BIOLOGY BS Requirements — **Course offerings are subject to change.**

Lower Division Requirements

Calculus:
- ☐ MATH 16A **or** 11A **or** MATH 19A **&** ☐ MATH 16B **or** 11B **or** MATH 19B

General Chem:
- ☐ CHEM 3A: General Chemistry
- ☐ CHEM 3B&3BL: General Chemistry w/Lab
- ☐ CHEM 3C&3CL: General Chemistry w/Lab

OR

- ☐ CHEM 4A&4AL: Advanced General Chemistry: Molecular Structure and Reactivity w/Lab
- ☐ CHEM 4B&4BL: Advanced General Chemistry: Molecular Structure and Reactivity w/Lab

Biology:
- ☐ BIOL 20A: Cell and Molecular Bio (FWS) **&** ☐ BIOE 20B: Development and Physiology (FWS) **&** ☐ BIOE 20C: Ecology & Evolution (FWS) **&** ☐ BIOL 20L: Experimental Bio Lab (FWS)

Organic Chem:
- ☐ CHEM 8A: Organic Chemistry (FW) **&** ☐ CHEM 8B: Organic Chemistry (WS)
- ☐ CHEM 8L: Organic Chemistry Lab (FW)

Statistics:
- ☐ STAT 5: Statistics (FWS) **OR**
- ☐ STAT 7: Stats for the Biological, Environmental, and Health Sciences & (FWS)
- ☐ STAT 7L: Stats Lab (FWS)

Physics:
- ☐ PHYS 6A: Introductory Physics I & (FWS)
- ☐ PHYS 6L: Introductory Physics 1 Lab (FWS)

&
- ☐ PHYS 6B: Introductory Physics II (FWS) **&** ☐ PHYS 6C: Introductory Physics III (FW)

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)

OR

- ☐ BIOC 100A: Biochemistry & Molecular Bio (F) **&** ☐ BIOC 100B: Biochemistry & MB (W) **&** ☐ BIOC 100C: Biochemistry & MB (S)

*** Note that you must must apply to enroll in BIOC 100A and complete the entire series of one or the other - no mixing and matching**

- ☐ BIOL 101L: Molecular Biology Lab (FWS) **OR** ☐ CUREs Lab: BIOL 102L: Toxic RNA Lab II /BIOL 107L: Synthetic Gene Regulation Lab/BIOL 122K: Phage Biology Lab (W)/CHEM 160K: Biochemistry Research Laboratory (W)/CHEM 161K: Chemical Biology Research Laboratory (W)
- ☐ BIOE 107: Ecology (FWS)
- ☐ BIOE 109: Evolution (FWS)
- ☐ BIOL 110: Cell Biology (FWS)

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

- ☐ BIOC 100C: Biochemistry and Molecular Biology (S)
- ☐ BIOE 108: Marine Ecology
- ☐ BIOE 112/L: Ornithology/Lab
- ☐ BIOE 114/L: Herpetology/Lab
- ☐ BIOE 117/L: Systematic Botany/Lab *
- ☐ BIOE 120/L: Marine Botany/Lab
- ☐ BIOE 122/L: Invertebrate Zoology/Lab
- ☐ BIOE 124/L: Mammalogy/Lab
- ☐ BIOE 127/L: Ichthyology/Lab
- ☐ BIOE 129/L: Marine Mammals/Lab
- ☐ BIOE 131/L: Animal Physiology (lab optional)
- ☐ BIOE 133/L: Exercise Physiology/Lab
- ☐ BIOE 134/L: Comparative Vertebrate Anatomy/Lab
- ☐ BIOE 135/L: Plant Physiology/Lab
- ☐ BIOE 137/L: Molecular Ecology/Lab*
- ☐ BIOE 139: Mathematical Modeling and Data Science In Ecology and Evolution
- ☐ BIOE 140: Behavioral Ecology
- ☐ BIOE 145: Plant Ecology
- ☐ BIOE 147: Community Ecology
- ☐ BIOE 149: Disease Ecology
- ☐ BIOE 155: Freshwater Ecology
- ☐ BIOE 161: Kelp Forest Ecology
- ☐ BIOE 163/L: Ecology of Reefs, Mangroves & Seagrasses/Lab
- ☐ BIOE 165: Marine Conservation Biology
- ☐ BIOE 172 Population Genetics
- ☐ BIOL 111A: Immunology
- ☐ BIOL 112: Principles of Virology
- ☐ BIOL 114: Cancer Cell Biology
- ☐ BIOL 115: Eukaryotic Molecular Biology
- ☐ BIOL 118: Principles of Human Genetics
- ☐ BIOL 120: Developmental Biology
- ☐ BIOL 125: Intro to Neuroscience
- ☐ BIOL 130: Human Physiology
- ☐ METX 100: Introduction to Microbiology
- ☐ METX 133: Medical Microbiology
- ☐ METX 135/L: Anatomy of the Human Body/Lab
- ☐ METX 140: Molecular Biology and Microbial Genetics
- ☐ METX 150: Applied and Enviornmental Microbiology

DC Requirement:	2 OF THE FOLLOWING BIOE COURSES:	OR	1 OF THE FOLLOWING 5-UNIT LABS:	OR	CUREs Lab (SPRING QUARTER ONLY)
	☐ BIOE 108: Marine Ecology*		☐ BIOL 105L: Eukaryotic Genetics Lab		☐ BIOL 103L: Toxic RNA Lab II
	☐ BIOE 114/L: Herpetology/Lab^*		☐ BIOL 106L: Eukaryotic Genetic Engineering Lab		☐ BIOL 108L: Synthetic Gene Regulation Lab III
	☐ BIOE 117: Systematic Botany^*		☐ BIOL 109L: Yeast Molecular Genetics Lab		☐ BIOL 122L: Phage Biology Lab III
	☐ BIOE 120/L: Marine Botany/Lab^*		☐ BIOL 115L: Eukaryotic Molecular Biology Lab		☐ CHEM 160L: Biochemistry Research Laboratory
	☐ BIOE 122/L: Invertebrate Zoology/Lab^*		☐ BIOL 120L: Developmental Biology Lab		☐ CHEM 161L: Chemical Biology Research Laboratory
	☐ BIOE 127/L: Ichthyology/Lab^*		☐ BIOL 121L: Environmental Phage Biology Lab		
	☐ BIOE 128L: Large Marine Vertebrates Field Course		☐ BIOL 186L: Undergraduate Research in MCD Biology		
	☐ BIOE 129/L: Marine Mammals*		☐ METX 100L: Microbiology Lab		
	☐ BIOE 137: Molecular Ecology^*				
	☐ BIOE 141L: Behavioral Ecology Field Course				
	☐ BIOE 145: Plant Ecology				
	☐ BIOE 145L: Field Methods in Plant Ecology				
	☐ BIOE 150L: Ecological Field Methods				
	☐ BIOE 151B/ENVS 109B: Ecology and Conservation in Practice Supercourse: Ecological Field Methods Lab				
	☐ BIOE 153C: Disciplinary Communication for Biologists				
	☐ BIOE 158L: Marine Ecology Lab				
	☐ BIOE 159A: Marine Ecology Field Quarter: Marine Ecology with Lab				
	☐ BIOE 161L: Kelp Forest Ecology Lab				
	☐ BIOE 171: Disciplinary Communication for Biologists				
	☐ BIOE 172: Population Genetics*				

^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.

***Shaded courses below count for both the DC and Upper Div Elective requirements**

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

☐ BIOL 101L **OR** BIOL 102L **OR** BIOL 107L **OR** BIOL 122K OR CHEM 160K OR CHEM 161K

☐ One upper-division BIOE lab/field course (from above DC lists only)

Please refer to your 2024-25 UCSC General Catalog for more information or clarification