

Biology (BIO)

BIO 100 Biology for Non-Science Majors

IAI – LI 900L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

A course designed specifically for the non-science major student. The course provides laboratory experience and lecture concepts that help the non-science major student understand the foundations of biology. Emphasis is placed on the application of this knowledge to human concerns and endeavors. Topics to be covered include but are not limited to: process of science, biochemistry, cell science, metabolism, genetics, molecular biology, biotechnology, evolution, and ecology.

BIO 101 Biological Science for Science Majors I

IAI – L1 900L, BIO 910

4 Hours

Prerequisites: None

5 hours weekly (3-2)

This course is designed for science majors. It is a lecture-lab course which includes the following: an introduction to biochemistry, molecular genetics, cell structure, function, and processes. The scientific method is presented in lab.

BIO 102 Biological Sciences II

IAI – BIO 910

4 Hours

Prerequisites: None

5 hours weekly (3-2)

Organismal biology, ecology, and evolution. An introduction to structure and function of major groups of microorganisms, fungi, animals, and plants. Emphasis on evolutionary relationships and ecological principles. Laboratory required.

BIO 105 Anatomy and Physiology

IAI – L1 904L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

An introduction to the study of the human body. The course includes laboratory experience and lecture concepts suited for a beginning anatomy and physiology class. Topics include but are not limited to structure and function of the organ systems, metabolism, biochemistry, cells, and tissues.

BIO 106 Human Body Structure and Function

4 Hours

Prerequisites: None

5 hours weekly (3-2)

A comprehensive study of the basic structure and function of the normal human body. The course includes study of the body plan, cells, tissues, and integumentary, skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary and reproductive systems. Laboratory includes fetal pig dissection and appropriate physiological experiments.

BIO 110 General Botany

IAI – L1 901L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

Fundamental concepts of plant life cycles, structure, function, and divisional survey, with emphasis on higher plants.

BIO 115 Invertebrate Zoology

IAI – L1 902L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

A survey of the major invertebrate phyla from protozoans through echinoderms. The course emphasizes origins and evolutionary history, functional morphology, and natural history. Representative organisms are examined in the laboratory.

BIO 120 Vertebrate Zoology

IAI – L1 902L

3 Hours

Prerequisites: None

4 hours weekly (2-2)

A survey of the phylum chordata, including cephalochordates and hemichordates as well as the more familiar vertebrates. Emphasis is placed on development, morphology, natural history, and diversity. Representative organisms are examined in the laboratory.

BIO 125 Horticulture

4 Hours

Prerequisites: None
5 hours weekly (3-2)

Taped lecture aired over public television. Instructor will be available to students by telephone, mail, and on a walk-in basis.

Lab class will consist of learning and demonstrating techniques used by gardeners, nurseries, orchardists, and horticulturists. Laboratory will be offered in conjunction with a telecourse. Successful completion of both the telecourse and the lab will allow the student to satisfy a science elective.

BIO 205 Human Anatomy and Physiology I

4 Hours

Prerequisites: None
5 hours weekly (3-2)

A study of the structure, functions, and homeostatic mechanisms of the normal human body. Subjects covered include: fundamentals of the chemical basis of life; cell structure and physiology; tissues; integumentary, skeletal, muscular, central and autonomic nervous systems; and special senses. The laboratory includes dissection of a cat, small mammal, mammalian eye, and appropriate physiological experiments.

BIO 206 Human Anatomy and Physiology II

4 Hours

Prerequisites: None
5 hours weekly (3-2)

A study of the structure, function, and homeostatic mechanisms of the endocrine, circulatory, lymphatic, respiratory, digestive, urinary, and reproductive systems; defense mechanisms of the body; pregnancy; embryonic development; and inheritance. The laboratory includes dissection of cat and large mammal heart and appropriate physiological experiments.

BIO 225 Genetics

IAI – L1 906

3 Hours

Prerequisites: None
3 hours weekly (3-0)

This course examines gene structure and function. Cytogenetics, transmission genetics, molecular

genetics and population genetics are explored during the semester. Special attention is given to applications of gene technology and the impact of genetic knowledge and technology on humanity.

BIO 226 General Microbiology

4 Hours

Prerequisites: None
6 hours weekly (2-4)

An introduction to the study of microorganisms, including their morphology, physiology, cultivation, classification, pathogenicity, economic importance, control, and immunity. Laboratory experiments guide students in development of laboratory procedures, sterile techniques, and data interpretation.

BIO 240 Plant and Animal Ecology

3 Hours

Prerequisites: None
3 hours weekly (3-0)

Important abiotic factors as well as population and community and ecosystem ecology, energy, biochemistry, and practical considerations are covered via a textbook of conceptual ecology. A field trip to both tropical and marine ecosystems is an option available to students.

BIO 241 Introduction to Tropical Ecology

3 Hours

Prerequisites: None
4 hours weekly (2-2)

A travel-study course providing baccalaureate transfer students an introduction to tropical ecology. Tropical forests, deserts, savannas, freshwater marine habitats, and the human impact on these areas are explored through readings, lectures, videos, and fieldwork in a tropical location. On-campus assignments include a seminar before and after the trip and weekly assignments during the semester.

BIO 245 Conservation of Natural Resources

3 Hours

Prerequisites: Consent of the instructor
3 hours weekly (3-0)

Conservation of natural resources, including both traditional and current approaches with emphasis on recent developments.

BIO 275 Wild Plants

3 Hours

Prerequisites: None
5 hours weekly (1-4)

A course in the identification of common vascular plants, particularly the angiosperms (flowering plants), stressing basic taxonomy, field and herbarium methods, plant uses and plant communities in southern Illinois. Local field trips will offer a diversity of trees, shrubs and wildflowers in season.