

# Marine Studies (MARS)

**MARS 3210. Marine Mammals. 4 Hours.**

Designed to familiarize students with biology and conservation of marine mammals. The course content is primarily scientific, but the goal of the course is to consider how scientific knowledge is used as a tool of conservation. Topics include the evolution and taxonomy of whales, seals, and other marine mammals, adaptations to the ocean environment, feeding and social behavior, and population ecology. Issues include whaling and sealing, environmental contaminants, entanglements in fishing gear, tuna /dolphin interactions, and the decline of Stellar Sea lions.

**MARS 3310. Water Resources Policy and Management. 4 Hours.**

Explores the ways in which water has affected our bodies, our planet, our history, our culture, and the danger posed by increasing demand, waste, and pollution on our limited supply of usable fresh water. Considers water through scientific, historical, and cultural viewpoints. Surveys contemporary water problems in all their dimensions-political, economic, and technological.

**MARS 3315. Wetlands: Ecology and Hydrology. 4 Hours.**

Investigates the vital role of wetlands in the hydrology and ecology of global landscapes. Topics include function of inland and coastal marshes, and swamps and bogs in water and nutrient cycles, and in support of biodiversity from microbes to vertebrates. Examines biological links between wetlands and human activities, such as agriculture, coastal development, and fisheries. Also covers legal framework for the protection and restoration of endangered wetlands.

**MARS 3325. Coastal Zone Management. 4 Hours.**

Focuses on outstanding issues in coastal environment affairs. Discusses scientific, legal, economic, and technical aspects of coastal issues and intergrates them into problem-solving exercises.

**MARS 3425. Biology of Fishes. 4 Hours.**

Covers the evolution, systematics, anatomy, physiology, and behavior of freshwater, marine, and anadromous fishes from temperate to tropical environments. Examines the diversity of fish interactions in aquatic communities; predator/prey relationships, host/symbiont interactions, and the various roles of fishes as herbivores. Studies inter- and intraspecific predator-prey relationships among fish populations in aquatic communities and integrates principles of ecology. Provides access to the collection of the New England Aquarium resulting in an extraordinary opportunity to understand principles of ichthyology through the study of living fish. Hosted each year by a consortium member institution, this Massachusetts Bay Marine Studies Consortium is an intermediate-level survey course.

**MARS 3430. Biology of Whales. 4 Hours.**

Offers a comprehensive review of the biology, ecology, and management of cetaceans. A thorough grounding in cetacean mammalogy and population biology seeks to prepare students to understand conservation problems presented as case histories. Requires students to complete an independent research paper on a topic related to cetacean biology. Hands-on activities may include the dissection of a small cetacean and a shore-based whale watch in Cape Cod Bay. Hosted each year by a consortium member institution (at Northeastern University's Boston campus), this is a Massachusetts Bay Marine Studies Consortium course.