BIOLOGY BS Requirements (2022-23)

Course offerings are subject to change. Check the 2022-23 BIOL Curriculum Plan

Lower Division Requirements

Calculus:
- MATH 11A (FWS) or MATH 11B (FWS) & MATH 11B (FWS) or MATH 11B (FWS)
- MATH 19A (FWS) & MATH 19B (FWS)

General Chem:
- CHEM 1A: General Chemistry (FWS) & CHEM 1B: General Chemistry (FWS) & CHEM 1C: General Chemistry (FWS) & CHEM 1N: General Chem Lab (FWS)
- CHEM 8A: Organic Chemistry (FWS) & CHEM 8B: Organic Chemistry (WS)
- BIOL 102J: Toxic RNA Lab I (F)
- CHEM 8L: Organic Chemistry Lab (FW)
- BIOL 107J: Synthetic Gene Regulation Lab I (F)

Statistics:
- STAT 5: Statistics (FWS) OR STAT 7: Stats for the Biological, Environmental, and Health Sciences (FWS) & STAT 7L: Stats Lab (FWS)
- BIOL 101L: Molecular Biology Lab (FWS) OR BIOL 102L: Toxic RNA Lab II (W)
- BIOL 107L: Synthetic Gene Regulation Lab II (W)

Physics:
- PHYS 6A: Introductory Physics I (FWS) OR PHYS 6B: Introductory Physics II (WS)
- PHYS 6C: Introductory Physics III (FS)
- PHYS 6L: Introductory Physics 1 Lab (FWS)

After passing the above qualification courses shaded green with a C or better, you can submit your request to declare your major via your my.ucsc.edu portal.

All qualification courses must be completed by the end of the 5th quarter and students must petition to declare by the 6th quarter deadline.

Declared

Upper Division Requirements

CORE COURSES:
- BIOL 105: Genetics (FWS)
- BIOL 100: Biochemistry (WS)
- BIOL 101: Molecular Biology (FS)

* Note that you must complete the entire series of one or the other; no mixing and matching

- BIOC 100A: Biochemistry & Molecular Bio (F) & BIOC 100B: Biochemistry & MB (W) & BIOC 100C: Biochemistry & MB (S)
- BIOL 101L: Molecular Biology Lab (FWS)
- BIOL 102L: Toxic RNA Lab II (W)
- BIOL 107L: Synthetic Gene Regulation Lab I (F)

UPPER DIVISION ELECTIVES: CHOOSE A MINIMUM OF 3 (Classes shaded below count toward BOTH the Upper Div Elective and the DC)

- BIOC 100C: Biochemistry
- BICOE 108: Marine Ecology
- BICOE 112/L: Ornithology/Lab
- BICOE 114/L: Herpetology/Lab
- BICOE 117/L: Systematic Botany/Lab (lab optional)*
- BICOE 120/L: Marine Botany/Lab
- BICOE 122/L: Invertebrate Zoology/Lab
- BICOE 124/L: Mammalogy/Lab
- BICOE 125/L: Vertebrate Anatomy/Lab
- BICOE 127/L: Ichthyology/Lab
- BICOE 129/L: Marine Mammals/Lab
- BICOE 131/L: Animal Physiology (lab optional)
- BICOE 133/L: Comparative Vertebrate Anatomy/Lab
- BICOE 135/L: Plant Physiology/Lab
- BICOE 137/L: Molecular Ecology/Lab (lab optional)*
- BICOE 139: Mathematical Modeling and Data Science In Ecology and Evolution
- BICOE 140: Behavioral Ecology
- BICOE 145: Plant Ecology
- BICOE 147: Community Ecology
- BICOE 148: Disease Ecology
- BICOE 155: Freshwater Ecology
- BICOE 161: Kelp Forest Ecology
- BICOE 162/L: Ecology of Reef, Mangroves & Seagrass/Lab
- BICOE 165: Marine Conservation Biology
- BICOE 172 Population Genetics
- BICOE 111A: Immunology
- BICOE 114: Cancer Cell Biology
- BICOE 115: Eukaryotic Molecular Biology
- BICOE 118: Principles of Human Genetics
- BICOE 120: Developmental Biology
- BICOE 125: Intro to Neuroscience
- BICOE 130: Human Physiology
- BICOE 140: The RNA World
- BTEX 100: Introduction to Microbiology
- BTEX 135/L: Anatomy of the Human Body/Lab
- BTEX 140 Molecular Biology and Microbial Genetics

DC Requirement: 2 OF THE FOLLOWING BIOE COURSES: OR 1 OF THE FOLLOWING BIOL LABS:

- BIOE 108: Marine Ecology
- BIOE 116/L: Herpetology/Lab
- HETX 117: Systematic Biology
- BIOE 120/L: Marine Botany/Lab
- BIOE 122/L: Invertebrate Zoology/Lab
- BTEX 121/L: Vertebrate Anatomy/Lab
- BIOE 128/L: Large Marine Vertebrates Field Course
- BIOE 129/L: Marine Mammals
- BIOE 130: Marine Conservation Biology
- BIOE 131/L: Animal Physiology (lab optional)
- BIOE 133/L: Comparative Vertebrate Anatomy/Lab
- BIOE 135/L: Plant Physiology/Lab
- BIOE 137/L: Molecular Ecology/Lab (lab optional)*
- BTEX 100: Introduction to Microbiology
- BTEX 135/L: Anatomy of the Human Body/Lab
- BTEX 140 Molecular Biology and Microbial Genetics
- BIOE 111A: Immunology
- BTEX 117: Systematic Biology
- BIOE 120: Developmental Biology
- BTEX 125: Intro to Neuroscience
- BIOE 130: Human Physiology
- BTEX 140: The RNA World
- BTEX 100: Introduction to Microbiology
- BTEX 135/L: Anatomy of the Human Body/Lab
- BTEX 140 Molecular Biology and Microbial Genetics
- BIOE 108: Marine Ecology
- BIOE 116/L: Herpetology/Lab
- HETX 117: Systematic Biology
- BIOE 120/L: Marine Botany/Lab
- BIOE 122/L: Invertebrate Zoology/Lab
- BTEX 121/L: Vertebrate Anatomy/Lab
- BIOE 128/L: Large Marine Vertebrates Field Course
- BIOE 129/L: Marine Mammals
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOE 137</td>
<td>Molecular Ecology</td>
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<tr>
<td>BIOE 141L</td>
<td>Behavioral Ecology Field Course</td>
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<td>BIOE 145</td>
<td>Plant Ecology</td>
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<tr>
<td>BIOE 145L</td>
<td>Field Methods in Plant Ecology</td>
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<tr>
<td>BIOE 150L</td>
<td>Ecological Field Methods</td>
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<tr>
<td>BIOE 155B/ENVS 108B</td>
<td>Ecology and Conservation in Practice Supercourse: Ecological Field Methods Lab</td>
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<td>BIOE 153C</td>
<td>Disciplinary Communication for Biologists</td>
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<tr>
<td>BIOE 158L</td>
<td>Marine Ecology Lab</td>
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<tr>
<td>BIOE 158A</td>
<td>Marine Ecology Field Quarter: Marine Ecology with Lab</td>
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<tr>
<td>BIOE 161L</td>
<td>Kelp Forest Ecology Lab</td>
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<td>BIOE 171</td>
<td>Disciplinary Communication for Biologists</td>
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<tr>
<td>BIOE 177</td>
<td>Population Genetics</td>
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For 2-credit BIOE lab courses listed above that are taken concurrently with 5-credit lectures, both courses must be passed to receive one half of the DC requirement. BIOE 117 and BIOE 137 require concurrent enrollment in 2-credit labs, BIOE 117L and BIOE 137L, but these are not part of the DC requirement.

**COMPREHENSIVE REQUIREMENT IS SATISFIED BY COMPLETING TWO UPPER-DIVISION LAB OR FIELD COURSES (BIOL or BIOE course identified with an "L").**

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<thead>
<tr>
<th>Code</th>
<th>Course Choices</th>
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<tbody>
<tr>
<td>BIOE 117</td>
<td>OR ENVS 108B OR BIOL 101L OR BIOL 102L OR BIOL 107L</td>
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<tr>
<td></td>
<td>One upper-division lab/field course (from above lists only)</td>
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Please refer to your [2022-23 UCSC General Catalog](#) for more information or clarification.