

2011-13 Cal Poly Catalog

**BioResource and Agricultural Engineering Dept**

**BS BIORESOURCE AND AGRICULTURAL ENGINEERING**

- ☐ 60 units upper division      ☐ GWR
- ☐ 2.0 GPA                              ☐ USCP

\* = Required in Support; also satisfies GE  
 Note: No major or support courses may be taken as credit/no credit.

**MAJOR COURSES**

BRAE 128 Careers in Bioresource & Ag Engr. ....	2
BRAE 129 Laboratory Skills and Safety .....	1
BRAE 133 Engineering Design Graphics .....	1
BRAE 151 CAD for Agricultural Engineering.....	1
BRAE 152 3-D Solids Modeling.....	1
BRAE 216 Fundamentals of Electricity .....	4
BRAE 232 Agricultural Structures Planning .....	4
BRAE 234 Intro Mechanical Systems-Agric.....	4
BRAE 236 Principles of Irrigation .....	4
BRAE 239 Engineering Surveying.....	4
BRAE 312 Hydraulics.....	4
BRAE 320 Principles of Bioresource Engrg .....	4
BRAE 328 Measurements/Computer Interfacing .....	4
BRAE 331 Irrigation Theory.....	3
BRAE 403 Agricultural Systems Engineering.....	4
BRAE 414 Irrigation Engineering.....	4
BRAE 421, 422 Equipment Engineering.....	3,4
BRAE 433 Agricultural Structures Design.....	4
BRAE 460 Senior Project Organization.....	1
BRAE 461, 462 Senior Project I, II .....	2,2
<sup>1</sup> Approved electives .....	10
<i>Select 10 units from the following, with a minimum of 6 units upper division:</i>	
BRAE 302, 335, 337, 345, 348, 400 <sup>†</sup> , 405, 427, 434, 435, 447, 448, 532, 533; (5/15/15)	
any upper division CE course;	
CHEM 312;	
any upper division ENVE course;	
FSN 204;	
IME 141, 142, 143, 144, 319;	
MATE 210, 215;	
MCRO 221, 421;	
any upper division ME course	
(4/19/12)	<u>75</u>

**SUPPORT COURSES**

BIO 213 and ENGR/BRAE 213 or MCRO 221 Microbiology (B2)* .....	4
<sup>2</sup> CE 201 Mechanics of Materials (6) or CE 204 and CE 207 Mechanics of Materials I, II (3)(2/3)(2/4/16) ....	5-6
CHEM 124 General Chemistry for the Engineering Disciplines (B3/B4)* .....	4
CHEM 125 General Chemistry for the Engineering Disciplines (Add'l Area B)* .....	4
CSC 231/CSC 232/CSC 234 .....	2/3

ECON 201 Survey of Economics (D2)* <i>or</i> ECON 222 Macroeconomics (D2)* (10/3/13) .....	4
EE 321 Electronics and EE 361 Electronics Lab	3,1
ENGL 149 Technical Writing for Engineers (A3)*	4
MATH 141, 142 Calculus I, II (B1)*.....	4,4
MATH 143 Calculus III (Add'l Area B)*.....	4
MATH 241 Calculus IV.....	4
MATH 244 Linear Analysis I .....	4
ME 211 Engineering Statics.....	3
ME 212 Engineering Dynamics .....	3
ME 302 Thermodynamics.....	3
PHYS 141 General Physics IA.....	4
PHYS 132, 133 General Physics .....	4,4
SS 121 Introductory Soil Science.....	4
STAT 312 Statistical Methods-Engr. (B6)*.....	4
<b>80</b>	<b><del>81-82</del></b>

**GENERAL EDUCATION (GE)**

72 units required, 36 of which are specified in Support.  
 →See page 39 for complete GE course listing.  
 →Minimum of 8 units required at the 300 level.

**Area A Communication (8 units)**

A1 Expository Writing .....	4
A2 Oral Communication .....	4
A3 Reasoning, Argumentation, and Writing * 4 in Support.....	0

**Area B Science and Mathematics (no additional units are required)**

B1 Mathematics/Statistics * 8 units in Support.....	0
B2 Life Science * 4 units in Support.....	0
B3 Physical Science * 4 units in Support .....	0
B4 One lab taken with either a B2 or B3 course	
B5 (requirement for Liberal Arts students only)	
B5 (not required for Engineering students)	
B6 Upper-division Area B * 4 units in Support .....	0
Additional Area B units* 8 units in Support .....	0

**Area C Arts and Humanities (16 units)**

C1 Literature .....	4
C2 Philosophy .....	4
C3 Fine/Performing Arts .....	4
C4 Upper-division elective .....	4

**Area D/E Society and the Individual (12 units)**

D1 The American Experience (40404) .....	4
D2 Political Economy * 4 units in Support .....	0
D3 Comparative Social Institutions .....	4
D4 Self Development (CSU Area E) .....	4

**36**

**FREE ELECTIVES..... 0**  
**191 192-193**

<sup>†</sup> 4 unit maximum. (5/15/15)

<sup>1</sup> Consultation with advisor is recommended prior to selecting approved electives; bear in mind your selections may impact pursuit of post-baccalaureate studies and/or goals.

<sup>1</sup> If CE 207 is taken for 2 units then one additional unit of Free Electives is required. (2/4/16)