



SCI 119: Coastal Science

An overview of the physical and biological structure of our southern New England coastline and the factors, including humans, which act on it. Particular emphasis will be given to consideration of the processes which shape the shoreline and to the biology and ecology of the most significant organisms of coastal communities such as salt marshes, sand dunes, rock shores and beaches. There will be several field trips to study local examples of the features and communities discussed. Prerequisite: One year of high school laboratory science or one semester of college laboratory science. Three lecture hours and three laboratory hours per week. Instructional Support Fee applies. Gen. Ed. Competencies Met: Scientific Reasoning and Discovery.

Course Student Learning Outcomes

1. Demonstrate a basic knowledge of the geology and ecology of the coastal environment with specific reference to the coastal zone of Southeastern Massachusetts and Rhode Island.
2. Contrast and compare the roles of Plate Tectonics and Glaciation as forces that have shaped the geology of coastal New England; distinguish the relative time scales of these two processes.
3. Describe how the coast of New England has been, and continues to be modified by waves and tidal processes, changing the topography left behind by the Pleistocene glaciers.
4. Compare and contrast the various ecological habitats that are common in coastal New England, such as beaches and dunes, rocky shores, mud flats, estuaries and saltmarshes with respect to physical and chemical conditions, and with respect to the types of species found in each habitat.
5. Distinguish among the major groups of living organisms found in coastal New England, and use proper scientific terminology to place them into correct categories.
6. Analyze data and conclusions in library and internet resources related to the Coastal Zone, and compile summaries of those resources.

Credits: 4

Program: Science