

VIMS Eastern Shore Lab (ESL)

Date/time	Activity	Objectives	Activity description
June 15			
8am	Leave UA		
5:00pm	Arrive VIMS		Unpack and settle in
June 16			
8:30 -9:30 am	Tour & Familiarization with Station and area	Familiarize students with research & education opportunities at ESL and introduce them to the history and the mission of the lab	Give students information about station rules and background information on the station.
9:30 am-noon	sampling communities – fish communities	Familiarize students with basic sampling techniques and provide comparison of within and outside of the bay	Trawling, seining, several comparative water quality stations (YSI, refractometer, secchi disc, temp, etc), plankton tow from the inlet to compare to dockside
12-1pm	Lunch on Cedar Island		
1:30-5:00 pm	Lab exploration of samples	Provide students with deeper inspection of specimens and introduction to plankton	Provide students with opportunity to inspect collected specimens in lab, and demonstrate plankton sampling equipment including hand cast day time samples
8:30-10:00 pm	Night time plankton	Provide students with deeper understanding of plankton diversity and dynamics	Sample nighttime plankton using same type of hand casting that was done in the day allowing students to contrast with their daytime samples
June 17			
7:00 am 2:00 pm	Explore mudflat, bottom dredging; Visit barrier island	Introduce students to the subtidal community and how that community varies throughout saltmarsh and even into open water	Sample subtidal communities in saltmarsh across a range of locations. Visit Cedar Island.
3:00-6:00 pm	Lab exploration of samples	Provide students with deeper inspection of mudflat and dredged specimens	Provide students with opportunity to inspect collected specimens in lab from morning/afternoon collections
9:30 pm to midnight	Bioluminescence	Let students see bioluminescence	Take students to docks near Pungoteague
June 18			
9:00 am-noon.	Salt marsh project.	Allow Students to implement a sampling protocol to systematically investigate a question.	Quadrat and transect sampling of salt march adjacent to ESL. Survey creek edge to the land interface to assess community diversity
1-6pm	Visit to Chincoteague	Explore Chincoteague National Wildlife Refuge	Hike the Wildlife Loop
7:30-8:30	Clean up lab		
June 19			
8:00 -9:00 am	Clean up house		
~9:00am	Leave ESL	Depart for False Cape	

False Cape – Virginia Beach

Date/Time	ACTIVITY	OBJECTIVES	Activity Description
June 19th			
11:00am	Arrive travel through park		
1:30-3:00	Unpack and get lunch		
3:00-6:00 pm	Tour & Familiarization transect	Familiarize students with research & opportunities with structure of barrier spit, major sub-habitats.	Instructor will outline resources at station and overview habitat surrounding the EEC then walk from Back Bay to the beach, stopping along the way for talks on flora, fauna and geography
8:30-9:30 pm	Discussion of potential projects	Raise awareness of research projects students can design	Group discussion led by course instructor
June 20			
9:00 am-noon	Sampling of Back Bay	Familiarize students with near-shore fish community	Instructor will lead field sampling using seines for near-shore fish community; identification of fish species collected for notebooks
1:30-5:00 pm	Sandy shore introduction and sampling	Familiarize students with sandy shore environment. Develop & conduct a simple, replicated marine project	Discussion of sandy shore environments, habitat structuring and flora/fauna; students will collect and identify animals and plants for their notebooks. Class will discuss how to assess sandy shore communities & then we will execute a sampling project at the beach
9:00-11:00 pm	Familiarization with the nighttime beach	Learn about the distinctive features of the beach at night	Walk as a group to the beach; Discuss nighttime fauna (e.g., ghost crabs)
June 21			
9:00 am-noon	Maritime forest sampling	Familiarize students with possible competition among forest trees	Instructor will lead forest sampling using nearest-neighbor analysis; discussion of light and space competition in maritime forest environments
1:30-5:00 pm	TBA project	TBD	TBD
9:00-11:00 pm	Presentation of data from two sampling projects	Develop data presentation skills	Students will analyze and then present data from forest and 2nd project; instructor will go over simple statistics & outline the need for replication in ecological studies; discuss the positives and negatives of the sampling designs and how to design a better project in the future
June 22			
9:00 am-noon	Discussion of student-led projects	Allow students to design and implement an experimental sampling scheme that compares	Instructor will help students when asked for opinions, but will avoid involvement unless safety of students or environment requires

		aspects of community structure.	input. Instructor will help students conceptualize projects & help them understand the resources they would need to fully develop research in the system
1:00-5:30 pm	Conduct group projects	Allow students to focus on topics of particular individual interest, such as studies of the surf zone, dune vegetation, Back Bay, ocean, etc.	Students will carry out projects developed during morning discussions.
8:30-10:00 pm	Discussion of sampling results	Further refine data presentation and analysis skills	Class will discuss data gathered in sampling studies; discuss more complicated experimental designs for community sampling; discuss research proposal development for funding agencies
June 23			
9:00 am-noon	Repeat and refine previous day's independent projects	Conduct the previous day's sampling project using a better design developed from previous day's attempt	Students will carry out projects a second time, after seeing the pitfalls of the previous day's attempt; underscores the benefits of "preliminary studies"
1:00-3:30 pm	Exploration of Back Bay communities, by water, if logistics and weather permit	Learn about the coastal and pelagic communities of Back Bay	Travel around Back Bay in kayaks, gathering at times for field lectures and discussions of observations
3:30-6:30	Recreation, such as swimming or visiting the old town site		
7:30-9:00 pm	Group discussion	Provide opportunity for exchange of group opinion and expertise	Students will discuss as a group the two projects over the two days. How was the 2 nd attempt better than the 1 st ? What else could have been done to better the results?
9:00-10:00pm	Pack		
June 24			
7-8:00 am	Clean up		
~8:00am	Leave False Cape	Depart for Akron, OH	
~7:00pm	Arrive UA		