACCT 285 or any 300-489 ACCT, FIN, MKT, MGMT, MIS, or SCM courses.		6
ECON 110	Orientation in Agricultural Business	1
ECON 235	Introduction to Agricultural Markets	3
ECON 292	Career Seminar	1
Nine credits of ECON 230-289, 300-389, 400-489 courses.		9
Three credits of 400-489 level ECON courses.		3

**Electives: 22-24 cr.**

Agricultural business majors seeking a double major in economics must take a minimum of 42 credits in economics. These include all of the economics courses required for the economics major. To double major in economics, agricultural business majors must also earn an average grade of C or higher in ECON 101 Principles of Microeconomics, ECON 102 Principles of Macroeconomics, and ECON 302 Intermediate Macroeconomics with no grade lower than a C-.

## 2. College of Business

### 2.1. Major - Business Economics

The major in business economics provides a high-quality education with a balanced emphasis in both business and economics. Graduates from the business economics major possess a unique mix of analytical and applied business skills well-suited for employment in upper level management and public service positions. Graduates also have solid preparation for graduate studies in law, economics, and in Master of Business Administration (MBA) programs. A double major in business economics and agricultural business is not permitted; a double major in business economics and economics is not permitted. A major in business economics with a minor in economics is not permitted. For the undergraduate curriculum in business economics, see College of Business.

## 3. College of Liberal Arts and Sciences

### 3.1. Major - Economics

The major in economics prepares students for advanced studies, professional degrees such as law and business administration, and for careers in finance, business and economic research, management, insurance, brokerage, real estate, labor relations, 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, Curriculum.)

Students majoring in economics are required to take the following courses within the General Education Area of Natural Sciences and Mathematical Disciplines:

Choose one of the following:	7-8
MATH 165 & MATH 166	Calculus I and Calculus II
MATH 165 & ECON 207	Calculus I and Applied Economic Optimization *
MATH 160 & ECON 207	Survey of Calculus and Applied Economic Optimization *
STAT 226	Introduction to Business Statistics I 3
STAT 326	Introduction to Business Statistics II 3

\*Students who plan to take postgraduate work in economics should take MATH 165 and MATH 166.

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
ECON 492	Graduating Senior Survey	R
Three credits of ECON 230-289, 300-389, 400-489 courses.		3
Nine credits of 400-489 level ECON courses.		9

A minimum of 15 credits of economics coursework must be earned at Iowa State University. Economics majors must maintain a C average in ECON 101 Principles of Microeconomics, ECON 102 Principles of Macroeconomics, ECON 301 Intermediate Microeconomics, and ECON 302 Intermediate Macroeconomics with no grade lower than a C-.

Communication Proficiency Requirement: The major in economics requires a grade of C or better in each of the following English courses:

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	

Optimal progress for an economics major would be to complete the principles sequence

ECON 101	Principles of Microeconomics	3
ECON 102	Principles of Macroeconomics	3
and one of the following sequences in the freshman year:	7-8	
MATH 165	Calculus I	
or MATH 166	Calculus II	
MATH 165	Calculus I	

or ECON 207	Applied Economic Optimization
MATH 160	Survey of Calculus
or ECON 207	Applied Economic Optimization

The freshman-year sequences should be followed in the sophomore year by the intermediate theory sequence:

ECON 301 & ECON 302	Intermediate Microeconomics and Intermediate Macroeconomics
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STAT 226 Introduction to Business Statistics I and STAT 326 Introduction to Business Statistics II are recommended in the sophomore year.

## 4. Learner Outcome Goals

The Department of Economics at Iowa State University has general goals for its B.S. 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 innovativeness 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:
 

U.S. Diversity – Students should achieve two of the following outcomes:

  - a. 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.

b. Analyze and evaluate the contributions of various underrepresented social groups in shaping the history and culture of the U.S.

c. Analyze individual and institutional forms of discrimination based on factors such as race, ethnicity, gender, religion, sexual orientation, class, etc.

d. Analyze how cultural diversity and cooperation among social groups affect U.S. society.

International Perspectives – Students should achieve two of the following outcomes:

a. Analyze the accuracy and relevancy of their own worldviews and anticipate how people from other nations may perceive that worldview.

b. Describe and analyze how cultures and societies around the world are formed, are sustained, and evolve.

c. Analyze and evaluate the influence of global issues in their own lives.

d. Describe the values and perspectives of cultures other than their own and discuss how the influence individuals' perceptions of global issues or events.

e. Communicate competently in a second language.

8. Entrepreneurship:

a. Demonstrate innovativeness and creativity regardless of context.

b. Identify and pursue opportunities that produce value.

c. Be persistent in shepherding necessary resources and managing associated risk to facilitate change.

9. Life-long Learning:

a. Articulate how continued learning after graduation will enrich their lives.

b. Identify and participate in new areas for learning beyond the classroom and after graduation.

## 1. College of Agriculture and Life Sciences

### 1.1. Minor - Agricultural Business

Courses to be included in the minimum of 15 credits include the following:

ECON 101	Principles of Microeconomics	3
ECON 230	Farm Business Management	3
ECON 235	Introduction to Agricultural Markets	3
ECON 301	Intermediate Microeconomics	3-4
Three credits of ECON 230-289, 300-389, 400-489 courses.		3

## 2. College of Liberal Arts and Sciences

### 2.1 Minor - Economics

Courses to be included in the minimum of 15 credits are:

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

## Graduate Study

The department 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. Visit our web site at [www.econ.iastate.edu](http://www.econ.iastate.edu).

Students do not need to have an undergraduate major in economics or agricultural economics in order 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 coursework, 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 individual's committee. Subject to staffing constraints, the department offers coursework to support the following fields of concentration: applied econometrics, agricultural economics, financial economics, industrial organization, international economics, human resources, macroeconomics, and environmental and resource economics. Each student must complete advanced courses in microeconomic and macroeconomic theory, quantitative methods and econometrics, and two fields from the list

above. Students must demonstrate competence in theory by passing qualifying examinations. Students must also participate in workshops.