BS AGRICULTURAL SCIENCE

Program Learning Objectives

1. Achieve a high degree of agricultural literacy.
2. Lead and direct individuals and groups in thought and action.
3. Analyze and communicate effectively the major issues in agriculture.
4. Demonstrate cultural competencies in an increasingly global agricultural industry and society.
5. Demonstrate critical thinking and problem solving skills.
6. Seamlessly and professionally integrate technology into practices.

Degree Requirements and Curriculum

In addition to the program requirements listed on this page, student must also satisfy requirements outlined in more detail in the Minimum Requirements for Graduation (http://catalog.calpoly.edu/generalrequirementsbachelorsdegree/#generaleducationtext) section of this catalog, including:

- 60 units of upper-division courses
- Graduation Writing Requirement (GWR)
- 2.0 GPA
- U.S. Cultural Pluralism (USCP)

Note: No Major or Support courses may be selected as credit/no credit.

MAJOR COURSES

AGED 102 Introduction to Agricultural Education 2
or AGC 102 Orientation to Agricultural Communication 3
AGED 404 Agricultural Leadership 2
AGED 410 Computer Applications in Agricultural Education 3
AGED 460 Research Methodology in Agricultural Education and Communication 2
AGED 461 Senior Project I 1
or AGC 461 Senior Project I 3
AGED 462 Senior Project II 1
or AGC 462 Senior Project II 1
AGC 452 Current Trends and Issues in Agricultural Communication 4
or AG 360 Holistic Management 4
or AG 450 Applied Holistic Management 3
or AG 452 Issues Affecting California Agriculture 2

Foundation in Agriculture Courses

Agribusiness

AGB 202 Introduction to Sales 4
AGB 212 Agricultural Economics 4
AGB 301 Food and Fiber Marketing 4
or WVIT 343 Branded Wine Marketing 4

Animal Science

ASCI 112 Principles of Animal Science (B2) 1 4
Select from the following 8
ASCI 221 Introduction to Beef Production
ASCI 222 Systems of Swine Production

ASCI 223 Systems of Small Ruminant Management
ASCI 224 Equine Science
ASCI 225 Introduction to Poultry Management
DSCI 230 General Dairy Husbando

Ag Systems Technology

BRAE 121 Agricultural Mechanics 2
BRAE 141 Agricultural Machinery Safety 3
BRAE 321 Agricultural Safety 3
BRAE 340 Irrigation Water Management (Upper-Division B) 4

Plant Science

AEPS 120 Principles of Horticulture and Crop Science 4
AEPS 190 California Vegetable Production 4
or AEPS 230 Environmental Horticulture 4
or AEPS 240 Commercial Seed Production 4
or AEPS 245 Horticultural Production Techniques 4

Natural Resources

NR/ES 308 Fire and Society (Upper-Division D) 1 4
or NR 323 Human Dimensions in Natural Resources Management 4

SS 120 Introductory Soil Science (GE Electives) 1
or SS 130 Soils in Environmental and Agricultural Systems

Safe Practices in Handling Food Products

DSCI 231 General Dairy Manufacturing 4
or FSN 230 Elements of Food Processing 4
FSN 275 Elements of Food Safety 4

Approved Electives in Emphasis Area

Select courses from the Guide to Approved Agricultural Electives - Emphasis Areas. At least 29 units in the combination of Approved Electives and Free Electives must be at the 300-400 level.

SUPPORT COURSES

Foundation Science and Mathematics

BOT 121 General Botany 4
or MCRO 221 Microbiology 4
or PHYS 121 College Physics I 4

CHEM 110 World of Chemistry (B1 & B3) 1 4
or CHEM 127 General Chemistry for Agriculture and Life Science I 4

MATH 118 Precalculus Algebra (B4) 1,2 4
or MATH 119 Precalculus Trigonometry 4
or MATH 141 Calculus I 4
or MATH 161 Calculus for the Life Sciences I 4
or MATH 221 Calculus for Business and Economics 4

GENERAL EDUCATION (GE)

(See GE program requirements below.) 48

FREE ELECTIVES

Free Electives 3 22

Total units 180

1 Required in Major or Support; also satisfies General Education (GE) requirement.
2 MATH 116 and MATH 117 substitute.

3 At least 29 units of Approved Electives and Free Electives must be at the 300-400 level. Students are encouraged to consult with the academic advisor in developing a plan for fulfilling degree requirements.

Guide to Approved Agricultural Electives - Emphasis Areas

Approved Agricultural Electives have been categorized by Emphasis Area to guide students. Advisor approval of Agricultural Electives is not required, but consultation with an advisor is recommended to ensure that the required number of upper-division units is met. Also, bear in mind that selection may impact pursuit of post-baccalaureate studies and/or goals. It is imperative for students seeking a teaching credential to select one Emphasis Area and adhere to the approved list of courses.

<table>
<thead>
<tr>
<th>Emphasis Areas</th>
<th>Select Emphasis Area of choice:</th>
<th>24</th>
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<tbody>
<tr>
<td>Agricultural Engineering Technology</td>
<td>BRAE 142 Agricultural Power and Machinery Management</td>
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<td>BRAE 150 Design Graphics and CAD for Agricultural Engineering</td>
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<td>BRAE 152 3-D Solids Modeling</td>
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<td>BRAE 240 Agricultural Engineering Laboratory</td>
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<td>BRAE 244 Precision Farming</td>
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<td>BRAE 333 Aquacultural Engineering</td>
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<td>BRAE 335 Internal Combustion Engines</td>
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<td>BRAE 337 Landscape Irrigation</td>
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<td>BRAE 348 Energy for a Sustainable Society</td>
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<td>BRAE 438 Drip/Micro Irrigation</td>
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<td>BRAE 481 Advanced Agricultural Mechanics</td>
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<td>BRAE 532 Water Wells and Pumps</td>
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<td>Agribusiness</td>
<td>AGB 214 Agribusiness Financial Accounting</td>
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<td>AGB 260 Agribusiness Data Literacy</td>
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<td>AGB 304 Innovation and Entrepreneurship in Agriculture</td>
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<td>AGB 309 Advanced Sales Techniques</td>
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<td>AGB 310 Agribusiness Credit and Finance</td>
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<td>AGB 312 Agricultural Policy</td>
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<td>AGB 313 Agriculture Economic Analysis</td>
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<td>AGB 314 Fair and Fair Facility Management</td>
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<td>AGB 322 Principles of Agribusiness Management</td>
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<td>AGB 323 Decision Making with Agribusiness Accounting Information</td>
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<td>AGB 369 Agricultural Personnel Management</td>
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<td>AGB 370 World Food Economy</td>
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<td>AGB 404 Food Retail Management</td>
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<td>AGB 440 Field Studies in Agribusiness</td>
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<td>AGB 445 Produce Marketing</td>
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<td>AGB 455 Advanced Fair Management Seminar</td>
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Crop and Soil Science

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<th>AEPS 150 Forage Crops</th>
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<td>AEPS 190 California Vegetable Production</td>
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<td>AEPS 321 Weed Biology and Management</td>
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<td>AEPS 355 Citrus and Avocado Fruit Production</td>
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<td>AEPS 421 Postharvest Technology of Horticultural Crops</td>
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<td>AEPS 423 Advanced Vegetable Science</td>
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<td>SS 221 Soil Health and Plant Nutrition</td>
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<td>SS 322 Soil Plant Relationships</td>
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<td>SS 444 Soil Judging</td>
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Forestry and Natural Resources

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<tr>
<th>BIO 227 Wildlife Conservation Biology</th>
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<td>NR 142 Environmental Management</td>
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<td>NR 208 Dendrology</td>
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<td>NR 306 Natural Resource Ecology and Habitat Management</td>
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<td>NR/ES 308 Fire and Society</td>
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<td>NR 312 Technology of Wildland Fire Management</td>
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NR/LA 317  The World of Spatial Data and Geographic Information Technology
NR 321  Water Systems Technology, Issues and Impacts
NR 323  Human Dimensions in Natural Resources Management
NR/ES 360  Ethnicity and the Land
NR 402  Forest Health
NR/CRP 404  Environmental Law
NR/CRP 408  Water Resource Law and Policy

Ornamental Horticulture
BOT 121  General Botany
AEPS 123  Landscape Installation and Maintenance
AEPS 124  Plant Propagation
AEPS 301  Principles of Landscape Design
AEPS 341  Cut Flower Production
AEPS 342  Potted Plant Production
AEPS 343  Turfgrass Management
AEPS 381  Native Plants for California Landscapes
AEPS 424  Nursery Plants Production
AEPS 432  Specialized Operations for Golf Courses and Athletic Fields
AEPS 437  Park and Public Space Management
BRAE 337  Landscape Irrigation

Lower-division courses in Area C must come from three different subject prefixes.

C1  Arts: Arts, Cinema, Dance, Music, Theater  4
C2  Humanities: Literature, Philosophy, Languages other than English  4

Lower-Division C Elective - Select a course from either C1 or C2  4

Upper-Division C  4

Area D  Social Sciences
D1  American Institutions (Title 5, Section 40404 Requirement)  4
D2  Lower-Division D - Select courses from two different subject prefixes.  8

Upper-Division D (4 units in Major)  0

Area E  Lifelong Learning and Self-Development

Lower-Division E  4

GE Electives in Areas B, C, and D
Select courses from two different areas; may be lower-division or upper-division courses.

GE Electives (4 units in Major plus 4 units in GE)  4

Total units  48

1 Required in Major or Support; also satisfies General Education (GE) requirement.