AGRICULTURAL AND APPLIED ECONOMICS, B.S.

Students develop and use economic data and models to analyze and understand a wide range of issues—including environmental problems, world hunger, energy and climate change, business economics and finance, economic development, globalization and trade, biotechnology, land-use management, and community development. Course subjects include economics, environmental economics, managerial economics, financial management, commodities and futures markets, the global economy, development in Latin America, Africa, and Asia, cooperatives, international trade, pollution, and regulation. Students acquire the necessary skills to pursue a rewarding career in consulting, government, business, or international organizations, or a graduate degree in economics, public policy, business or law.

Major requirements usually met in the freshman and sophomore years are: A A E 215, ECON 102, an elementary course in statistics, and one semester of calculus (MATH 211, MATH 217 or MATH 221).

Other major requirements are: ECON 301 and ECON 302, A A E 500 (a “capstone” course), and a minimum of 15 additional credits in AAE courses. Students may select an area of concentration within the major from four choices: Applied Economics, Development Economics, Environmental Economics or Managerial Economics. These 15 credits are selected by the student with the assistance of an advisor and must be at the 200 level or above (does not include A A E 215, A A E 299 or A A E 500).

Students completing the agricultural and applied economics major are awarded the bachelor of science degree.

HOW TO GET IN

To declare this major, students must be admitted to UW–Madison and the College of Agricultural and Life Sciences (CALS). For information about becoming a CALS first-year or transfer student, see Entering the College (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#enteringthecollegetext).

Students who attend Student Orientation, Advising, and Registration (SOAR) with the College of Agricultural and Life Sciences have the option to declare this major at SOAR. Students may otherwise declare after they have begun their undergraduate studies. For more information, contact the advisor listed under the Advising and Careers tab.

REQUIREMENTS

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/#requirementsforundergraduatestudytext) section of the Guide.

General Education

- Breadth—Humanities/Literature/Arts: 6 credits
- Breadth—Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
- Breadth—Social Studies: 3 credits
- Communication Part A & Part B *
- Ethnic Studies *
- Quantitative Reasoning Part A & Part B *

* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

In addition to the University General Education Requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Specific requirements for all majors in the college and other information on academic matters can be obtained from the Office of Academic Affairs (http://www.cals.wisc.edu/academics), College of Agricultural and Life Sciences, 116 Agricultural Hall, 1450 Linden Drive, Madison, WI 53706; 608-262-3003. Academic departments and advisors also have information on requirements. Courses may not double count within university requirements (General Education and Breadth) or within college requirements (First-Year Seminar, International Studies and Science), but courses counted toward university requirements may also be used to satisfy a college and/or a major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

COLLEGE REQUIREMENTS FOR ALL CALS B.S. DEGREE PROGRAMS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quality of Work: Students must maintain a minimum cumulative grade point average of 2.000 to remain in good standing and be eligible for graduation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residency: Students must complete 30 degree credits in residence at UW–Madison after earning 86 credits toward their undergraduate degree.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>First Year Seminar (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>International Studies (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Physical Science Fundamentals</td>
<td>4-5</td>
</tr>
<tr>
<td>CHEM 103 or CHEM 108 or CHEM 109</td>
<td>General Chemistry I, Chemistry in Our World, Advanced General Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological Science</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Additional Science (Biological, Physical, or Natural)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Science Breadth (Biological, Physical, Natural, or Social)</td>
<td>3</td>
</tr>
</tbody>
</table>
CALS Capstone Learning Experience: included in the requirements for each CALS major (see "Major Requirements") (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext)

MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mathematics and Statistics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This major requires calculus. Prerequisites may need to be taken before enrollment in calculus.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>MATH 211</td>
<td>Calculus</td>
<td></td>
</tr>
<tr>
<td>MATH 217</td>
<td>Calculus with Algebra and Trigonometry II</td>
<td></td>
</tr>
<tr>
<td>MATH 221</td>
<td>Calculus and Analytic Geometry I</td>
<td></td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>3-6</td>
</tr>
<tr>
<td>ECON 310</td>
<td>Statistics: Measurement in Economics</td>
<td></td>
</tr>
<tr>
<td>STAT 301</td>
<td>Introduction to Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>STAT 324</td>
<td>Introductory Applied Statistics for Engineers</td>
<td></td>
</tr>
<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
<td></td>
</tr>
<tr>
<td>PSYCH 210</td>
<td>Basic Statistics for Psychology</td>
<td></td>
</tr>
<tr>
<td>SOC/ C&amp;E SOC 360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GEN BUS 306 &amp; GEN BUS 307</td>
<td>Business Analytics I and Business Analytics II</td>
<td></td>
</tr>
<tr>
<td><strong>Core</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A AE 215</td>
<td>Introduction to Agricultural and Applied Economics</td>
<td>3</td>
</tr>
<tr>
<td>or ECON 101</td>
<td>Principles of Microeconomics</td>
<td></td>
</tr>
<tr>
<td>ECON 102</td>
<td>Principles of Macroeconomics</td>
<td>3-4</td>
</tr>
<tr>
<td>ECON 301</td>
<td>Intermediate Microeconomic Theory</td>
<td>4</td>
</tr>
<tr>
<td>or ECON 311</td>
<td>Intermediate Microeconomic Theory - Advanced Treatment</td>
<td></td>
</tr>
<tr>
<td>ECON 302</td>
<td>Intermediate Macroeconomic Theory</td>
<td>4</td>
</tr>
<tr>
<td>or ECON 312</td>
<td>Intermediate Macroeconomic Theory - Advanced Treatment</td>
<td></td>
</tr>
<tr>
<td><strong>Concentrations within the Major</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students must complete 15 credits of AAE courses 200-level or above. Students may choose to focus their studies on an area of concentration as follows:</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Applied Economics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development Economics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Economics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial Economics</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capstone</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A AE 500</td>
<td>Senior Capstone Experience</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>40-44</td>
</tr>
</tbody>
</table>

1 A AE 215 Introduction to Agricultural and Applied Economics satisfies QR-B credit.

2 A AE 215 Introduction to Agricultural and Applied Economics, A AE 299 Independent Study and A AE 500 Senior Capstone Experience may not count toward the 15 credits required in the major.

CONCENTRATIONS WITHIN THE MAJOR

APPLIED ECONOMICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAE courses, 200 level and above</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

1 AAE courses 200 level and above may not include A AE 215 Introduction to Agricultural and Applied Economics, A AE 299 Independent Study or A AE 500 Senior Capstone Experience.

DEVELOPMENT ECONOMICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select any of the following courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A AE/E/INTL ST 373</td>
<td>Globalization, Poverty and Development</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/INTL ST 374</td>
<td>The Growth and Development of Nations in the Global Economy</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/INTL BUS 462</td>
<td>Latin American Economic Development</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/ECON 473</td>
<td>Economic Growth and Development in Southeast Asia</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/ECON 474</td>
<td>Economic Problems of Developing Areas</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/ECON 477</td>
<td>Agricultural and Economic Development in Africa</td>
<td>3</td>
</tr>
<tr>
<td>AAE courses, 200 level and above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 AAE courses 200 level and above may not include A AE 215 Introduction to Agricultural and Applied Economics, A AE 299 Independent Study or A AE 500 Senior Capstone Experience.

ENVIRONMENTAL ECONOMICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select any of the following courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A AE/E/ENVIR ST 244</td>
<td>The Environment and the Global Economy</td>
<td>3</td>
</tr>
<tr>
<td>A AE 246</td>
<td>Climate Change Economics and Policy</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/ECON/ ENVIR ST 343</td>
<td>Environmental Economics</td>
<td>4</td>
</tr>
<tr>
<td>A AE/E/ECON/ F&amp;W ECOL 531</td>
<td>Natural Resource Economics</td>
<td>3</td>
</tr>
<tr>
<td>A AE/E/ECON/ ENVIR ST/ URB R PL 671</td>
<td>Energy Economics</td>
<td>3</td>
</tr>
<tr>
<td>AAE courses, 200 level and above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 AAE courses 200 level and above may not include A AE 215 Introduction to Agricultural and Applied Economics, A AE 299 Independent Study or A AE 500 Senior Capstone Experience.
MANAGERIAL ECONOMICS

Code    Title                      Credits

A A E 320  Farming Systems Management            3
A A E 322  Commodity Markets                     3
A A E 419  Agricultural Finance                  3
A A E/ECON 421 Economic Decision Analysis       4
A E courses, 200 level and above 1

1 AAE courses 200 level and above may not include A A E 215

Introduction to Agricultural and Applied Economics , A A E 299 Independent
Study or A A E 500 Senior Capstone Experience.

UNIVERSITY DEGREE REQUIREMENTS

Total Degree To receive a bachelor’s degree from UW–Madison,
students must earn a minimum of 120 degree credits.
The requirements for some programs may exceed 120
degree credits. Students should consult with their college
or department advisor for information on specific credit
requirements.

Residency Degree candidates are required to earn a minimum of 30
credits in residence at UW–Madison. "In residence" means on the UW–Madison campus with an undergraduate
degree classification. "In residence" credit also includes
UW–Madison courses offered in distance or online
formats and credits earned in UW–Madison Study
Abroad/Study Away programs.

Quality of Work Undergraduate students must maintain the minimum
grade point average specified by the school, college, or
academic program to remain in good academic standing.
Students whose academic performance drops below
these minimum thresholds will be placed on academic
probation.

LEARNING OUTCOMES

1. Use economic concepts to think critically about real-world problems
and public policy debates.
2. Use appropriate quantitative techniques to analyze economic
problems.
3. Communicate results effectively orally and in writing.

FOUR-YEAR PLAN

SAMPLE AGRICULTURAL & APPLIED ECONOMICS FOUR-
YEAR PLAN

Freshman

Fall    Credits Spring    Credits
MATH 211 or 2211  5 COMM B 3
COMM A2  3 Chemistry Course 4-5

A A E 215 or ECON 1013  3-4 CALS Science
Requirement

First Year Seminar 1 Electives 4  6

12-13 16-17

Total Credits 28-30

Sophomore

Fall    Credits Spring    Credits
ECON 102  3 ECON 301 4
Statistics Course 3 Electives 9-12
CALS Science
Requirement
Elective                  4

15 13-16

Total Credits 28-31

Junior

Fall    Credits Spring    Credits
Concentration Courses 6 Concentration Courses 3
ECON 302  4 Electives 12
Electives                  6

16 15

Total Credits 31

Senior

Fall    Credits Spring    Credits
Concentration Courses 6 Capstone Course 3
Electives  9 Electives 12

15 15

Total Credits 30

1 Students must complete MATH 211 or MATH 217 or MATH 221.
Students may satisfy the required level of math proficiency
through the math placement exam. On the other hand, this level of
competence may require as many as three semesters of coursework
in mathematics.

2 The communications requirement includes Communication Parts
A & B. Completing this requirement early will help the students with
written and oral assignments in future courses.

3 Students should complete the basic courses in economics early in
their programs so that they can have greater choice in courses in the
major.

4 Students should choose electives that satisfy one of the UW
requirements (ethnic studies or social sciences or humanities) or the
college requirements. See Requirements tab for details.

ADVISING AND CAREERS

For more information or to declare a major in agricultural and applied
economics, contact:

Linda Davis
Department of Agricultural and Applied Economics
University of Wisconsin–Madison
424 Taylor Hall
608-262-9488
CAREERS
Students with a degree in agricultural and applied economics may specialize in international development, environmental policy, or managerial economics. They often find careers in policy analysis, environmental management, business analysis, trade or consulting. They can find employment with a variety of employers such as nonprofit organizations, government agencies, co-operatives, multinational firms, agribusiness companies, financial institutions and the food or retailing industry. Many students pursue graduate degrees in economics, business, public policy, law or other areas.

Students can use the services provided by the CALS Career Services Office (https://cals.wisc.edu/academics/undergraduate-students/career-services), which include help with creating a resume or cover letter and mock interviews. CALS students also have access to BuckyNet (https://cals.wisc.edu/academics/undergraduate-students/career-services/buckynet), an online job/internship posting tool that provides students with hundreds of job and internship listings.

PEOPLE

PROFESSORS
Barham, Bradford
Chavas, Jean-Paul
Coxhead, Ian
Deller, Steven
Foltz, Jeremy (Chair)
Gould, Brian
Mitchell, Paul
Phaneuf, Daniel
Provencher, R. William
Rutherford, Thomas
Stiegert, Kyle

ASSOCIATE PROFESSORS
Alix-Garcia, Jennifer
Du, Sheldon
Grainger, Corbett
Fletcher, Jason*
Hueth, Brent
Schechter, Laura
Shi, Guanming

ASSISTANT PROFESSORS
Conroy, Tessa*
Dower, Paul
Johnston, Craig*
Parker, Dominic
Tjernstroem, Emilia

FACULTY ASSOCIATES
Beach, Jeremy
Dong, Fengxia
Reynolds, Anne

UNDERGRADUATE ADVISOR
Davis, Linda

*AAE Affiliate Faculty

WISCONSIN EXPERIENCE

CAPSTONE
Students with a major in agricultural and applied economics (AAE) must all complete the senior capstone requirement. For our majors, the capstone is a specific class which offers students the opportunity to work in a group with other students in their area of interest to produce a final project and present it to their fellow students and AAE faculty. Students will have the opportunity to demonstrate how the concepts they have learned in their AAE classes are applied to real-world situations.

STUDY ABROAD
Many students with a major in agricultural and applied economics choose to study abroad. Study abroad programs offer students the opportunity to gain an international perspective and can prepare students to participate in today’s global economy. International Academic Programs (IAP) (https://www.studyabroad.wisc.edu) serves as the primary study abroad office on campus, offering over 200 programs in over 60 countries around the world. IAP program offerings, available to all majors, range from short-term, faculty-led opportunities to intensive language study, internships, a semester or a year at a university overseas, service learning, and programs with special themes. There are also international programs offered through the College of Agricultural and Life Sciences (CALS) (https://cals.wisc.edu/academics/undergraduate-students/international-programs). Study abroad programs in CALS cover a variety of content areas such as sustainable development, food systems, agriculture, health and wellness, and community and economic development.

RENK SCHOLARSHIP PROGRAM
Agricultural and applied economics majors are eligible to apply for the Renk Scholarship Program (https://renk.aae.wisc.edu/renk-scholarship), which can provide increasing scholarships for up to three years. The Renk Scholarship Program is part of the Renk Agribusiness Institute (https://renk.aae.wisc.edu) and emphasizes leadership in contemporary agricultural issues and activities linked to agribusiness.

INDEPENDENT STUDY
Students in the agricultural and applied economics major may have the opportunity to work with an AAE faculty member on an independent study project. They will work with one of our faculty and engage in independent reading and research for credit. Students will have the opportunity to experience the excitement and frustrations of doing research, while learning techniques that might prove useful in future projects.

RESOURCES AND SCHOLARSHIPS
The Department of Agricultural and Applied Economics offers a number of scholarships to students declared in both of our majors, agricultural & applied economics and agricultural business management. Students in either of these majors or who have declared the certificate in business management for agricultural and life sciences (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/agricultural-applied-economics/business-management-agricultural-life-sciences-certificate) are also eligible to apply for the Renk Scholarship Program (https://renk.aae.wisc.edu/renk-scholarship), which can provide increasing scholarships for up to three years. The Renk
Scholarship Program is part of the Renk Agribusiness Institute (https://renk.aae.wisc.edu) and emphasizes leadership in contemporary agricultural issues and activities linked to agribusiness.

The Agricultural Business Management Club at UW-Madison is a group of motivated students interested in careers involving agriculture and/or business. The club offers members the opportunity to learn more about the agribusiness industry and make connections through career speakers, field trips and social events.