

# BIOLOGY MAJOR— Marine Biology Option 2018-2019

A term in residence at Hatfield Marine Science Center is required to complete the BI 450 Marine Biology and Ecology course in the Marine Biology option. The BI 450 Marine Biology course requires junior standing and is available by competitive application the fall before attending. The Marine Biology option covers the additional upper division science, Biology and Society, Organismal Biology, Physiology and Writing Intensive Course (WIC) requirements for the Biology major. Other coursework taken abroad or at Hatfield may be approved by the Biology Chief Advisor. Up to three credits of approved BI 401 Research or 410 Internship credit may be used in the upper division science electives. Previous versions of this option are different and are tracked in MyDegrees – see MyDegrees for details. **All courses and prerequisites are subject to change.**

<b>Core</b>				
<b>Hatfield</b>	<b>Course</b>	<b>Pre(Co)requisites</b>	<b>Term</b>	<b>Credits</b>
	BI 150 Introduction to Marine Biology <b>OR</b> select an additional upper-division course below		SP	3
	BI 347 Oceans in Peril	BI 211, 212, 213 (C-)	W	3
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
	OC 201 Oceanography		F, W	4
X	OC 440 Biological Oceanography (recommended)	OC 201 or permission	SP, SU?	4
X	<b>OR</b> BI 353 Pacific Northwest Coastal Ecosystems		SU	4
	<b>OR</b> FW/OC 434 Estuarine Ecology		F	4
	Z 423: Environmental Physiology	BI 211, 212, 213 (C-); CH 233/263	F	3
<b>Upper Division Elective (select one course from Track I or three credits from Track II)</b>				
<b>Track I: Marine Elective Course (select one course - other OSU courses and international coursework by approval)</b>				
<b>Hatfield</b>	<b>Course</b>	<b>Pre(Co)requisites</b>	<b>Term</b>	<b>Credits</b>
X	BI 353 Pacific NW Coastal Ecosystems (if not used above)		SU	4
	BI 358 Symbiosis and the Environment	BI 211, 212, 213; CH 233/263	Alternate W	3
	BI 485 Monster Biology	BI 311, 370	W	3
	BOT 416 Aquatic Botany	BI 211, 212, 213	F	
X	FW 302 Biology and Conservation of Marine Mammals <b>AND</b> FW 301 Laboratory (Recommended, not required)	BI 211, 212, 213 (C-)	SU	4 1
X	FW 316 Systematics of Fishes	BI 450	F	3
	FW 331 Ecology of Marine and Estuarine Birds	BI 211, 212, 213	SU	4
X	FW 421 Aquatic Biological Invasions	BI 211, 212, 213	SU	4
X	FW 464 Marine Conservation Biology	BI 370	F	3
	FW 469 Methods in Physiology & Behavior of Marine Megafauna	BI 211, 212, 213	F	3
	FW 476 Fish Physiology	BI 450	?	3
	MB 314 Aquatic Microbiology (the MB 422 lab is optional)	BI 211, 212, 213; CH 233/263	W	3
	OC 440 Biological Oceanography (if not used above)	OC 201 or permission	SP, SU?	4
<b>Track II: Experiential Learning Credits (complete any combination of three credits)</b>				
	BI 401 Research and Scholarship	Departmental Approval	All Terms	1-3
	BI 406 Projects- Curatorial Assistant	Departmental Approval	All Terms	1-3
	BI 410 Internship	Departmental Approval	All Terms	1-3

# 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 25-27 credits of additional course work in marine biology and completion of 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:  
<http://ib.oregonstate.edu/ugfiles/studyabroad.pdf>

## **Diving Opportunities**

A variety of Physical Activity Courses (PACs) for diving certifications are offered at OSU (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

The OSU Research Office offer GRAD 430 Introduction to scientific diving. Enrollment requires instructor permission and a minimum of Advanced Open Water.  
<http://oregonstate.edu/research/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.

BI 450 Marine Biology is taught spring term and satisfies 15 credits of the Track I Marine Biology Option and the major WIC requirement. Admission to Marine Biology is by application each fall (see Cordley Hall 3029) and restricted to juniors and seniors who have taken BI 370 Ecology and Statistics 351. The course covers marine invertebrates, algae and fishes in addition to sections on intertidal and coastal ecology and marine conservation. The end of the course features student research projects.

The Hatfield Marine Science Center also offers summer courses covering electives and possible research experience for the Marine Biology option. See <http://hmsc.oregonstate.edu/> for current listings.

## **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 <http://hmsc.oregonstate.edu/faculty-research> also has some faculty and agency opportunities. Students should look up faculty research on websites and contact them directly about volunteering, as most student positions are unpaid.

### **OSU Marine Team:**

has short-term projects— see the contacts section of:  
<http://oregonstate.edu/marineteam>

### **OSU Lubchenco/Menge/PISCO lab volunteers:**

<http://mytilus.science.oregonstate.edu>

### **Hatfield Marine Science Center and Sea Grant Summer Programs:**

<http://hmsc.oregonstate.edu/internships>

### **See Marine Biology/Oceanography sections at:**

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

### **OR Coast Aquarium:**

<http://aquarium.org/support/volunteer>

### **Hatfield Marine Science Center Aquarist Volunteers:**

contact: <http://seagrant.oregonstate.edu/users/colleen-doyle>