

ZOOL 216L: Fish Biology

Survey course on fish classification, anatomy, physiology, genetics, and life history. Laboratory portion emphasizes identification using dichotomous keys, dissections, and student participation in research projects. (E)

Course Student Learning Outcomes

1. Be able to describe the taxonomic classification of the jawless, cartilaginous, and bony fishes
2. Describe how fish evolution is understood with phylogentic systematic study
3. Apply an understanding of external anatomy of fish in identification methods
4. Identify distinguishing morphological characteristics and life history patterns of the major taxonomic groups of fishes (typically to order or family level)
5. Describe how form relates to function such as body morphology to swimming gaits, fish pigmentation and gas bladder morphology to habitat adaptation, etc.
6. Describe the anatomy, function and adaptation of major sensory systems such as vision, auditory, mechanosensory, and olfaction/gustation
7. Describe the anatomy, function and adaptation of homeostatic functions of food acquisition and use; circulation and gas exchange; osmoregulation; and the endocrine/nervous control of these functions
8. Apply basic genetics concepts to specific methods of laboratory methods of analyzing fish tissues.
9. Describe typical reproductive anatomy, physiology, and mating strategies.
10. Describe common development stages.

Credits: 5

Prerequisites: BIOL& 100L or equivalent, ENGL& 101; eligibility for MATH 090/091.

Program: **Zoology**