

BIOLOGY (BIO)

BI0171 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.

Science/Math Fee: \$175.00

Course offered: FAL

BI0172 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.

Science/Math Fee: \$175.00

Course offered: SPR

BI0172H Prin of Organismal Biology w/LabHonors (4 course hours)

A physiological and morphological approach to various groups of animals with emphasis on the vertebrates, including man. Dissection of fetal pigs and various invertebrates. Lecture and lab.

Science/Math Fee: \$175.00

Course offered: SPR

BI0177 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. Offered as traditional course and online.

Science/Math Fee: \$175.00

Course offered: VAR

BI0273 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.

Must be at sophomore status before class begins., Science/Math Fee: \$175.00

Course offered: FAL

BI0274 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.

Science/Math Fee: \$175.00

Pre-requisites: BI0273

Course offered: SPR

BI0370 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: BI0274

Course offered: SPR

BI0370H Kinesiology - Honors (3 course hours)

Fundamental movements of the body to determine actions and motions in physical activity and development of coordination.

Pre-requisites: BI0274

Course offered: SPR

BI0371 Microbiology w/Lab (5 course hours)

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

Science/Math Fee: \$175.00

Pre-requisites: BI0171 CHM154

Course offered: OSPR

BI0372 Cell Biology w/Lab (4 course hours)

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

Science/Math Fee: \$175.00

Pre-requisites: BI0171 CHM258

Course offered: OFAL

BI0376 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.

Science/Math Fee: \$175.00

Pre-requisites: CHM154 BI0171

Course offered: OSPR

BI0376H 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.

Science/Math Fee: \$175.00

Pre-requisites: CHM154 BI0171

Course offered: OSPR

BI0378 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.

Science/Math Fee: \$175.00

Pre-requisites: CHM154 BI0171

Course offered: EFAL

BI0379 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.

Science/Math Fee: \$175.00

Pre-requisites: CHM154 BI0171

Course offered: EFAL

BI0380 Genetic Analysis w/Lab (4 course hours)

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

Science/Math Fee: \$175.00

Pre-requisites: BI0171 CHM154

Course offered: OFAL

BI0380H Genetic Analysis w/Lab - Honors (4 course hours)

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

Science/Math Fee: \$175.00

Pre-requisites: BI0171 CHM154

Course offered: EFAL

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 Christian worldview. This is a lab intensive course.

Science/Math Fee: \$175.00

Pre-requisites: BIO172 BIO380

Course offered: ESPR

BIO495 Biology Practicum (1-6 course hours)

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

Science/Math Fee: \$175.00

Faculty consent required.

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Course offered: DEM