

# BIOLOGICAL SCIENCE (BSCI)

## BSCI 55 - Preparation for Allied Health (0) [3]

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 70 and ESOL 71) or ESOL 100 OR (Co-requisite: ENGL 75 or ESOL 100) AND (appropriate score on mathematics placement test or Prerequisite or Co-requisite: any 100 level MATH course\* or higher)\*MATH 101A, MATH 120A, MATH 145S can serve as prerequisites or co-requisites*

(formerly BI 55)

Presents basic science concepts and science study skills. A preparatory course for students who have limited science background.

## BSCI 100 - Fundamental Concepts of Biology (4)

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 101A or MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 101 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] \*MATH 101A, MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites*

(formerly BI 100)

Explores basic biological concepts involved in understanding the structure, function, and evolution of organisms. Introduces organization of living matter, metabolism, genetics, evolution, and ecology, and their application to everyday life. This one semester laboratory course is intended for non-STEM (science, technology, engineering, and math) majors, and is designed to provide students with an appreciation of biological concepts and their current applications. Meets the requirement for a general education science lab course.

## BSCI 105 - Human Ecology (3)

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 101A or MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 101 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] \*MATH 101A, MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites*

(formerly BI 202)

Investigates physical environments of human beings and the effect of technologies on the environment. Emphasizes small group investigations of air, water, and soil pollution and the rapidly expanding population as it affects the natural ecosystem within Frederick County and the Eastern seaboard. Some Friday or Saturday field trips may be required.

## BSCI 106 - General Ecology (4)

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 101A or MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 101 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] \*MATH 101A, MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites*

(formerly BI 201)

Provides an overview of the interactions among living things and their abiotic environments, emphasizing factors which affect the abundance and distribution of living things. The laboratory will focus on using field experiences to develop topics covered in the lecture. Meets the requirement for a general education science lab course. Some Friday or Saturday field trips may be required.

## BSCI 107 - Study of the Human Body (3)

Gen Ed Science

*Prerequisites: ENGL70 or ENGL75 or (ESOL72 & ESOL73) or ESOL100 AND [(Prerequisite: MATH101A or MATH120A or MATH145S) OR (Pre or Co-requisite: MATH101 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)]; Students cannot earn credit for both BSCI 107 and BSCI 117*

(formerly BI 117)

Examines the human body and its relationships to health, disease, and the environment. Covers basic concepts of anatomy, physiology, genetics, cancer, disease, immunology, aging, human evolution, and/or other related topics. For the non-science major. Students cannot receive credit for both BSCI 117 and BSCI 107.

## BSCI 117 - Human Biology (4)

Gen Ed Science

*Prerequisites: ENGL70 or ENGL75 or (ESOL72 & ESOL73) or ESOL100 AND [(Prerequisite: MATH101A or MATH120A or MATH145S) OR (Pre or Co-requisite: MATH101 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)]; Students cannot earn credit for both BSCI 107 and BSCI 117*

(formerly BI 107)

Presents a study of the human body and its relationships to health, disease, and the environment. Covers basic concepts of anatomy, physiology, genetics, cancer, disease, immunology, aging, human evolution, and/or related topics. For the non-science major. Meets the requirement for a general education science lab course. Students cannot receive credit for both BSCI 107 and BSCI 117.

## BSCI 150 - Principles of Biology I (4)

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 120 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] \*MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites*

(formerly BI 101)

Explores the basic biological principles common to all living organisms, including biological chemistry, bioenergetics and metabolism, cellular and molecular biology, and classical and molecular genetics. Methods of scientific inquiry and data analysis are studied and practiced. BSCI 150 is the first of a two semester series that together with BSCI 160 is a comprehensive survey of modern biology and is intended for STEM (science, technology, engineering, and math) majors and pre-allied health majors. Meets the requirement for a general education science lab course.

## BSCI 160 - Principles of Biology II (4)

Gen Ed Science

*Prerequisite: BSCI 150 or BI 101*

(formerly BI 102)

Continues the comprehensive survey of modern biology begun in BSCI 150 with an emphasis on mechanisms of evolution, methods of phylogenetic reconstruction and analysis, diversity of life, and ecology. Surveys biological diversity of all eukaryotic domains and kingdoms, including the study of various anatomical, physiological, and behavioral adaptations for life in different habitats. Select vertebrate body systems are studied. Intended for STEM (science, technology, engineering, and math) majors, and pre-allied health majors. Meets the requirement for a general education science lab course.

**BSCI 201 - Anatomy and Physiology I (4)**

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 120 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] AND (BSCI 55 or BSCI 150 or BI101 or BSCI 223 or BI 120 or CHEM 101) \*MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites (formerly BI 103)*

Presents a study of physiology according to the body systems approach. Emphasizes relationships between form and function at both the microscopic and gross levels of organization. Includes basic anatomical terminology, concepts of cell biology, histology, integumentary system, skeletal system, muscular system, nervous system, special senses, and endocrine system. BSCI 201 is the first course in a two-semester sequence and is intended for STEM (science, technology, engineering, and math) majors and pre-allied Health majors. Meets the requirement for a general education science lab course.

**BSCI 202 - Anatomy and Physiology II (4)**

Gen Ed Science

*Prerequisite: BSCI 201 or BI 103 (formerly BI 104)*

Presents a study of physiology according to the body systems approach. Emphasizes relationships between form and function at both the microscopic and gross levels of organization. Includes cardiovascular system, lymphatic system and immunity, respiratory system, digestive system and metabolism, urinary system, fluid/electrolyte balance, acid/base balance, and reproductive system. BSCI 202 is the second course in a two-semester sequence and is intended for STEM (science, technology, engineering, and math) majors and pre-allied health majors. Meets the requirement for a general education science lab course.

**BSCI 223 - Microbiology for Allied Health (4)**

Gen Ed Science

*Prerequisites: ENGL 70 or ENGL 75 or (ESOL 72 and ESOL 73) or ESOL 100 AND [(Prerequisite: MATH 120A or MATH 145S)\* OR (Prerequisite or Co-requisite: MATH 120 or higher credit level (non-A or S) MATH course) OR (appropriate score on mathematics placement test)] AND (BSCI 55 or BSCI 150 or BI101 or BSCI 201 or BI 103 or CHEM 101) \*MATH 120A, MATH 145S can serve as prerequisites only, not co-requisites (formerly BI 120)*

Covers the basic principles of cell chemistry and microbiology with respect to human physiology. Includes cell physiology, growth and metabolism of microorganisms, important groups of pathogenic microorganisms, antimicrobial agents, immunology, and introductory biochemistry. Intended for allied health students. Meets the requirement for a general education science lab course.

**BSCI 240 - Genetics (4)**

*Prerequisites: (BSCI 150 or BI101) and CHEM 101 (formerly BI 240)*

Includes history of genetics, the chemical basis of heredity, the chromosomes and genes, probability, variation in gene structure, mutation, extrachromosomal systems and genes flow in populations. Meets the requirement for a science lab course.  
*This course is only offered in the Spring.*

**BSCI 263 - Elements of Microbiology (4)**

*Prerequisites: CHEM 101 and (BSCI 150 or BI 101 or BSCI 201 or BI 103) (formerly BI 203)*

Covers the basic principles of cell chemistry and microbiology with respect to human physiology. Includes cell physiology, growth and metabolism of microorganisms, important groups of pathogenic microorganisms, antimicrobial agents, immunology, and introductory biochemistry. Intended for allied health students. Meets the requirement for a science lab course.

*This course is only offered in the Fall.*