



Appledore Island, Isle of Shoals, Kittery, Maine
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**Shoals Marine Laboratory
Marine Mammal Biology (BIOSM 3450/MEFB 535)
June 2 – June 16 2025**

Course Syllabus and Schedule

Faculty: Dr. Nadine Lysiak (nadine.lysiak@gmail.com), New England Aquarium
Dr. Matt Leslie (mleslie@ursinus.edu), Ursinus College

TA: Master Jess Veo (jessveo@gmail.com)

Prerequisites: Completion of first year of college

Class enrollment limit: 16

Credit hours: 3 (BIOSM 3450) or 4 (MEFB 535)

Course Objectives/Goals:

This course will explore the biology and conservation of the whales and seals, with a particular focus on species of the Gulf of Maine. Lectures will examine many facets of marine mammal science including: taxonomy and species diversity, morphological and physiological adaptations for life in the sea, foraging ecology and behavior, reproductive cycles, bioacoustics, conservation and health, anthropogenic interactions, and management of threatened species. Land and open-water observations of whale and seal behavior will give students hands-on opportunities to study marine mammals in the field. Field and laboratory sessions expand on topics covered in lecture. Students will complete a field study on seal population monitoring and laboratory dissections of a small marine mammal.

Course Materials:

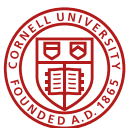
1. Background readings and research literature, will be provided for students electronically.
2. Google Drive: <https://drive.google.com/drive/folders/12oPeZ5zJJnPOf-h28Bbsmhi9GN4T8cRw?usp=sharing>

Reference reading for additional information is available at SML Library

Classroom: Hamilton, downstairs

Laboratory: Palmer-Kinney (P/K) North

Housing: Dorm 1



Cornell University



University of
New Hampshire

Assignments & Grading:

Three quizzes will be given during the course. The schedule (next page) lists what content will be on each quiz. Field and lab activities will periodically be assigned for credit. Students will also complete an independent synthesis activity that will be graded as a final project.

Quizzes	30%
Field & Lab Projects	30%
Final Project	20%
Participation/Community	20%

Participation: Success at Shoals requires a positive attitude and a willingness to accept changes in the schedule with grace. Island living demands respect for your fellow classmates, and residents on Appledore. Students are expected to actively participate in all facets of this course, and to display good citizenship while at Shoals. 20% of your grade will be based on the faculty's subjective evaluation of your personal involvement in course activities. If you have any questions or comments about the course, please contact the instructors directly.

Expectations and Conduct:

Students are responsible for fully understanding all of the information presented in this syllabus. If there are any questions regarding this information, it is the student's responsibility to bring it to the instructor's attention. In addition, students are responsible for attending all activities associated with this course and completing all assignments. Students are responsible for asking questions anytime they need clarification (remember, there is no such thing as a bad question).

Every student is responsible for their own behavior- specifically in being respectful and collegial to other students and with instructors. Students are responsible for fully understanding and adhering all of the information presented in the SML Appledore Handbook (http://www.sml.cornell.edu/sml_forms.html)

1. *Personal Technology.* Do not use cell phones or similar devices in the classroom or during course activities and meals. If you take notes with your computer or tablet, disable wireless access during lecture.
2. *Computer Facilities.* Printers are available, but please limit printing to your FINAL document (if required).
3. *Transmission of Course Materials.* Students are not authorized to replicate, reproduce, copy or transmit lectures and course materials presented, or derivative materials including class notes, for sale or free distribution to others without written consent of the instructors who are the original source of the materials.
4. *Academic Integrity.* Any work submitted must be your own. Uncredited use of another person's words, data or images is considered plagiarism, a serious violation of the Code, whether the material comes from another student, a web site, or a published paper. Students must adhere to Cornell's and UNH's Policy for Academic Honesty/Plagiarism and Discrimination
 - i. Cornell: <http://cuinfo.cornell.edu/aic.cfm>
 - ii. UNH: <http://www.unh.edu/vpsas/handbook/welcome-university-new-hampshire>
5. *Disabilities & ADA Accommodation:* Students with a disability must contact Cornell's (420 CCC building; 607-254-4545) or UNH's Student Disability Services(<http://www.unh.edu/disabilityservices>) four weeks prior to start of class for confidential discussion of needs and for registration to verify eligibility for academic accommodations. No retroactive accommodations can be made.
6. *Mental Health:* Shoals Marine Laboratory cares about you and your well-being. If you experience unusual personal or academic stress during the course or need to talk with someone about a personal problem, seek support from your instructors as soon as possible. In addition, any SML staff is available for consultation 24/7. Find staff in the office in the Hamilton House between 8am – 7pm or knock on the door of Bartell House after hours

Date	Low Tide	Time	Meals: 07:30 breakfast, 12:30 lunch, 18:00 dinner (Sunday 10:00 brunch, 17:00 dinner)
Mon June 2	11:04		ARRIVAL DAY (~16:15) , check in @ dock by 13:30
		Afternoon	Orientation to SML & safety talk
			Upper Campus Tour, unpack and get settled
		Evening	Course & People Intros, syllabus review, Island community expectations
			Film, SML Island History video
Tue June 3	11:59	Morning	Intro to SML lab facilities and academic resources (SML staff)
			Lec: Introduction to the Marine Environment & Gulf of Maine (NL)
			F: Intertidaling w/ Parasites
		Afternoon	Lec: Introduction to Marine Mammals (JV)
			Lec & Lab: Species Diversity & Distribution (NL)
		Evening	ROCK TALK (@ 20:00): Dr. Dave Fredriksson (UNH)
Wed June 4	12:53	Morning	Lec: Drag & Locomotion (NL)
			Lec: Anatomy & Physiology I - Bones (NL)
			Lab: Skulls & Skeletons
		Afternoon	Field: Duck Island seal cruise @ 13:30
		16:15	<i>FOOD RUN - all hands on deck</i>
		Evening:	Study Time
Thu June 5	13:45	Morning	Quiz #1: Diversity & Distribution, Marine Environment, Anatomy & Locomotion
			Guest: Blue Ocean Society (Dianna Schulte & Jen Kennedy)
			Field: Beach clean-up & derelict fishing gear
		Afternoon	Lec: Anatomy & Physiology II - Guts (thermoregulation & water balance)
			Lec: Seal Population Biology, Survey Methods (JV)
			Lab: Seal Population Census
		Evening	Film: Signals for Survival

Fri June 6	14:35	Morning	Guest: Amy Fowler, Marine Mammal Parasites + Whale watch logistics (NL)	
		Afternoon	Gulf Challenger Whale Watch 10:00-14:00	
			Lab: Humpback Whale Photo ID	
		Evening	Sunset art project - Scrimshaw	
Sat June 7	15:20	Morning	Lec: Foraging Ecology & Behavior, techniques for studying FE&B (NL)	
			Field: Plankton Tow @ 10:00	
			Lab: Plankton ID and observation	
		Afternoon	Guest: Dr. Mike Sigler	
			Lec: Anatomy & Physiology III - Diving (NL)	
			Film: Sperm Whale necropsy	
	Evening			
Sun June 8	16:02	Pre-Brunch	Dorm clean up, study time	
		Post-Brunch	Lab: Seal & Dolphin Necropsy (~11:00-16:00)	
			Swimming/ Clean up time	
		Evening	Study time	
Mon June 9	16:41	Morning	Quiz #2: Heat Balance, Diving, Foraging	
			Lec: Stranding Science & Response	
			Field: Group Hike	
		Afternoon		
			Lec: Reproductive Biology & Behavior (NL)	
		Evening	Film: Sex in the Wild - Dolphins	
Tue June 10		Morning	Lec: Human Interactions & Management - Laws (NL)	

		Afternoon	Lec: Sound Reception & Production, Communication (JV)
			Lab: Passive Acoustic Monitoring (JV)
	05:25		Film: Sonic Sea
	17:20	Evening	ROCK TALK (@ 20:00): Dr. Nadine Lysiak (NEAq)
Wed June 11		Morning	Lobster boat demonstration on F/V Sugar Daddy
			Discussion about marine mammals and fisheries interactions, on-demand gear
			Guests: Owen Nichols, Heidi Heninger, and Ward Byrne
		Afternoon	Introducing final projects, research and planning time
		16:00	<i>FOOD RUN - all hands on deck</i>
	06:03		
	17:58	Evening	Career Panel w Faculty and Staff of SML 19:30
Thu June 12		Morning	Field: Duck Island survey @ 06:30
			Project Time
			Evolution
		Afternoon	
			Project Time
	06:40		Project Time
	18:36	Evening	Project & Study Time
Fri June 13		Morning	Quiz #3: Reproduction, Human Interactions, Evolution,
		Afternoon	Gulf Challenger Whale Watch 10:00-14:00
	07:18		Molecular Ecology
	19:15	Evening	Marine Mammal Policy - Michael Jasney (Natural Resources Defense Council)
Sat June 14		Morning	Project Time
			Photogrammetry
		Afternoon	Project Time
	07:56		Practice presentations

	19:57	Evening	
Sun June 15	8:37	Pre-Brunch	Island & Classroom Cleanup, Island Store is open
		Post- Brunch	Project Time
			Marine Mammal & Parasites Symposium
		17:00	SML Banquet
		Evening	Program de-brief, marine mammal game night
Mon June 16	9:20	Morning	Pack, Final Dorm & Lab Clean up, Paper due @7:30
			DEPARTURE DAY (10:00 AM) R/V JM Kingsbury