AGRICULTURAL & ENVIRONMENTAL EDUCATION, BACHELOR OF SCIENCE

College of Agricultural & Environmental Sciences

The Major Program

The major serves those interested in teaching agricultural and environmental sciences in K-12 classrooms or in nonformal settings such as food production and distribution systems, nature preserves, environmental camps, or other venues. 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, agro ecology, 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 development and environmental programs has created a continuing demand for qualified instructors and supervisory personnel. This major also provides general preparation for positions in banking, sales and service, rural recreation, 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.

Lead Faculty Advisor
Deanne Meyer, Professor of Cooperative Extension/Lecturer

Major Advisors
Lynn Martindale, Lecturer/Supervisor School of Education

<table>
<thead>
<tr>
<th>Code</th>
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Preparatory Subject Matter

Choose a minimum of 8 units in each area of Animal Science, Applied Biological Systems Technology, Agricultural Business & Economics, Environmental Horticulture, Environmental Science & Natural Resources, and Plant & Soil Science:

Animal Science

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<td>ANS 001</td>
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<td>ABT 016</td>
<td>Metal Properties &amp; Fabrication</td>
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<td>Field Equipment Operation</td>
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<td>ARE 015</td>
<td>Population, Environment &amp; World Agriculture</td>
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<td>ECN 001A</td>
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<td>or ECN 001B</td>
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<td>or ECN 001BV</td>
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<td>ENH 001</td>
<td>Introduction to Environmental Horticulture/Urban Forestry</td>
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<td>ENH 006</td>
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<td>Environmental Science &amp; Natural Resources</td>
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<td>ESP 010</td>
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<td>HYD/SAS 010</td>
<td>Water, Power, Society</td>
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<td>Plant &amp; Soil Science</td>
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<td>PLS 001</td>
<td>Agriculture, Nature &amp; Society</td>
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<td>PLS 002</td>
<td>Botany &amp; Physiology of Cultivated Plants</td>
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<td>Introduction to Sustainable Agriculture</td>
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<td>VEN 002</td>
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<td>VEN 003</td>
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Science/Math Preparatory

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<td>BIS 002B</td>
<td>Introduction to Biology: Principles of Ecology &amp; Evolution</td>
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<td>CHE 002A</td>
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<td>CHE 002B</td>
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<td>GEL 001</td>
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<td>Mathematics, choose a series:</td>
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<td>MAT 016B</td>
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<td>MAT 017A</td>
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<td>MAT 017B</td>
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**OR**

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<td>MAT 021B</td>
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<td>PHY 007A</td>
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<td>Soil Science</td>
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<td>SSC 010</td>
<td>Soils in Our Environment</td>
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Science/Math Preparatory Subtotal: 43-45

**Depth Subject Matter**

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<td>Agricultural Education</td>
<td>AED 100 Concepts in Agricultural &amp; Environmental Education</td>
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<td>AED 160 Vocational Education</td>
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<td>Education</td>
<td>EDU 110 Educational Psychology: General</td>
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<td>EDU 115 Educating Children with Disabilities</td>
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<td>EDU 142 Introduction to Environmental Education</td>
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<td>Environmental Science &amp; Policy</td>
<td>ESP 110 Principles of Environmental Science</td>
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Depth Subject Matter Subtotal: 20

**Focused Depth Subject Matter**

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<th>Area</th>
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<tr>
<td>Agricultural Business &amp; Economics (p. 2)</td>
<td>ARE 100A Intermediate Microeconomics: Theory of Production &amp; Consumption</td>
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<td>Animal Science (p. 2)</td>
<td>ARE 135 Agribusiness Marketing Plan Development</td>
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<td>Applied Biological Systems Technology (p. 2)</td>
<td>ARE 138 International Commodity &amp; Resource Markets</td>
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<td>Environmental Horticulture (p. 2)</td>
<td>ARE 140 Farm Management</td>
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<td>Environmental Science &amp; Natural Resources (p. 2)</td>
<td>ARE 150 Agricultural Labor</td>
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<td>ARE/ESP 175 Natural Resource Economics</td>
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<td>ARE 176 Environmental Economics</td>
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<td>Animal Genetics &amp; Avian Sciences</td>
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<td>FST 109 Principles of Quality Assurance in Food Processing</td>
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<td>NPB 101 Systemic Physiology</td>
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<td>NPB 121 Physiology of Reproduction</td>
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<td>NUT 115 Animal Nutrition</td>
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<td>NUT 122 Ruminant Nutrition &amp; Digestive Physiology</td>
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<td>NUT 123 Comparative Animal Nutrition</td>
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**Applied Biological Systems Technology**

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<td>ABT/IAD 142</td>
<td>Equipment &amp; Technology for Small Farms</td>
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<td>ABT 161</td>
<td>Water Quality Management for Aquaculture</td>
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<td>ABT/SAF 165</td>
<td>Irrigation Practices for an Urban Environment</td>
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<td>ABT/HYD 182</td>
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**Environmental Horticulture**

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<td>ENH 105</td>
<td>Taxonomy &amp; Ecology of Environmental Plant Families</td>
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<td>ENH 120</td>
<td>Management of Container Media</td>
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<td>ENH 125</td>
<td>Greenhouse &amp; Nursery Crop Production</td>
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<td>ENH 133</td>
<td>Woody Plants in the Landscape: Growth, Ecology &amp; Management</td>
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<td>ENH 160</td>
<td>Restoration Ecology</td>
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<td>PLS 150</td>
<td>Sustainability &amp; Agroecosystem Management</td>
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**Environmental Science & Natural Resources**

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<tr>
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<td>ESP/ANT 101</td>
<td>Ecology, Nature, &amp; Society</td>
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<td>ESP 110</td>
<td>Principles of Environmental Science</td>
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<td>ESP 123</td>
<td>Introduction to Field &amp; Laboratory Methods in Ecology</td>
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### ESP 151: Limnology (4 units)
### ESP 161: Environmental Law (4 units)
### ESP 170: Conservation Biology Policy (4 units)
### EVE 101: Introduction to Ecology (4 units)
### EVE 115: Marine Ecology (4 units)
### PLS 101: Agriculture & the Environment (3 units)
### PLS 105: Concepts in Pest Management (3 units)
### WFC 110: Biology & Conservation of Wild Mammals (3 units)
### WFC 111: Biology & Conservation of Wild Birds (3 units)
### WFC 120: Biology & Conservation of Fishes (3 units)
### WFC 154: Conservation Biology (4 units)

### Plant & Soil Science

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<tr>
<td>PLB/PLS 102</td>
<td>California Floristics</td>
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<td>PLB 105</td>
<td>Developmental Plant Anatomy</td>
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<td>Environmental Soil Chemistry</td>
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<td>Soils in Land Use &amp; the Environment</td>
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