VIMS | William & Mary
Virginia Institute of Marine Science

Undergraduate Major in Marine Science
Curriculum Map

Major Proficiency Courses (16-18 Credits)

Natural Sciences (10 credits)

- BIOL 204/L – Intro to Org, Ecol, Evolution (3+1)
- CHEM 103 or 205 – General Chemistry (3)
- PHYS 101 or 101H or 107 – Intro Physics (3)

Disciplinary Perspectives (3-4 credits)

Choose from a variety of options in anthropology, biology, chemistry, conservation, economics, environ. science, geology, GIS, physics, or public policy. Scan QR code for details.

Quantitative Skills (3-4 credits)

Choose one from the following options:

- BUAD 231 – Business Stats (3)
- CSCI 141 – Intro to Programming (4)
- ECON 307 – Princ/Methods of Stats (3)
- MATH 111 – Calculus I
- MATH 131 – Calculus for Life Sci (4)

Major Curriculum (36 Credits)

Includes courses from common core, major electives, and capstone requirements.

Major Common Core (24 Credits)

Complete all courses as follows:

- MSCI 230 – Intro to Mar Science (3)
- MSCI 250 – People, Society & Coast (3)
- MSCI 305 – Coastal & Marine Geology (3)
- MSCI 310 – Motion of the Ocean (3)
- MSCI 315 – Biological Oceanography (3)
- MSCI 320 – Coastal & Marine Chemistry (3)
- MSCI 360 – Field/Research Methods (3)
- MSCI 365 – Quantitative Methods (3)

Major Capstone (3 Credits)

Choose one from the following options:

- MSCI 460 – Senior Seminar (3)
- MSCI 491 – Adv Research in Marine Sci (3)
- MSCI 495/496 – Honors (3)

Major Electives (9 Credits)

Choose from the following options:

- MSCI 201 – Marine Sci Mash-up (1)
- MSCI 331 – Coastal Env: VA Eastern Shore (3)
- MSCI 332 – Coastal Env: North Wales (3)
- MSCI 333 – Coastal Env: Topics (1-3)
- MSCI 340 – Marine Biology (3)
- MSCI 343 – Marine Fisheries Sci (3)
- MSCI 390 – Research in Mar Sci (1-3)
- MSCI 392 – Coastal & Marine Internship (1-3)
- MSCI 398 – Mar Science Seminar (1)
- MSCI 404 – Microbial Processes (2)
- MSCI 411 – Marine Pollution (3) *(New Spr. '26)*
- ANTH 350 – Topics: Voices in Conservation (3)
- BIOL 317/GEOL 325 – Paleontology (3)
- BIOL 404 – Topics: Parasitology (3)
- BIOL 427 – Wetlands Ecosystems (3)
- BIOL 457 – Mar Invertebrate Biology (3)
- BIOL 460 – Adv Seminar: Mar Ecology (3)
- BIOL 461 – Marine Ecology & Conservation (3)
- ECON 322 – Env & Natural Resource Econ (3)
- GEOL 310 – Coastal Env: Bahamas (1-3)
- GEOL 324 – Paleoclimatology (3)
- GIS 420 – Adv GIS Analysis/Prog (3)

Scan the QR Code to View Full Curriculum and Planned Course Offerings

See Reverse Side for Suggested Course Sequencing

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Undergraduate Major in Marine Science Curriculum Map

Suggested Course Sequencing During First Two Years

Proficiency Courses to Complete in Years 1 & 2:

- BIOL 204 + Lab – Intro to Organisms, Ecology and Evolution (3+1)
- CHEM 103 – General Chemistry (3) **OR** CHEM 205 – Advanced General Chemistry I (3)
- PHYS 101/101H – General Physics I (3) **OR** PHYS 107 – Physics for Life Sciences (3)
- *(as possible, complete Disciplinary Perspectives & Quantitative Skills course, but these are not pre-requisites for other courses and can be completed as late as your final semester)*

Minimum Marine Science Courses to Complete in Years 1 & 2:

- **Semester 1 (Fall):** MSCI 201 – Marine Sci Mash-up (1)
- **Semester 2 (Spring):** MSCI 230 – Intro to Mar Science (3)
- **Semester 3 (Fall):** MSCI 250 – People, Society & Coast (3) **AND** MSCI 305 - Coastal & Marine Geology (3)

Recommended Other Marine Science Courses in Year 2:

As pre-requisites are completed

- **Spring:** MSCI 310 – Motion of the Ocean (3)
- **Fall 2025; shifts to Spring in 2027:** MSCI 315 – Biological Oceanography (3)

Fall Immersion Semester at VIMS (Admissions Required)

see: https://www.vims.edu/academics/wm_undergrad/major/immersion-semester/

Core Courses Offered as Part of the Fall Immersion Semester:

- MSCI 320 – Coastal & Marine Chemistry (3)
- MSCI 360 – Field/Research Methods (3)
- MSCI 365 – Quantitative Methods (3)
- Miscellaneous, rotating MSCI electives to account for full load of 15 credit hours

Students Interested in Graduate School in Coastal & Marine Sciences

Students interested in continuing on to complete an advanced degree in the fields of coastal and marine sciences should discuss options with a faculty advisor. Specialization in a subfield of interest (biology, chemistry, geology, physics, social sciences) is strongly recommended. This may include additional coursework (e.g., at least a second semester, and likely up to four semesters, of the core science courses and additional quantitative skills) and/or a minor or secondary major in that discipline.