Courses in Biochemistry, Molecular, Cellular and Developmental Biology (BCB)

Graduate

290. Seminar (1) Seminar—1 hour. Prerequisite: consent of instructor and/or graduate standing. Presentation and discussion of faculty and graduate student research. (S/U grading only)—I, II, III (I, II, III)

298. Group Study (1-5) Prerequisite: consent of instructor. (S/U grading only)—I, II, III (I, II, III)

299. Research (1-12) Prerequisite: consent of instructor. (S/U grading only)—I, II, III (I, II, III)

Biological and Agricultural Engineering

(Biochemistry, Molecular, Cellular and Developmental Biology (BCB))

Major Programs and Graduate Study. For the Bachelor of Science program, see the major in Engineering: Biological and Agricultural, on page 245, for graduate study, see also Graduate Studies, on page 111.

Minor Programs. The Department of Biological and Agricultural Engineering offers two minors through the College of Agricultural and Environmental Sciences: Geographic Information Systems and Precision Agriculture.

The minor in Geographic Information Systems is open to all majors, including those in engineering. This minor is for students interested in information processing, spatial data related to remote sensing for geographical and environmental planning and related areas.

The minor in Precision Agriculture is open to all majors, including those in engineering, and acquaints students with recent developments and their applications to agriculture, in geographic information systems, global positioning systems, and variable rate technologies.

Courses. Courses are listed under Applied Biological Systems Technology, and Engineering: Biological and Agricultural (Biological Systems Engineering).

Biological Sciences

(Biological Sciences)

Preparatory Subject Matter

Preparatory Subject Matter

Biological Sciences 2A-2B-2C..................14
Chemistry 2A-2B..............................10
Chemistry 8A-B or 118A-118B-118C........6-12
Physics 1A-1B or 7A-7B-7C...............6-12
Statistics 13, 32, 100, or 102........3-4
Recommended: Chemistry 2C and
Mathematics 17A-17B or 21A-21B.

Depth Subject Matter

Biological Sciences 101......................4
Biological Sciences 102 or 105........3
Evolution: One from Evolution and Ecology 100, 140; Geology 107; Plant Biology 116..........................3-5
Ecology: One from Environmental Science and Policy 100; Evolution and Ecology 101, 117; Plant Biology 117, 147..........................4
Philosophy of Biological Science: One from Animal Science 170, 111, 120, 140; Philosophy 108, Science and Technology Studies 130A, 130B, 131; Veterinary Medicine 170..........................4
Physiology: One from Environmental Biology 102; Entomology 101, 102; Neurobiology, Physiology, and Behavior 101; Plant Biology 111, 112........3-5
One course each in animal, microbial and plant diversity..................3-5
Animal Diversity: Entomology 100, 107, 109; Evolution and Ecology 105, 112, 112, 134, Nematology 110; Wildlife, Fish, and Conservation Biology 110, 111, 120
Microbial Diversity: Microbiology 101, 162; Pathology, Microbiology, and Immunology 127, 128; Plant Biology 148, Plant Pathology 148; Soil Science 113

Additional upper division course work in biological sciences to achieve a total of 38 or more units; see “Approved Biology Electives” list below.

Upper division course work must include a total of two units or a total of six hours/week of fieldwork or laboratory work.

Note: Although a course may be listed in more than one category, that course may satisfy only one requirement.

Total units for the major..............................77-94

B.S. Major Requirements

Preparatory Subject Matter

Preparatory Subject Matter

Biological Sciences 2A-2B-2C..................14
Chemistry 2A-2B..............................10
Chemistry 8A-B or 118A-118B-118C........6-12
Mathematics 17A-17B-17C or 21A-21B
1C recommended)..........................8-12
Physics 7A-7B-7C............................12

Depth Subject Matter

Biological Sciences 101, 105 or
102+103*..........................10-12
*Students in the Molecular and Cellular Biology Area of Emphasis must complete
Biological Sciences 102+103. All other
students may choose between completing Biological Sciences 105 or 102+103.
Statistics 100..........................4
Statistics 100..........................4
Field Requirement, Area of Emphasis
(hisatory, and additional units (if
ecessary) to achieve a minimum of
5-9 units or

Note: Although a course may be listed in more than one category, that course may satisfy only one requirement.