# Bachelor of Science in Biology
## MARINE BIOLOGY CONCENTRATION

### Lower-Division Core in Biology
- BIOL 130 (Introductory Cell Biology and Genetics, 4 units)
- BIOL 131 (Diversity and Ecology, 4 units)

### Physical Sciences & Mathematics
- CHEM 115A & 115B (General Chemistry, 10 units)
- CHEM 335A & 335B (Organic Chemistry, 6 units)
- MATH 165 (Elementary Applied Statistics, 4 units)
- MATH 161 (Differential and Integral Calculus, 4 units)
- PHYS 210A & 210B (General Physics Lecture, 6 units)
- PHYS 209A (General Physics Lab, 1 unit)

### Upper-Division Core in Biology
- BIOL 320 (Evolution and Ecology, an Integrated Approach, 4 units)
- BIOL 321 (Molecular Biology, Cell Biology and Physiology, 4 units)

### Organismal/Diversity Requirement (complete ONE of the following)
- BIOL 322 (Invertebrate Biology, 4 units)
- BIOL 323 (Entomology, 4 units)
- BIOL 327 (Vertebrate Biology, 4 units)
- BIOL 329 (Plant Biology, 4 units)
- BIOL 340 (General Bacteriology, 4 units)

### Upper-Division Requirements
- BIOL 332 (Marine Biology, 3 units)

### Additional Upper-Division Requirements (choose FOUR of the following)
- BIOL 322 (Invertebrate Biology, 4 units)
- BIOL 324 (Marine Mammals, 3 units)
- BIOL 333 (Ecology, 4 units)
- BIOL 335 (Marine Ecology, 4 units)
- BIOL 337 (Behavioral Ecology, 3 units)
- BIOL 341 (Evolution, 4 units)
- BIOL 347 (Environmental Physiology, 4 units)
- BIOL 485 (Biometry, 4 units)

### Major Electives for Concentration
Choose in consultation with your advisor

### Research Experience: (choose one of the following)
- a. Research Experience in Biology
  - BIOL 490 (3 units)
- b. Honors Thesis (enrollment by application only)
  - BIOL 496A Honors Thesis I – Research Design (1-2 units)
  - AND
  - BIOL 496B Honors Thesis II (2-3 units)
- c. Independent Research
  - BIOL 494 (1-3 units)

**Total** 78
**GE (12 units in major)** 38
**Electives** 4
**Total Units in Degree** 120

Recommended Advisors (in alphabetical order): Dan Crocker, Murali Pillai, Sean Place, and Mackenzie Zippay