

BIOL 3300L: Genetics Laboratory

1 Credit Hours

Concurrent: BIOL 3300

This course is designed to reinforce principles and applications of transmission genetics, cytogenetics, and molecular genetics. Students will learn to use problem-solving, data analysis and quantitative methods to explore genetics. Exercises in molecular biology will expose students to methods of recombinant DNA technology.

BIOL 3301K: Introduction to Biotechnology

4 Credit Hours

Prerequisite: (BIOL 1108 and BIOL 1108L) and (BIOL 3300 and BIOL 3300L)

This course introduces students to the concepts, methods, and equipment currently associated with the field of biotechnology. Students learn the applications of microbes, plants, and animals in the context of food, medical, environmental, and forensic biotechnology. Students gain practical, hands-on experience with a variety of techniques commonly used in biotechnology.

BIOL 3310K: Invertebrate Zoology

4 Credit Hours

Prerequisite: (BIOL 1108 and BIOL 1108L) and (CHEM 1212 and CHEM 1212L)

This course is a survey of invertebrate animals. Students will explore the varied range of anatomical, physiological, and ecological relationships among these organisms in order to develop an understanding of evolutionary processes that brought about present day patterns in the biodiversity of animal phyla. In lab, students will collect, observe and identify common invertebrate taxa, and relate observed adaptations of form and function to habitat.

BIOL 3315K: Vertebrate Zoology

4 Credit Hours

Prerequisite: (BIOL 1107 and BIOL 1107L) and (BIOL 1108 and BIOL 1108L)

Students will use phylogenetic methods to explain evolutionary origins, ecological relationships, and life history traits of vertebrate organisms. In laboratories, students will identify North American vertebrates and analyze the relationship between morphology and taxonomy.

BIOL 3317: Pathophysiology

3 Credit Hours

Prerequisite: (BIOL 2252 and BIOL 2252L) or BIOL 4431

Examines the biological basis of common, clinical disease states. Pathophysiology is treated as a disruption of normal homeostatic mechanisms that progresses beyond the normal compensatory capabilities of the human body.