BIO – Biology Courses

BIO105 Introductory Biology (AA Approved) – STANDARD CREDIT (4) Basic principles of biology, a survey of how living things are organized and how they function. Special emphasis is given to the human perspective on biology. Topics include human physiology, genetics, genetic engineering, digestion and nutrition, disease and immunology, and basic principles of plant biology as it applies to agriculture.

BIO111 General Biology (AA Approved) – STANDARD CREDIT (4) Structure and function of living organisms from the cell level through the population level. Emphasis is on cell structure, genetics, evolution, ecology and animal and plant systems.

BIO112 General Biology I (AA Approved) – STANDARD CREDIT (4) An introduction to the nature of living organisms; diversity of microbes, animals, and plants; genetics and inheritance; reproduction; evolution; population, community, and ecosystem ecology. Intended for science majors.

BIO113 General Biology II (AA Approved) – STANDARD CREDIT (4) An introduction to life processes at the cellular, tissue, and organ levels; genetic control, metabolism, energy production, respiration, photosynthesis; plant growth, transport, and reproduction; animal growth, organ systems, and reproduction. Intended for science majors.

BIO138 Field Ecology – STANDARD CREDIT (3) Recognizing and understanding organisms in their natural communities. Emphasis on native trees and shrubs, fishes and the aquatic environment, and native amphibians and reptiles. Laboratory includes field collection and identification, interpretation, and behavioral roles.

BIO151 Nutrition (AA Approved) – STANDARD CREDIT (3) Understanding and implementing present-day knowledge of nutrition. Use of food for health and satisfaction of the individual and the family.

BIO168 Human Anatomy and Physiology I (AA Approved)
Prerequisite: *Background in either a high school level or introductory college level biology course and a high school level chemistry course are strongly recommended.*
STANDARD CREDIT (4) Introduces the structure and function of the human body, with an emphasis on cell and tissue organization, and the integumentary, musculoskeletal, and nervous systems.

BIO173 Human Anatomy and Physiology II (AA Approved)
Prerequisite*: BIO168*
STANDARD CREDIT (4) The structure and function of the human body, with an emphasis on the endocrine, cardiovascular, pulmonary, urinary, digestive, and reproductive systems.

BIO186 Microbiology (AA Approved) – STANDARD CREDIT (4) This course presents a survey of microorganisms, their structure, metabolism, growth characteristics, and replication. It will also emphasize their importance to the health sciences, biotechnology, and the environment. The lab will include procedures for manipulating, identifying, counting, and culturing microorganisms.

BIO192 Laboratory Technology I – STANDARD CREDIT (1) Relates the student's field experience with classroom instruction. Includes career information, field trips, and discussions of current topics in the field of laboratory technology.

BIO532 Human Body: Health and Disease – STANDARD CREDIT (3) Concepts and characteristics of human diseases, focusing on etiology, epidemiology, health promotion and education. Emphasis on understanding the relationship between clinical signs/symptoms and the disease process.

BIO741 PLTW Principles of Biomedical Science – CAREER AND TECHNICAL CREDIT (3) This course provides an introduction to the biomedical sciences through exciting hands-on projects and problems. Students investigate concepts of biology and medicine as they explore health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They will determine the factors that led to the death of a fictional woman as they piece together evidence found in her medical history and autopsy report. Students will investigate lifestyle choices and medical treatments that might have prolonged the woman's life and demonstrate how the development of disease is related to changes in human body systems.

BIO742 PLTW Human Body System – CAREER AND TECHNICAL CREDIT (3) Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the roles of biomedical professionals to solve medical mysteries.

BIO743 PLTW: Medical Interventions – CAREER AND TECHNICAL CREDIT (3) Students follow the life of a fictitious family as they investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

BIO744 PLTW: Biomedical Innovations – CAREER AND TECHNICAL CREDIT (3) In the final course of the PLTW Biomedical Science sequence, students build on the knowledge and skills gained from previous courses to design innovative solutions for the most pressing health challenges of the 21st century. Students address topics ranging from public health and biomedical engineering to clinical medicine and physiology. They have the opportunity to work on an independent design project with a mentor or advisor from a university, medical facility, or research institution.

BIO917 Experimental Course – STANDARD CREDIT (Varied credit) New courses as student interests demand.

BIO927 Honors Study – STANDARD CREDIT (Varied Credit) This course is designated as an honors course in biology as a special project.

BIO929 Individual Projects – STANDARD CREDIT (Varied credit) Special topics as arranged with instructor.