

# ZOOLOGY (ZOOL)

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

## ZOOL #808 - Stream Ecology

**Credits:** 4

Ecological relationships of organisms in flowing water; streams as ecosystems. Lectures on physical and chemical features of streams, floral and faunal communities, and factors controlling populations of benthic invertebrates. Laboratory exercises employ both field and laboratory experimental techniques. Weekly seminars on original research papers. Special fee. (Not offered every year.)

## ZOOL 810 - Elasmobranchs and Bony Fishes

**Credits:** 4

Some fish swimming today are hundreds of years old, whereas others complete their life cycle in two months! This course provides an introduction to the diversity of fishes found across the globe, including elasmobranchs (sharks, skates, and rays) and teleosts (bony fishes). Particular attention will be paid to fishes local to New Hampshire and New England. Students will learn about fish anatomy, physiology, and ecology. Prereq: BIOL 411, BIOL 412, or equivalent. Lab. (Offered in alternative years.) Special Fee.

## ZOOL 833 - Behavioral Ecology

**Credits:** 4

Behavioral ecology is the evolution of animal behavior played out on the stage of ecology—why might a certain behavior be adaptive in a certain context? In this course, we will pursue in-depth, high-level explorations of the central topics of animal behavior, all through the lens of evolution. We will also focus heavily on improving reading, writing, and presentation skills.

## ZOOL 836 - Genes and Behavior

**Credits:** 4

Genes and behavior examines the genetic underpinnings of animal behavior, and how behavior evolves on a genetic level. The course primarily relies on readings from the primary literature, using examples from laboratory model organisms, animals in their natural habitats, and humans. Topics include aggressiveness, social behavior, personality, parental care, communication, mating behavior, novelty seeking behavior, and foraging. This interdisciplinary course examines these behaviors at multiple levels, including genomics, population genetics, molecular genetics, epigenetics, endocrinology, and neurobiology. Prereq: GEN 604 and ZOOL 713 or equivalent.

## ZOOL 850 - Biological Oceanography

**Credits:** 4

Biological processes of the oceans, including primary and secondary production, trophodynamics, plankton diversity, zooplankton ecology, ecosystems and global ocean dynamics. Field trips on R/V Gulf Challenger and to the Jackson Estuarine Laboratory. Prereq: one year of biology or permission of instructor. (Also offered as ESCI 850.) Special fee. Lab. (Not offered every year.)

**Equivalent(s):** EOS 850, ESCI 850

## ZOOL 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 learn about the impacts of fishing on ecosystems. Prereq: ZOOL 710 or equivalent; permission. (Not offered every year.)

## ZOOL 873 - Physiology of Fish

**Credits:** 4

Investigation of the physiological processes responsible for maintaining homeostasis in fishes. Focus is on the function and regulation of the major organ systems during stress and environmental adaptation. Topics include reproduction, osmoregulation, digestion, endocrinology and sensory perception.

## ZOOL 877 - Neuroethology: The Neural Basis of Animal Behavior

**Credits:** 3

The focus of this course is on the neural basis of animal behavior, with a focus on the most recent discoveries in the field. Topics include animal communication, navigation, sensory physiology, pharmacology and learning. Prereq: BIOL 411 and BIOL 412, or permission. Physiology (ZOOL 625), or another introductory neurobiology course, also desirable.

## ZOOL 895 - Advanced Studies

**Credits:** 1-4

Independent study in various areas, including but not limited to: animal behavior; departmental biology; ecology; electron microscopy; evolution; genetics; histology; history of biology; invertebrate biology; neurobiology and behavior; physiology; teaching practices; underwater research; vertebrate biology; biological techniques. Course sections for advanced work, individual or group seminar. May include reading, laboratory work, organized seminars, and conferences. Prereq: permission of department chairperson and staff concerned.

## ZOOL 899 - Master's Thesis

**Credits:** 1-10

Prereq: permission of department chairperson and prospective supervisor. Cr/F.

**Repeat Rule:** May be repeated for a maximum of 10 credits.

## ZOOL 997 - Seminar

**Credits:** 1-2

Reports on recent zoological literature. Subject fields are those listed under ZOOL 895 and ZOOL 896; not all areas available every semester. Cr/F.

## ZOOL 998 - Seminar

**Credits:** 1-2

Reports on recent zoological literature. Subject fields are those listed under ZOOL 895 and ZOOL 896; not all areas available every semester. Cr/F.

## ZOOL 999 - Doctoral Research

**Credits:** 0

Cr/F.