BIOO - Biology-Organismal

BIOO 162CS. Insects and Human Society. 3 Credits. (2 Lec, 1 Lab) S
Ways in which research and advances in technology in the areas of insect biology and management have influenced people's lives throughout the world. Focus will be on insects as major factors affecting the areas of the world where humans live, crops and animals humans produce, and general quality of life on the planet. Interactions of insects and human cultures, technologically oriented and indigenous, non-technology based cultures, and concepts of pest management will also be explored. Students generate and test hypothesis and evaluate sources of scientific information on these topics.

BIOO 220. General Botany. 3 Credits. (3 Lec)
PREREQUISITE: BIOB 170IN. This course focuses on organisms that possess plastid organelles in all their cells, and investigates their function (physiology, biochemistry), diversity, life cycles, and environmental adaptations.

BIOO 230. Identification of Seed Plants. 4 Credits. (2 Lec, 2 Lab) S
PREREQUISITE: BIOB 170IN. Identification of conifers, trees and shrubs, and herbaceous seed plants; determination by use of manuals; vocabulary, classification and nomenclature; and preparation and collection of seed plant specimens.

BIOO 262IN. Introduction to Entomology. 3 Credits. (2 Lec, 1 Lab) F
PREREQUISITE: One of the following: BIOL 100IN, or BIOB 170IN. General biology of insects including principles of morphology, physiology, behavior, ecology, and control. Includes identification of major orders and common families.

BIOO 310. Comparative Vertebrate Anatomy. 4 Credits. (2 Lec, 2 Lab) F
PREREQUISITE: BIOB 170IN or BIOB 258. A comparative study of organ systems of vertebrates. Laboratory utilizes representative vertebrate types.

BIOO 412. Animal Physiology. 3 Credits. (3 Lec) F
PREREQUISITE: Junior or Senior standing. BIOB 160 or BIOB 260; and one of the following: CHMY 121, CHMY 123, CHMY 211, CHMY 321, or CHMY 331. General homeostatic physiology of animals with emphasis on mammals. Selected body systems are covered with major emphasis on the integration of body processes.

BIOO 415. Ichthyology. 3 Credits. (2 Lec, 1 Lab) S

BIOO 418. Ecological Physiology of Aquatic Organisms. 3 Credits. (1 Lec, 2 Lab) F
PREREQUISITES: BIOO 412 and currently in a Biological Sciences Major or Consent of Instructor. Provides a strong foundation on the physiological processes and systems that drive organismal responses to changes within the ecosystems they inhabit, with an emphasis on aquatic organisms. Students will learn to perform and interpret physiological measurements as well as read and discuss current scientific literature that connects physiology with wildlife management and conservation biology.

BIOO 433. Plant Physiology. 3 Credits. (3 Lec)
PREREQUISITE: Junior standing, BIOB 160 and one of the following: CHMY 211, CHMY 321, or CHMY 123. Physiological processes of higher plants, including photosynthesis, water relations, mineral nutrition, and development.

BIOO 435. Plant Systematics. 3 Credits. (1 Lec, 2 Lab) F even years
PREREQUISITE: BIOB 170IN and BIOO 250. Introduction to the local vascular plant flora emphasizing characteristics of the common families and genera. Lab concentrates on plant identification of common angiosperm plant families in Montana; preparation of about 120 reference specimens taken from the local flora.

BIOO 437. Plant Development. 3 Credits. (3 Lec) S
Alternate Even Years PREREQUISITE: BIOO 220 or BCH 380 or consent of instructor. This course studies the specific plant functions allowing a zygote to develop into an embryo. It further analyzes development of the embryo into a vegetatively growing plant, then a process known as 'floral transition' allowing the plant to "switch" from vegetative to reproductive growth, and finally investigates the formation of floral organs allowing completion of the plant's life cycle.

BIOO 460. Plant Metabolism. 3 Credits. (3 Lec)
Alternate Odd Years PREREQUISITE: BIOO 220 or BCH 380 or consent of instructor. In-depth overview of plant metabolism: photosynthesis including C4 and CAM pathways; intermediary carbon metabolism (sucrose and starch synthesis and degradation); lipids; nitrogen and sulfur assimilation and metabolism; amino acid biosynthesis; secondary metabolism (terpenoids, alkaloids, phenolic compounds).

BIOO 465. Insect Identification. 4 Credits. (2 Lec, 2 Lab) S alternate years, to be offered odd years.
PREREQUISITE: BIOO 262IN and one of the following: BIOL 100IN, BIOB 160 or BIOB 170IN. The identification of insects and related terrestrial arthropods. Evolutionary patterns reflected in modern insect diversity will be used to illustrate classification methods. Taxonomic methods will be used as an access to information retrieval.

BIOO 470. Ornithology. 3 Credits. (2 Lec, 1 Lab) S
PREREQUISITE: BIOO 310 and at least Junior standing. Evolution, functional biology, distribution, and classification of birds. Montana species recognition is developed through laboratory use of a representative skin collection.

BIOO 475. Mammalogy. 3 Credits. (2 Lec, 1 Lab) F
PREREQUISITE: BIOO 310 and at least Junior standing. Evolution, functional biology, distribution, and classification of mammals. Labs cover taxonomy and identification of representative forms with a focus on Montana species.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Times was used instead of Adobe Garamond Pro.

The editor may contact Leepfrog for a draft with the correct fonts in place.