### BS BIORESOURCE AND AGRICULTURAL ENGINEERING

<table>
<thead>
<tr>
<th>60 units upper division</th>
<th>GWR</th>
<th>2.0 GPA</th>
<th>USCP</th>
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* = Required in Support; also satisfies GE

**MAJOR COURSES**

- BRAE 128 Careers in Bioresource & Ag Engr. ...... 2
- BRAE 129 Laboratory Skills and Safety ............ 1
- BRAE 133 Engineering Design Graphics .......... 2
- BRAE 151 CAD for Agricultural Engineering ...... 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 Engineering ........................................ 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

Approved electives .................................................. 10

Select 10 units from the following, with a minimum of 6 units upper division:

BRAE 152, 302, 335, 337, 345, 348, 405, 427, 430, 435, 447, 448, 532, 533; (4/19/12)

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

**SUPPORT COURSES**

- BIO 213 and ENGR/BRAE 213 or MCRO 221

Microbiology (B2)* ............................................. 4

CE 201 Mechanics of Materials (6) or CE 204 and CE 207 Mechanics of Materials I, II (3)(3) ...... 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)* ................. 4

EE 321 Electronics & EE 361 Electronics Lab or PHYS 206 Instrument/Experimental Physics and PHYS 256 Electrical Measurements 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

81-82

**GENERAL EDUCATION (GE)**

72 units required, 36 of which are specified in Support.

See page 50 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)

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

192

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.