Bemidji State University

BIOL 4534: Ichthyology

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:
This course requires both of these prerequisites
   BIOL 1211 - Introductory Biology I
   BIOL 1212 - Introductory Biology II

Corequisites: None

MnTC Goals: None

An overview of morphology, physiology, behavior, taxonomy, systematics, and ecology of fishes. This course emphasizes the evolution of ecological adaptations and the origin and conservation of biodiversity. Lecture, laboratory, and field work. Prerequisites: BIOL 1211 and BIOL 1212.

B. COURSE EFFECTIVE DATES: 08/26/1997 - Present
C. OUTLINE OF MAJOR CONTENT AREAS
   1. Alimentary System
   2. Cardiovascular System
   3. Conservation of Fishes
   4. Early Life History
   5. Endangered Species
   6. Fish Anatomy, Morphometrics, Aging, and Necropsy
   7. Fish ID: Cstostomidae & Ictaluridae
   8. Fish ID: Cyprinidae
   9. Fish ID: Petromyzontidae through Clupeidae
  10. Fish Parasites
  11. Fish Social Structure & Behavior
  12. Functional Morphology
  13. History & Phylogeny of Fishes
  14. History of Ichthyology
  15. Homeostasis
  16. Homeostasis
  17. Juvenils, Adults, Age & Growth
  18. Minnesota Fishes Life History
  19. Minnesota Fishes
  20. Muscular System
  21. Nervous/Reproductive Systems
  22. Osmoregulation
  23. Respiration
  24. Rules of Zoological Nomeclature
  25. Seining
  26. Skeletal Systems, Skin & Scales
  27. Soft-Rayed Telosts
  28. Spiny-Rayed Telosts
  29. Systematics Procedures

D. LEARNING OUTCOMES (General)
   1. learn to identify fishes using keys.
   2. learn the anatomy, taxonomy, systematics, evolution, biogeography, ecology, physiology and behavior of fishes.
   3. learn to identify most Minnesota species and eastern North American genera of fishes on sight.
   4. learn to identify all families of North American freshwater fishes.
   5. learn methods of collecting and preserving fishes.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus
G. SPECIAL INFORMATION

None noted