

Five Year BS in Marine Biology and BS in Ocean Engineering (3/4/07)

Freshman Year Fall Semester (15 credits)

4 BIO101 Principles of Biology I
1 BIO130 Topics Marine Biology
3 CHM101 General Chemistry Lecture I
1 CHM102 Laboratory for Chemistry 101
3 General education elective
3 General education elective

Freshman Year Spring Semester (17 credits)

3 BIO102 Principles of Biology II
3 CHM112 General Chemistry Lecture II
1 CHM114 Laboratory for Chemistry 112
4 MTH141 Intro. Calculus w/Analytical Geometry
3 ECN201 Prin of Econ: Microeconomics
3 General education elective

Sophomore Year Fall Semester (17 credits)

3 BIO 360 General Animal Physiology
3 Chemistry Elective⁴
1 Chemistry Elective⁴
2 EGR 105 Found of Engineering
4 MTH 142 Inter. Calculus w/Analytical Geometry
3 PHY 203 Elementary Physics I
1 PHY 273 Elementary Physics Lab I

Sophomore Year Spring Semester (16 credits)

2 EGR106 Found Of Engineer. II
3 Biology Elective¹
3 Marine Biology Elective³
3 MTH243 Calculus Func of Several Var
1 OCE 101 Intro to Ocean Engineering
3 PHY 204 Elementary Physics II
1 PHY 274 Elementary Physics Lab II

Junior Year Fall Semester (17 credits)

3 Chemistry Elective⁴
3 OCE 205 Ocean Engineering Design Tools
3 MCE262 Statics
1 OCE 215 Ocean Engineering Design
3 PHY 205 Elementary Physics III
1 PHY 275 Elementary Physics Lab III
3 EGR316 Engineering Ethics

Junior Year Spring Semester (17 credits)

3 OCE 206 Ocean Instrumentation
3 Marine Biology Elective³
3 CVE 220 Mechanics of Materials
3 MCE 263 Dynamics
3 MTH 244 Differential Equations
1 OCE 216 Intro to Ocean Eng Design

Senior Year Summer Term (6 credits)

3 General education elective
3 Marine Biology Elective³

Senior Year Fall Semester (15 credits)

3 MCE354 Fluid Mechanics
3 Biology Elective¹
3 Biology Elective¹
3 OCE301 Fundamentals of Ocean Mech
3 OCE310 Basic Ocean Measurements

Senior Year Spring Semester (16 credits)

3 Biology Elective¹
3 OCE307 Wave and Littoral Processes
4 OCE311 Coast Measure & Appli
3 OCE471 Underwater Acoustics
3 OCG451 Oceanographic Science

Fifth Year Summer (8 credits)

4 Marine Biology Elective³
4 Marine Biology Elective³

Fifth Year Fall Semester (17 credits)

3 OCE 495 Senior Design Project I
2 OCE 416 Ocean Eng Pro Practice
3 OCE 421 Marine Structure Design
3 Professional Elective²
3 Professional Elective²
3 General Education Elective

Fifth Year Spring Semester (15 credits)

3 OCE496 Senior Design Project II
3 General Education Elective
3 General Education Elective
3 Professional Elective²
3 Professional Elective²

1. Biology Electives, choose one course from four of the following six areas (at least 12 credits):

- Organismal Diversity: BIO 304, 321, 323, 354, 432, 465, or 466;
- Ecology and Evolution: BIO 262 or 350;
- Physiology: BIO 201 or 346
- Genetics: BIO 352
- Cell and Development: BIO 302 311, 341 or 453
- Molecular Biology: BIO 437

2. Professional Electives must be satisfied by a minimum of two, approved three-credit elective courses at the 300, 400, or 500 level in engineering or oceanography and two, approved three-credit courses in Ocean Engineering.

3. The requirement for Marine Biology Electives
Choose a minimum of 11 credits from the following list:

- Marine Environmental Physiology (BIO 345)
- Marine Invertebrates (BIO 355)
- Marine Biology (BIO 360)
- Marine Botany (BIO 418)
- Deep Sea Biology (OCG 420)
- Environmental Physiology of Animals (BIO 441)
- Marine Ecology (BIO 455)
- Marine Ecology Laboratory (BIO 457)
- Freshwater Ecology (BIO 458)
- Biology of Fishes (BIO 463)
- Directed Research (BIO 491, 492) (no more than 3 cr)
- Tropical Marine Invertebrates (BIO 469)*
- Coral Reef Ecology (BIO 475)*
- Tropical Marine Biology Research (BIO 495)*
- Marine Microbiology (OCG 576)

4. Chemistry electives must be met by taking:

a. two semesters of organic chemistry:

- Organic Chemistry I and II with lab (CHM 226, 227, 228)

or

b. -Intro to Organic Chem. and Biochemistry (CHM 124, 126; BCH 311)