

Biology

Upper Division Courses for the B.A and B.S. Degrees "Related" Courses for the B.S. Degree

Upper Division Courses Requirement

The following courses are applicable to the upper division requirement for the major. The Undergraduate Advisor of the Department of Biology must approve usage of UCR courses not on the list.

A grade point average of at least 2.0 in upper division courses taken in the field of the major is a graduation requirement.

B.S. Degree: Biology courses numbered 100-185(E-Z) and 191
One course from either Biochemistry 100 or Biochemistry 110A
Biochemistry 110B
Cell Biology & Neuroscience 101
Cell Biology & Neuroscience 106
Cell Biology & Neuroscience 108
Cell Biology & Neuroscience 150
Cell Biology & Neuroscience 169

B.A. Degree: Biology courses numbered 100-185(E-Z), 191, and a maximum of 4 units of 199
One course from either Biochemistry 100 or Biochemistry 110A
Biochemistry 110B
Cell Biology & Neuroscience 101
Cell Biology & Neuroscience 106
Cell Biology & Neuroscience 108
Cell Biology & Neuroscience 150
Cell Biology & Neuroscience 169

Additional Courses and "Related" Areas Requirement

1. *Purpose:* Students who elect to obtain a B.S. degree complete an additional 16 units in upper division biology courses and/or substantive courses in a field or fields related to the major. The purpose of this related area is to add strength and breadth to the major and to meet specific requirements for postgraduate study or a chosen career.

2. *Course Selection:* These courses should be selected with the assistance of a faculty advisor. The substantive courses in fields related to the major may be lower or upper division, but they usually have science or mathematics prerequisites. For example, Chemistry 5 and Mathematics 9C are acceptable as courses related to the major. Excluded are lower division introductory courses and survey or general interest courses. Excess upper division units (units beyond the required 36) are automatically counted in the related area.

3. *Grade:* Courses applied to the related category must be taken for a letter grade if letter grades are offered for the course being considered. However, some courses such as Biology 194, 197 and 199 are graded only on an S/NC basis. In these cases a Satisfactory is acceptable, and a maximum of 9 units in these courses will be counted as related.

4. *190 to 199 Series Courses:* No more than 9 total units from Biology 194, 197 and 199 may be applied to the related area. **With prior approval of a Biology faculty advisor**, courses equivalent to Biology 199 (Junior/Senior Research) from other departments are acceptable in the related area. However, students must meet the requirements for the cognate course as specified by the Department of Biology (i.e., the written proposal and submission of a final paper).

5. *Transfer Courses:* Scientifically-oriented, upper-division courses from four-year colleges are acceptable as related if the advisor considers them substantive and related to the major. Other than calculus, computer science, and quantitative analysis, courses completed at a community college are not acceptable. A calculus course with a minimum grade of "C" equivalent to MATH 9C, 10A, 10B at UCR will each satisfy a maximum of 4 units of the related areas requirement.

6. *Courses not on the list below:* The Department of Biology selected the courses below as most appropriate for the related area of the Biology major. Exceptions (advisor's approval required) are rare and are restricted to the science and mathematics courses in CNAS and the computer science courses in the College of Engineering.

Biochemistry 110A (if not applied to upper division area), 110C, 102, 120, 183, 184

Botany & Plant Sciences 135, 146, 148

Cell Biology & Neuroscience 116, 120, 120L, 121, 124, 125, 126, 127 (all are cross listed with Psychology except 116)

Chemistry 5, 109, 110A, 110B, 111, 113, 125, 150A, 150B, 166

Computer Science 10, 12, 14, 61. **Note:** Students may wish to complete CS 5 or CS 8 as elective to improve computer skills before enrolling into CS 10.

Entomology 109, 114, 126, 126L

Environmental Sciences 100, 120 (same as NEM 120, SWSC 120)

Environmental Toxicology 101, 154

Geosciences 151, 153, 167, 168, 169

Mathematics 9C*, 10A*-10B*, 46, 149A-149B-149C

Nematology 120 (same as ENSC 120, SWSC 120)

Physics: All upper division courses numbered 111-177.

Psychology 120, 120L, 121, 124, 125, 126, 127 (all are cross listed with Cell Biology & Neuroscience)
Psychology 110 is not acceptable.

Soil and Water Sciences 120 (same as ENSC 120, NEM 120)

Statistics 100A, 100B, 110, 147, 155, 157. **Statistics 40 and 48 are not acceptable.**

* Calculus: An equivalent transfer course with a minimum grade of "C" will satisfy 4 units of the related areas requirement.