PLTW Biomedical Science

Principles of Biomedical Science

Prerequisites: Students must have taken Biology I and accepted into the Biomedical Science STEM program.

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems. Students must have Lexile score that is on target or above and student must have taken or be scheduled for Biology. At the end of this course, students will take an end of course assessment. Students who score a 6 on this exam will receive dual credit course weighting.

Human Body Systems

Prerequisites: Students must have taken Biology I and Principles of Biomedical Science with a grade of 75 or higher.

Human Body Systems (HBS) Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken®; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases. Students must have Lexile score that is on target or above and student must have taken or be scheduled for Biology. At the end of this course, students will take an end of course assessment. Students who score a 6 on this exam will receive dual credit course weighting.

Human Body Systems

<u>Prerequisites:</u> Students must have taken scored a 75 or better in all courses in the Biomedical Science program.

Medical Interventions (MI) 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. Student must have taken either PBS or HBS.

At the end of this course, students will take an end of course assessment. Students who score a 6 on this exam will receive dual credit course weighting.

Medical Terminology

Prerequisites: Must have passed Principles of Biomedical Science and Human Body Systems with a 75 or higher

Medical terminology is designed to develop a working knowledge of the language of health professions. Students acquire word-building skills by learning prefixes, suffixes, roots, combining forms, and abbreviations. Utilizing a body systems approach, students will define, interpret, and pronounce medical terms relating to structure and function, pathology, diagnosis, clinical procedures, and pharmacology. Students will use problem-solving techniques to assist in developing an understanding of course concepts.