

BIOLOGY MAJOR— Marine Biology Option 2021-2022

The Marine Biology option is designed to give students a rigorous background in marine biology and ecology. It is an excellent way to prepare for marine biology and ecology graduate programs, as well as a variety of marine science careers. A term in residence at Hatfield Marine Science Center is required to complete the spring or summer tracks of the option, and the spring BI 450 Marine Biology and Ecology course in Track I is by application only the fall before attending. The Marine Biology option covers the Biology and Society, Organismal Biology, Physiology, Writing Intensive Course (WIC) and Experiential Learning or Integrative Biology Elective requirements for the Biology major. Up to three credits of approved BI 309/409 Teaching Practicum, BI 401 Research, BI 406 Curatorial Assistant or 410 Internship may be used as option electives. Other coursework taken abroad or at Hatfield may be approved by the IB Lead Advisor. **Previous versions of this option are different and are tracked in MyDegrees – see MyDegrees for details. All courses and prerequisites are subject to change, and the listing of term offered is based on projected Corvallis campus and Hatfield Marine Science Center offerings.**

Core Requirements

Hatfield	Course	Pre(Co)requisites	Term	Credits
	BI 150 Introduction to Marine Biology OR select an <u>additional</u> upper-division course below		SP	3
	BI 347 Oceans in Peril	BI 221, 222, 223 (C-)	F	3
	OC 201 Oceanography		F, W	4
	Z 423 Environmental Physiology	BI 221, 222, 223 (C-); CH 233/263	F	3

Hatfield Marine Science Center Tracks (select one)

Spring Track (Hatfield term is spring of junior year - admission by application only):

X	BI 450 Marine Biology and Ecology (WIC course) by application the preceding fall term	Junior Standing; BI 370, ST 351; ST 352 recommended	SP	15
---	---	---	----	----

Summer Track (Hatfield courses are completed in summer and other courses are taken at Corvallis campus)

	BI 351 Marine Ecology	BI 221, 222, 223 (C-)	W	3
X	BI 353 Pacific NW Coastal Ecosystems	BI 221, 222, 223 (C-)	SU	4
	BI 373 Field Methods in Marine Ecology (WIC course)	BI 370 and ST 351	SP	3
X	BOT 417 Phycology OR BOT 416 Aquatic Botany OR FW 315 Ichthyology	BI 221, 222, 223 (C-) BI 221, 222, 223 (C-)	SU F	4 or 3
X	Z 461 Marine and Estuarine Invertebrate Zoology	BI 221, 222, 223 (C-)	SU	4

Experiential Learning or Marine Elective Course(s) Tracks (Complete one of the two tracks below. If you did not complete BI 150 Introduction to Marine Biology above, select an additional Marine Elective Course to replace it.)

Track I Experiential Learning Credits (complete any combination of three credits of the following)

	BI 309 Teaching Practicum or BI 409 Advanced Practicum	By Approval - See online form here	All Terms	1-3
	BI 401 Research and Scholarship	By Approval - See online form here	All Terms	1-3
	BI 406 Projects- Curatorial Assistant	By Approval - See online form here	All Terms	1-3
	BI 410 Internship	By Approval - See online form here	All Terms	1-3

Track II Marine Elective Course (select one course or two courses)

X	BI 353 Pacific NW Coastal Ecosystems (if not used above)	BI 221, 222, 223 (C-)	SU	4
	BI 358 Symbiosis and the Environment	BI 221, 222, 223; CH 233/263	Alternate W	3
	BI 485 Monster Biology	BI 311, 370 (may be concurrent)	W	3
X	BOT 416 Aquatic Botany (if not used above) OR BOT 417 Phycology (if not used above)	BI 221, 222, 223 (C-) BI 221, 222, 223 (C-)	F SU	
X	FW 302 Biology and Conservation of Marine Mammals OR FW 315 Ichthyology (if not used above) OR FW 316 Systematics of Fishes	BI 221, 222, 223 (C-) BI 221, 222, 223 (C-) BI 221, 222, 223 (C-)	SU F F	4 3 3
X	OR FW 331 Ecology of Marine and Estuarine Birds OR FW 421 Aquatic Biological Invasions OR FW/OC 434 Estuarine Ecology	BI 221, 222, 223 (C-) BI 221, 222, 223 (C-) BI 221, 222, 223 (C-)	SU W Ecampus F	4 4 4
?	OR FW 464 Marine Conservation Biology	BI 370	SU, F	3
?	OR FW 469 Phys. & Behavior Marine Megafauna OR FW 476 Fish Physiology	BI 221, 222, 223 (C-) BI 450 or FW 315	F SP Ecampus	3 4
	MB 314 Aquatic Microbiology (3)	BI 221, 222, 223 (C-)	SP	3
X	OC 440 Biological Oceanography (4)	BI 221, 222, 223 (C-)	SP, SU	4

OSU Marine Biology Resources and Information

Marine Biology Careers

Marine biologists are involved in diverse areas such as community ecology, ocean pollution mitigation, marine physiology, marine natural products and ocean policy. Few individuals work on the science of a very specific group of organisms such as marine mammals, and therefore broad training is considered advantageous. Entry-level positions in the field include technician work in many settings such as agencies, non-governmental organizations, environmental consulting companies and academia. Graduate work in marine biology can be an important consideration as it increases both salary and opportunities.

The Marine Biology option requires an additional 15 credits of coursework beyond the Biology major. For this reason students completing the option have a solid foundation for a career in marine biology and biological fields in general. All students interested in marine biology should plan to get professional experience before graduation as it is critical to employment and graduate school opportunities. OSU offers a wealth of opportunities (see Research and Internships below).

Further information about marine biology careers can be found at:

<http://www.marinecareers.net/index.php>

International Opportunities

Many international programs in marine biology are available through OSU. These programs can be integrated in to a four-year degree with the Marine Biology Option and include a diverse group of study abroad and international internships choices. For more information, see: <https://ib.oregonstate.edu/professional/international>

Diving Opportunities

A variety of diving courses and certifications are offered at OSU see (below). These courses require significant time commitments and should not be taken first term. See the OSU Catalog for course details.

PAC 242 Open Water
PAC 243 Advanced Open Water
PAC 244 Rescue Diver
PAC 246 Dive Master Training
FW 430 Introduction to Scientific Diving

Enrollment in FW 430 requires instructor permission and generally a minimum certification of Rescue Diver
<https://research.oregonstate.edu/diving>

BI 450 Marine Biology and Summer Courses at Hatfield Marine Science Center

A variety of marine, field-intensive courses are offered at Hatfield Marine Science Center (HMSC). Students taking these courses live in HMSC dormitories on the coast in Newport, OR during spring or summer terms.

The 15-credit BI 450 Marine Biology course is taught spring term and satisfies the Spring Track of the Marine Biology Option and the major WIC requirement. Admission to BI 450 is by application each fall (see Cordley Hall 3029) and restricted to juniors and seniors who have taken or are taking BI 370 Ecology and Statistics 351. The course covers marine invertebrates, algae, fishes, intertidal and coastal ecology, marine conservation, and features student research projects. Spring students may elect to stay on until summer to complete their additional Marine Elective Courses.

The Hatfield Marine Science Center also offers a variety of summer courses (see <http://hmsc.oregonstate.edu/>). Students in the Summer Track of the Marine Biology Option complete the BI 353 and Z 461, generally with two other marine courses for their option.

Professional Experience

Units with marine research faculty include Integrative Biology, Fisheries and Wildlife, Microbiology, College of Earth, Ocean and Atmospheric Sciences and others. Hatfield Marine Science Center also has faculty and agency opportunities. Students should look up faculty research on department websites and contact them about volunteering, as most student positions start as unpaid.

Ocean11 Club\Marine Team:

The Ocean11 club <https://marinestudies.oregonstate.edu/ocean11> is for students interested in marine studies at OSU. The Marine Team <http://marineteam.oregonstate.edu/> is connected to Ocean11 and highlights specific marine research opportunities.

Integrative Biology research labs:

Student should look broadly for marine opportunities, but you can see information about labs in IB at: <https://ib.oregonstate.edu/research>

Hatfield Marine Science Center and Sea Grant Programs:

<https://hmsc.oregonstate.edu/research>
<https://hmsc.oregonstate.edu/academics/internships>

Aquarium opportunities:

Oregon Coast <https://aquarium.org/support/volunteer/>
Hatfield Marine Science Center - contact <http://seagrant.oregonstate.edu/users/colleen-doyle>

Other marine opportunities:

<http://ib.oregonstate.edu/professional/internship-research/intern-volunteer-list> for off-campus opportunities