

BIOLOGY (BIO)

BIO171 Principles of Biology w/Lab (4 course hours)

Common concepts underlying the biological sciences: cell structure, metabolism, cell and organismal reproduction, genetics, evolutionary theory. No dissection. Lecture and lab.

Course offered: FA

BIO172 Prin of Organismal Biology w/Lab (4 course hours)

An introduction to ecology, evolution, and the diversity of life. The course covers principles of interactions between organisms and their environments, taxonomic groups of organisms, including aspects of physiology, morphology, and relationships between taxa, and evolution. Dissection. Lecture and lab.

Course offered: SP

BIO172H Prin of Organismal Biology w/Lab-Honors (4 course hours)

An introduction to ecology, evolution, and the diversity of life. The course covers principles of interactions between organisms and their environments, taxonomic groups of organisms, including aspects of physiology, morphology, and relationships between taxa, and evolution. Dissection. Lecture and lab.

Intended for Honors Program students only

Course offered: SP

BIO177 Environmental Science w/Lab (4 course hours)

Principles of the interactions of organisms with their environment, the alteration of the environment by humans, and the possible responses to global and national ecological problems. Lecture and lab.

Course offered: FA

BIO273 Anatomy and Physiology I w/Lab (4 course hours)

An integrated approach to the study of the human body and its functions including the skeletal, integumentary, muscular, and nervous systems. Lecture and Lab.

Sophomore standing

Pre-requisites: Sophomore Standing or higher required

Course offered: FA

BIO273L Anatomy and Physiology I Lab (0 course hours)

Lab Component of BIO 273 for Ambria College of Nursing Students.

BIO274 Anatomy and Physiology II w/Lab (4 course hours)

A continued integrative approach to the study of the human body and its functions including the circulatory, digestive, urogenital, endocrine, reproductive, respiratory and immune systems. Lecture and lab.

Pre-requisites: BIO273

Course offered: SP

BIO274L Anatomy and Physiology II Lab (0 course hours)

Lab Component of BIO 274 for Ambria College of Nursing Students.

BIO300 Topics in Biology: (3-4 course hours)

Customized courses dealing with specific topics not covered in the regular course offerings.

Permission of dept chair

BIO370 Kinesiology (3 course hours)

This course will examine fundamental movements of the body to determine actions and motions during physical activity that lead to the skillful development of coordination, economy of movement, and decreased risk of injury.

Pre-requisites: BIO274

Course offered: SP

BIO370H Kinesiology - Honors (3 course hours)

This course will examine fundamental movements of the body to determine actions and motions during physical activity that lead to the skillful development of coordination, economy of movement, and decreased risk of injury. REGISTRATION: This section is designed for students admitted into the Judson Honors Program only

Intended for Honors Program students only

Pre-requisites: BIO274

Course offered: SP

BIO371 Microbiology w/Lab (5 course hours)

Microorganisms including viruses, bacteria and protists, with an emphasis on pathogenic organisms. Lecture and lab.

Pre-requisites: BIO171 and CHM154

Course offered: SP (odd yrs)

BIO372 Cell Biology w/Lab (4 course hours)

Cell structure and ultrastructure including cell physiology, metabolism, and biochemistry. Lecture and Lab.

Pre-requisites: BIO171 and CHM154

Course offered: FA (odd yrs)

BIO376 Evolutionary Theory/W Lab (4 course hours)

Darwinian and neo-Darwinian theories of the origin and changes of organisms, including the relationship of these theories to the Christian faith. Lecture and lab.

Pre-requisites: CHM154 and BIO171

Course offered: SP (odd yrs)

BIO376H Evolutionary Theory w/Lab - Honors (4 course hours)

Darwinian and neo-Darwinian theories of the origin and changes of organisms, including the relationship of these theories to the Christian faith. Lecture and lab. REGISTRATION: This section is designed for students admitted into the Judson Honors Program only

Intended for Honors Program students only

Pre-requisites: CHM154 and BIO171

Course offered: SP (odd yrs)

BIO378 Human Genetics w/Lab (4 course hours)

Genetic basis of inherited human traits including Mendelian inheritance, sex linkage, polygenic inheritance, and chromosomal anomalies. Lecture and Lab.

Pre-requisites: BIO171 and CHM154

Course offered: FA (even yrs)

BIO379 Ecology w/Lab (4 course hours)

Biotic and abiotic components of ecosystems, how they interact at levels of organization from the organism to the biosphere, and how humans affect ecosystems. Patterns and processes that determine the abundance and distribution of organisms. Lecture and lab.

Pre-requisites: BIO171 and CHM154

Course offered: FA (even yrs)

BIO380 Genetic Analysis w/Lab (4 course hours)

A study of the basic principles of heredity, including classical, cytological, population, and molecular genetics.

Pre-requisites: BIO171 and CHM154

Course offered: FA (odd yrs)

BIO380H Genetic Analysis w/Lab - Honors (4 course hours)

A study of the basic principles of heredity, including classical, cytological, population, and molecular genetics. REGISTRATION: This section is designed for students admitted into the Judson Honors Program only

Intended for Honors Program students only

Pre-requisites: BIO171 and CHM154

Course offered: FA (odd yrs)

BIO467 Exercise Physiology (3 course hours)

Studies human anatomy and physiology with emphasis on the muscular, circulatory, nervous, digestive and respiratory systems. Stress is placed on the effects of exercise on those systems.

Pre-requisites: BIO273

BIO480 Developmental Biology w/Lab (5 course hours)

The course investigates the cellular and molecular mechanisms that regulate animal development. Topics include fertilization, cleavage, gastrulation, axis specification, morphogenesis, organogenesis, differential gene expression, and developmental mechanisms of evolutionary change. Bioethical implications of modern embryology will be considered through the lens of a Christian worldview. This is a lab intensive course.

Pre-requisites: BIO172 and BIO380

Course offered: SP (even yrs)

BIO488 Directed Research in Biology (1-6 course hours)

Intensive laboratory research experience under direction and design of division faculty member. Additional criteria and approvals may be found in the "Alternative Credit and Special Course Arrangement" section of the online catalog.

Permission of dept chair

BIO495 Biology Practicum (1-6 course hours)

Significant laboratory or literature research as approved by department chair and faculty advisor.

Per of Instruc Required