MARINE, ESTUARINE AND FRESHWATER BIOLOGY (MEFB)

# Course numbers with the # symbol included (e.g. #400) have not been taught in the last 3 years.

**MEFB 817 - Lake Ecology**

**Credits:** 4

Introduction to the ecology of freshwater systems with emphasis on lakes. Origins of lakes and the effects of watersheds on lake chemistry and nutrient cycling are explored. Other topics include the impact of human disturbances on productivity and aquatic food webs and methods used for the management and restoration of lakes. Comparisons are made of the structure and functions of lake ecosystems found in temperate, tropical and arctic regions. Prereq: general biology.

**Equivalent(s):** PBIO 817, ZOOL 817

**Grade Mode:** Letter Grade

**MEFB 819 - Field Studies in Lake Ecology**

**Credits:** 4

Ecology of lakes and other freshwater habitats examined through field studies. Emphasizes modern methods for studying lakes, analysis and interpretation of data, and writing of scientific papers. Seminars on research papers and student presentations of class studies. Field trips to a variety of lakes, from the coastal plain to White Mountains; investigate problems, such as eutrophication, acidification, biodiversity and biotoxins. Capstone experiences include interaction with state agencies, lake stakeholders and the submission of written manuscripts for publication. Prereq: introductory biology. Special fee. Lab.

**Equivalent(s):** PBIO 819, ZOOL 819

**Grade Mode:** Letter Grade

**MEFB 825 - Marine Ecology**

**Credits:** 4

Marine environment and its biota, emphasizing intertidal and estuarine habitats. Includes field, laboratory, and independent research project. Prereq: general ecology; permission. Marine invertebrate zoology, oceanography, and statistics are desirable. Special fee. (Not offered every year.)

**Equivalent(s):** PBIO 825, ZOOL 825

**Grade Mode:** Letter Grade

**MEFB #832 - Lake Management**

**Credits:** 4

Lectures and seminars on interpreting lake water quality, developing a natural history inventory for lakes, the process of creating a lake management plan, and resolution of conflicting uses of lakes. Students develop lake management plans in cooperation with governmental agencies and lake associations. Guest speakers from State agencies and non-governmental organizations. Introduction to and use of GIS (Geographic Information Systems) methods for the analysis of lakes and watersheds. Presents lake management issues from scientific and social science points of view. Open to students from all disciplines. Special fee. Lab.

**Equivalent(s):** PBIO 832, ZOOL 832

**Grade Mode:** Letter Grade

**MEFB 847 - Aquatic Plants in Restoration/Management**

**Credits:** 4

A field-intensive class focusing upon freshwater and marine vascular plants with an emphasis on species commonly associated with ecological restoration, the identification and conservation of rare species, and the adaptations and management of invasive species of aquatic habitats in New England. Field trips emphasize the flora of various wetland habitats, including open water and vegetated fresh water wetlands, as well as coastal and estuarine habitats. Lectures and readings examine the current trends in research and management focusing upon specific taxa and pertinent facets of their taxonomy, physiology, and natural history. Prereq: BIOL 566 or permission. Special fee.

**Equivalent(s):** PBIO 847

**Grade Mode:** Letter Grade

**MEFB 872 - Fisheries Biology: Conservation and Management**

**Credits:** 3

Globally, many fished populations are declining, but 3.2 billion people eat fish and the average human eats >40 pounds of fish a year. This course identifies what biological characteristics are important to management and how they are measured. The course also explores quantitative methods describing fishery-population interactions and other management tools. Lastly, students will earn about the impacts of fishing on ecosystems. Prereq: BIOL 411 and BIOL 412 or equivalent.

**Equivalent(s):** ZOOL 872

**Grade Mode:** Letter Grade