The Marine Science Major; B.S. Option
91 semester hours

To earn a B.S. in Marine Science, students must complete all requirements outlined in 1-3 below, and also meet all of the University’s other baccalaureate degree requirements. (Please see the chapter of this catalog entitled Baccalaureate Degree Requirements.) Students must obtain a minimum grade of C in all required courses and prerequisite courses

1. Required Courses from Marine Science (34 semester hours)
   MARE 171-171L (4) Marine Biology
   MARE 201-201L (5) Oceanography
   MARE 250 (3) Statistical Applications in Marine Science
   MARE 265 (3) Marine Ecology and Evolution
   MARE 350 (4) or Coastal Methods and Analyses
   MARE 353 (4) Pelagic Methods and Analyses
   MARE 425 (3) Chemical Oceanography
   MARE 440 (3) Physical Oceanography
   MARE 461 (3) Geological oceanography
   MARE 470 (3) Senior Thesis Research
   MARE 471 (3) Senior Thesis Report

2. Required Courses from Related Fields (48 semester hours)
   BIOL 125 (3) Introduction to Cell and Molecular Biology
   CHEM 124-124D-124L, and 125-125D-125L (10) General Chemistry I, II
   CHEM 241-241L, 242-242L (8) Organic Chemistry I, II
   GEOL 111 (3) Understanding the Earth
   PHYS 170-170L, 171-171L (10) General Physics I, II
   MATH 205, 206 (8) Calculus I, II
   COM 251 (3) Public Speaking
   ENG 225 (3) Writing for Science and Technology

3. Electives: Choose 9 semester hours from the following courses (6 credits must be MARE 300-400)
   MARE 264 (3) Quantitative Underwater Ecological Survey Techniques (QUEST)
   MARE 282 (3) Global Change
   MARE 310 (3) The Atoll Ecosystem
   MARE 325 (3) Coral Reef Ecology
   MARE 350 (4) Coastal Methods and Analyses
   MARE 353 (4) Pelagic Methods and Analyses
   MARE 360 (3) Marine Resources
   MARE 364 (3) Advanced QUEST
   MARE 366 (3) Tropical Marine Research Investigations
   MARE 371 (3) Biology of Marine Invertebrates
   MARE 371L (1) Biology of Marine Invertebrates Lab
   MARE 372 (3) Biology of Marine Plants
   MARE 372L (1) Biology of Marine Plants Lab
   MARE 390 (3) Biology of Marine Mammals
   MARE 390L (1) Biology of Marine Mammals Lab
   MARE 394A-Z (1-3) Special Topics in Marine Science
   MARE 400 (4) Aquacultural Engineering
   MARE 434 (3) Teaching Marine Science (usually taught as WI)
In order to make timely progress toward graduation, students are urged to pay careful attention to all
degree requirements. When planning a schedule of courses, it is imperative to be aware of course
prerequisites and the frequency with which courses are offered, information that is available for each course
in the listing at the back of this catalog. To ensure progress toward degree completion, students are strongly
couraged to meet with an advisor each semester before registering.
Courses Required for B.S. in Marine Science including all prerequisites

Total hours for the degree: 91

A. Required Courses from Marine Science (34 hours)
   1. MARE 171/171L (4): Marine Biology (no prerequisites)
   2. MARE 201/201L (5): Oceanography (no prerequisites)
   3. MARE 265 (3): Marine Ecology and Evolution (MARE/BIOL 171/L, MARE 201, or consent of instructor)

Fundamentals (methods and analysis)
   4. MARE 250 (3): Statistical Applications in Marine Science (MARE/BIOL 171 or MARE 201, CS 102 or placement by exam, or consent of instructor)
   5. MARE 350 (4) or 353 (4): Coastal Methods and Analyses or Pelagic Methods and Analyses (Junior standing, MARE/BIOL 171/171L, MARE 201/201L, MARE/BIOL 250, MARE 265, CHEM 125, or permission of instructor)

Fundamentals (upper level oceanography)
   6. MARE 425 (3): Chemical Oceanography (CHEM 125, MARE 201)
   7. MARE 440 (3): Physical Oceanography (PHYS 171, MARE 201)
   8. MARE 461 (3): Geological Oceanography (GEOL 111, CHEM 125 or MARE 440, or consent of instructor)

Capstone series

B. Required Courses from Related Fields (48 hours, excluding CS 102)

One semester of Biology
   1. BIOL 125 (3): Introduction to Cell and Molecular Biology

One year each of Chemistry and Organic Chemistry
   1. CHEM 124/124D/124L (5): General Chemistry I (high school chemistry or CHEM 114, and Algebra or MATH 104, and placement by exam)
   2. CHEM 125/125D/125L (5): General Chemistry II (CHEM 124/124D/124L)
   3. CHEM 241/241L (4): Organic Chemistry I (CHEM 125/125L or consent of instructor)
   4. CHEM 242/242L (4): Organic Chemistry II (CHEM 241/241L)

One year of Calculus
   5. MATH 205 (4): Calculus I (recommendation in Math Placement Exam, or C in Math 104 or equivalent for enrollment in MATH 205, or consent of instructor)
   6. MATH 206 (4): Calculus II (C in Math 205 or equivalent for enrollment in MATH 206 or consent of instructor)

One year of Physics
   7. PHYS 170/170L (5): General Physics I- Particles and Waves (MATH 205 or placement exam)
   8. PHYS 171/171L (5): General Physics II- Electricity and Magnetism (PHYS 170, PHYS 170L, MATH 206 (or concurrent))

One semester of Geology
   9. GEOL 111 (3): Understanding the Earth (no prerequisite)

Public Speaking
   10. COM 251 (3): Public Speaking (no prerequisite)

Microcomputer Applications for the Sciences
   11. CS 102 (3) or placement exam: Microcomputer Applications for the Sciences (no prerequisite)

Writing for the Sciences
   12. ENG 225 (3): Writing for Science and Technology (ENG 100/ ESL100)

C. Electives: (9 credits, 6 credits must be MARE 300-400 level courses)

Upper level Marine Science
   1. MARE 264 (3): Quantitative Underwater Ecological Survey Techniques (QUEST) (Scientific diver status)
2. MARE 282 (3): Global Change (no prerequisites)
3. MARE 310 (3): The Atoll Ecosystem (MARE/Biol 171, MARE 201, or BIOL 156 or consent of instructor)
4. MARE 325 (3): Coral Reef Ecology (MARE 265 or consent of instructor)
5. MARE 360 (3): Marine Resources (MARE 201 or MARE/Biol 171, or consent of instructor)
6. MARE 364 (3): Advanced QUEST (MARE 264, Scientific diver in training status)
7. MARE 366 (3): Tropical Marine Research Investigations (consent of instructor)
8. MARE 371/371L (4): Biology of Marine Invertebrates (MARE 265 or BIOL 176 or their equivalent, concurrent enrollment in MARE 371L)
9. MARE 372/372L (4): Biology of Marine Plants (MARE/Biol 171 or BIOL 175, or consent of instructor, concurrent enrollment in MARE 372L)
10. MARE 390/390L (4): Biology of Marine Mammals (MARE 171 or consent of instructor)
11. MARE 39A-Z (1-3): Special Topics in Marine Science (varies with topic)
12. MARE 400 (4): Aquaculture Engineering (AQUA 262 or consent of instructor)
13. MARE 434 (3): Teaching Marine Science (MARE/Biol 171, MARE 201, and MARE 265)
15. MARE 444 (3): Biological Oceanography (MARE 265 and CHEM 125)
16. MARE 460 (3): Marine Conservation (MARE 265 or consent of instructor)
17. MARE 465 (3): Marine Molecular Ecology (MARE 171, BIOL 125, BIOL 357/L, or consent of instructor)
18. MARE 480 (3): Senior Internship (junior or senior class standing, consent of instructor and pre-approval placement)
19. MARE 484 (3): Biology of Fishes (MARE/Biol 171 or BIOL 175 or their equivalent, MARE 265 or equivalent, or consent of instructor)
20. MARE 484L (1): Biology of Fishes Lab (no prerequisites)
21. MARE 490/490L (4): Marine Reptile conservation and Ecology (MARE 265 or consent of instructor)
22. MARE 49A-Z (1-3): Special Topics in Marine Science (varies with topic)
23. AQUA 466 (3): Fisheries Science
24. Econ 380 (3): Natural Resources and Environmental Economics (no prerequisites)
25. GEOG 340 (3): Principals of Land Use Planning (no prerequisites)
26. GEOG 440 (3): Advanced Environmental Planning (GEOG 340)
27. GEOG 470 (3): Remote Sensing and Air Photo Interpretation (GEOG 201 or consent of instructor)
28. GEOG 480 (3): Geographical Information Systems and Computer Mapping (GEOG 201 or consent of instructor)
29. POLS 335 (3): Environmental Politics and Policy (no prerequisites)