

# Requirements for the Biology Major

## College and University Requirements

English \_\_\_\_\_ Ethics \_\_\_\_\_ Technology \_\_\_\_\_  
 Western Culture \_\_\_\_\_ Multi-Cultural Perspectives \_\_\_\_\_ Fine Arts \_\_\_\_\_  
 Social Science \_\_\_\_\_ Foreign Language \_\_\_\_\_ United States \_\_\_\_\_  
 Religious Studies \_\_\_\_\_ World Cultures/Societies \_\_\_\_\_

## Department Requirements

BIOL: 21, 22, 23, 24 & 25                      CHEM: 11,12,13,31 & 32 (CHEM 33 suggested)  
 PHYS: 11, 12, 13 (or 31, 32, 33)              MATH: 11 & 12 (Math 8 & 13 suggested)

**Upper Division Courses:** Biology majors must choose one of the four emphases listed below. Each student is required to take **FIVE** courses within the emphasis. **TWO** additional elective courses may be taken in any area of emphasis. Of the seven total upper division courses, at least **FIVE** must have a laboratory component. Only one area of emphasis will appear on transcripts. An overall GPA of 2.0 is required in all biology courses.

Biomedical Sciences	Cellular & Molecular Biology	Ecology & Evolution	Organismal & Integrative Biology
104 110 111 112	110 112 113	113 131 133	<b>Cell and Molecular</b> 110 112 113 115 145 174 175
113 114 115 116	115 122 124	150 151 156	<b>Ecology and Evolution</b> 131 133 150 156 157 173
118 121 122 124	125 145 "171&189"	157 158 160	<b>Organismal</b> 120 122 124 125 128 158
127 145 160	173 174 175	165 173 180	165 180 190B
"171&189" 173 174	176 177 178	Envs 144	Take one course from each category and four additional upper division Biology electives.
175 190B Chem 141	Chem 141 *191		

Biology 171 counts as a 3<sup>rd</sup> religion

Biology 187: Biology of Aging does NOT count toward a major or minor in Biology.

\*191 Project Lab For Spring 2006

*Students are personally responsible for knowing all the academic regulations affecting their program of study and for completing all degree requirements as set forth by the University, their College or School, and academic department (s). Failure to understand these regulations and requirements does not relieve a student of responsibility. (Undergraduate Bulletin)*

<b>LOWER DIVISION*</b>	BIO 124. Human Physiology L+ L
BIO 1. Genetics, Evolution, and Humankind	BIO 125. Plant Physiology L+L
BIO 2. Human Disease/Human Health	BIO 127. Drugs & Toxins
BIO 3. Fitness Physiology L+ L	BIO 128. Plant Development L+ L
BIO 4. Light & Life L+ L	BIO 131. Agroecology L+ L
BIO 5. Endangered Ecosystems L+ L	BIO 132. Field Botany L+ L
BIO 6. The Oceans L+ L	BIO 133. Ecology of California Plant Communities L+ L
BIO 7. Heart and Body L+ L	BIO 145. Virology
BIO 8. Ecosystems of the Bay Area L+ L	BIO 150. Conservation Biology L+ L
BIO 9. Cancer L+ L	BIO 151. Restoration Ecology L+L
BIO 15. The Human Embryo L+ L	BIO 156. General Ecology L+ L
BIO 16. Biology of Music L+ L	BIO 157. Environmental Biology in the Tropics
BIO 17. Biology of Language L+ L	BIO 158. Biology of Insects L+ L
BIO 19. Biology for Teachers L+ L	BIO 160 Biostatistics L+ L
<b>BIO 21. Physiology</b>	BIO 165. Animal Behavior L+ L
<b>BIO 22. An Introduction to Evolution &amp; Ecology</b>	BIO 171. Ethical Issues in Biotechnology and Genetics
<b>BIO 23. Investigations in Evolution &amp; Ecology L+ L</b>	BIO 173. Evolution
<b>BIO 24. Cell Biology and Genetics</b>	BIO 174. Cell Biology
<b>BIO 25. Investigations in Molecular Biology L+ L</b>	BIO 175. Molecular Biology L+ L
<b>UPPER DIVISION</b>	BIO 176. Biotechnology Lab I: Recombinant DNA L+ L
BIO 104. Human Anatomy L+ L	BIO 177. Biotechnology Lab II: Gene Expression L+ L
BIO 110. Genetics L+ L	BIO 178. Bioinformatics
BIO 111. Parasitic Microbiology	BIO 179. Cancer Biology L+ L
BIO 112. Pathogenic Microbiology L+ L	BIO 180 Marine Physiological Ecology L+ L
BIO 113. Microbiology L+ L	BIO 189. Topics in Cell and Molecular Biology
BIO 114. Immunology L+ L	BIO 190B Endocrinology
BIO 115. Human Reproduction & Development	BIO 191. Project Lab L+ L
BIO 116. Human Genetics	BIO 192. Topics in Conservation Biology
BIO 118. Behavioral Endocrinology	BIO 198. Internship and Undergraduate Research
BIO 120. Comparative Animal Physiology L+ L	BIO 199. Directed Reading and Research
BIO 121. Toxicology	
BIO 122. Neurobiology L+ L	

\* Courses 1-21 satisfy the Natural Science Requirement of the University Core Curriculum.