Agricultural and Environmental Education

The Major Program

The major serves those interested in teaching agricultural and environmental sciences in schools or in non-formal settings such as environmental preserves, environmental camps, or others. This major prepares graduates to direct programs in the agricultural and environmental sciences as well as provides them with a skill set necessary to work within social science careers related to these fields. This program of study meets state and federal requirements for entry into teacher preparation in agriculture and science, as well as requirements in Career Technical Education (CTE).

The Program

The program is designed to provide students with a broad background in various agricultural and environmental science disciplines, e.g., animal science, environmental science, plant and soil science, agricultural engineering, business management, agroecology, and horticulture. The program also focuses on the social sciences related to human resource development. The program provides students with practical experiences through fieldwork, school, and non-formal learning sites placements, or placement in sites related to a student’s focus of study. Through this major students will have the opportunity to explore and then incorporate agricultural and environmental issues into educational and development settings.

Career Alternatives

The need for scientists, technicians and educators to assist in domestic and international agricultural and environmental programs has created a continuing demand for qualified instructors and supervisors. This major also provides general preparation which is appropriate for work in banking, sales and service, rural recreation and related agricultural and environmental sectors. Students interested in obtaining breadth in both agricultural and environmental sciences will appreciate the scope and flexibility the major provides.

B.S. Major Requirements (AEE):

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<tr>
<th>Units</th>
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<tr>
<td>Government/U.S. Constitution</td>
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<tr>
<td>History 17A or Political Science 1</td>
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<tr>
<td>Preparatory Subject Matter</td>
</tr>
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A minimum of eight (8) units is required in each area of Animal Science, Agriculture, Business Administration, Community Services, Computing and Information Systems, on page 165.

<table>
<thead>
<tr>
<th>Units</th>
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<tbody>
<tr>
<td>Animal Science 1, 2, 21, 22, 41</td>
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<tr>
<td>Applied Biological Systems Technology 16, 52, 49, 101</td>
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<tr>
<td>Agricultural &amp; Resource Economics 15 and either Economics 1A or 1B</td>
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<tr>
<td>Environmental Horticulture 1, 6, Plant Sciences</td>
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<tr>
<td>Environmental Science and Policy 10, Environmental Toxicology 10, Hydrologic Sciences 10, 47</td>
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<tr>
<td>Plant Sciences 1, 2, 15, 49, Viticulture and Enology 2</td>
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Science/Math Preparatory

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<th>Units</th>
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<tbody>
<tr>
<td>Biological Sciences 2A &amp; 2B</td>
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<tr>
<td>Chemistry 2A &amp; 2B</td>
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<tr>
<td>Geology 1, 20, Soil Science 10</td>
</tr>
<tr>
<td>Mathematics 16A &amp; 16B, or 17A&amp;B, or 21A&amp;B</td>
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<tr>
<td>Physics 7A &amp; 7B</td>
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Agricultural Computing and Information Systems

See Applied Computing and Information Systems, on page 165.
Upper Division

100. Concepts in Agricultural and Environmental Education (3)
Lecture—2 hours; laboratory—3 hours. Prerequisite: upper division standing. Philosophy and nature of formal and non-formal agricultural and environmental education programs. Emphasis on understanding the role of the teacher and observing a variety of programs. GE credit: SocSci, Wrt.—II. [(III.) Martin-dale]

160. Vocational Education (3)
Lecture—3 hours. Philosophy and organization of vocational education, with particular reference to educational principles for agriculture commerce, home economics, and industry. GE credit: SocSci, Wrt.—II. [(III.)]

171. Audiovisual Communications (2)
Lecture—1 hour; laboratory—3 hours. Prerequisite: upper division standing. Theory and principles of audiovisual communications. Comparison of audiovisual materials such as transparencies, slides, computer-generated graphics, and videos. Operation and use of audiovisual equipment is stressed.

172. Multimedia Productions (3)
Lecture—2 hours; laboratory—3 hours. Prerequisite: course 171 recommended. Design and production of educational, technical, and professional multimedia presentations. Instructional or professional presentations using a variety of media, including slides, video, transparencies, and computer-generated graphics. Offered in alternate years. GE credit: SocSci, Wrt.

190. Seminar in Agricultural Education (2)
Seminar—2 hours. Discussion of selected critical issues in agricultural education. May be repeated for credit with consent of instructor. (P/NP grading only)—II. [(III.)

192. Internship (1-12)
Internship—3-36 hours. Prerequisite: upper division standing, consent of instructor. Supervised internship off and on campus in areas of agricultural education. (P/NP grading only)

198. Directed Group Study (1-5)
(P/NP grading only)

199. Special Study for Advanced Undergraduates (1-5)
(P/NP grading only)

Professional

300. Directed Field Experience in Teaching (2)
Discussion—1 hour; field experience—3 hours. Prerequisite: course 100. Experience as teaching assistant in agriculture or home economics programs in public schools. May be repeated one time for credit. (S/U grading only)

301. Planning for Instructional Programs (3)
Lecture—3 hours. Prerequisite: course 100; course 300 (may be taken concurrently). Major paradigms in program planning and development. Emphasis on key steps in curriculum development, including selection and organization of educational objectives, learning experiences and teaching materials and resources. —III. [(III.)]

302. Teaching Methods in Agricultural Education (2)
Lecture—2 hours; laboratory—2 hours. Prerequisite: course 100; course 300 (may be taken concurrently). Development of teaching strategies with special emphasis on the designing of learning experiences, instructional execution, and use of teaching aids in agricultural education.

306A. Field Experience with Future Farmers of America and Supervised Experience Programs (4)
Lecture/discussion—2 hours; field work—6 hours. Prerequisite: acceptance into a teacher education program; course 306B (concurrently). Develop an understanding of the Future Farmers of America and supervised occupational experience programs through planning, conducting, and evaluating actual programs.

306B. Field Experience in Teaching Agriculture (5-18)
Student teaching (corresponds with public school session). Prerequisite: acceptance into a teacher education program; course 306A (concurrently); courses 100, 300, 301, 302. Directed teaching including supervision of occupational experience programs and youth activities in secondary schools or community colleges. May be repeated for credit up to a maximum of 18 units.

323. Resource Development: Agricultural Education (3)
Discussion/laboratory—4 hours. Prerequisite: acceptance into a teacher education program and courses 306A, 306B. Discussion and evaluation of current issues, theories and research in agricultural education. (S/U grading only)

Agricultural Management and Rangeland Resources

This major was discontinued as of Fall 2008; see Ecological Management and Restoration, on page 229.

Faculty. See Plant Sciences, on page 476. Courses. See Plant Sciences, on page 476.

Agricultural and Managerial Economics

See Managerial Economics, on page 386.

Agricultural and Resource Economics

See Managerial Economics, on page 386.

Restrictive Electives

At least four additional upper division courses (minimum 16 units, duplicate from Depth specialization courses not counted) selected with approval of an advisor to supplement or expand depth subject matter courses chosen from Animal Biology, Animal Genetics, Animal Science, Agricultural and Resource Economics, Avian Sciences, Environmental Horticulture, Environmental Science and Natural Resources, Environmental Science and Policy, Food Science and Technology, Horticulture, Agricultural Development, Nature and Culture, Neurobiology, Physiology, and Behavior, Nutrition, Plant Sciences, Plant Biology, or Viticulture and Enology.

Total Units For Major ............................................. 148-150

Master Adviser. Cary J. Trexler, Associate Professor

Major Advisers. Heidi Ballard, Assistant Professor of Environmental Education; Lynn Martinindle, Lecturer/Supervisor of School of Education; Cary J. Trexler, Associate Professor

Undergraduate Advising Center for the major (including peer advising) is located in the Animal Science Advising Center in 2122 Meyer Hall 530-754-7915; http://asac.ucdavis.edu/.

Courses in Agricultural Education (AED)

Questions pertaining to the following courses should be directed to the instructor or Lynn Martinindle 530-754-6655.

Lower Division

92. Internship (1-12)
Internship—3-36 hours. Prerequisite: lower division standing; consent of instructor. Supervised internship off and on campus in areas of agricultural education. (P/NP grading only)

98. Directed Group Study (1-5)
Prerequisite: consent of instructor. (P/NP grading only)

99. Special Study for Undergraduates (1-5)
Prerequisite: consent of instructor. (P/NP grading only)

Upper Division

100. Concepts in Agricultural and Environmental Education (3)
Lecture—2 hours; laboratory—3 hours. Prerequisite: upper division standing. Philosophy and nature of formal and non-formal agricultural and environmental education programs. Emphasis on understanding the role of the teacher and observing a variety of programs. GE credit: SocSci, Wrt.—II. [(III.) Martin-dale]

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Agricultural Management and Rangeland Resources

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Faculty. See Plant Sciences, on page 476. Courses. See Plant Sciences, on page 476.

Agricultural and Managerial Economics

See Managerial Economics, on page 386.

Agricultural and Resource Economics

[College of Agricultural and Environmental Sciences] Richard J. Sexton, Ph.D., Chair of the Department Department Office. 2116 Social Sciences and Humanities Building 530-752-9995 Undergraduate Student Information for the Managerial Economics major, 1176 Social Sciences and Humanities Building 530-754-9536; http://manecon.ucdavis.edu Graduate Student Information, 1171 Social Sciences and Humanities Building 530-752-6185; http://www.agecon.ucdavis.edu

Faculty

Julian M. Alston, Ph.D., Professor Stephen R. Boucher, Ph.D., Associate Professor Calin A. Carter, Ph.D., Distinguished Professor Michael R. Carter, Ph.D., Professor James A. Chatfield, Ph.D., Professor Y. Hussein Farzin, Ph.D., Professor Dalia A. Gharem, Ph.D., Assistant Professor Rachael E. Goodhue, Ph.D., Professor Richard D. Green, Ph.D., Professor Lovell S. Jarvis, Ph.D., Professor

Quarter Offered: I=Fall, II=Winter, III=Spring, IV=Summer; 2015-2016 offering in parentheses

Pre-Fall 2011 General Education (GE): ArtHum—Arts and Humanities; SciEng—Science and Engineering; SocSci—Social Sciences; DivDom—Domestic Diversity; Wrt—Writing Experience

Fall 2011 and on Revised General Education (GE): AH—Arts and Humanities; SE—Science and Engineering; SS—Social Sciences; ACGH—American Cultures; DD—Domestic Diversity; OL—Oral Skills; QL—Quantitative; SL—Scientific; VL—Visual; WC—World Cultures; WE—Writing Experience