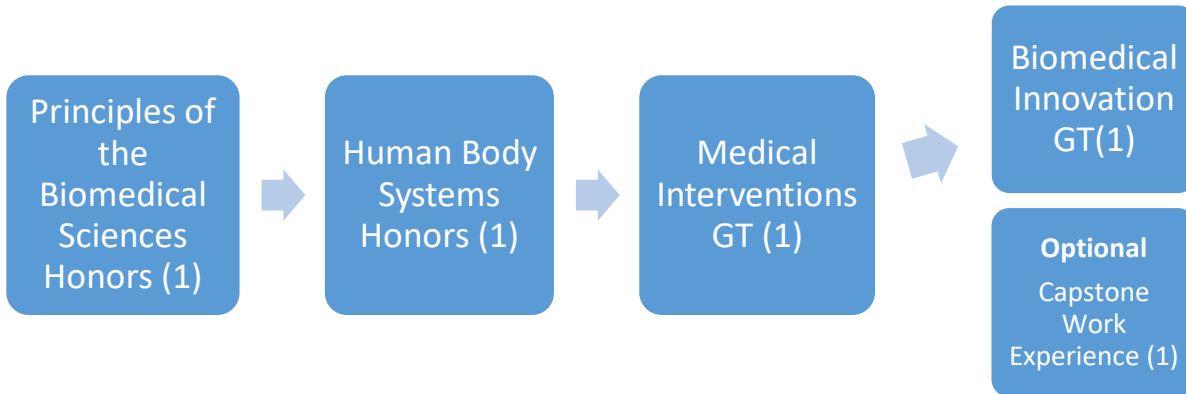


Project Lead The Way: Biomedical Sciences



Careers in Biomedical Sciences:

Biomedical Engineering and Research, Nursing, Pharmacists, Physicians, Physician Assistants, Radiology/Imaging, Rehabilitation, Respiratory Therapy, Nutritionist, Veterinary Science, Laboratory Technicians, Bioinformatics, and many more future careers that have yet to be created!



This program is designed to meet the needs for more employees who are qualified science and health professionals. Biomedical science is a broad field encompassing many different medical and healthcare disciplines. This program will give students the foundation skills to prepare for high skill, high wage positions in biomedical sciences. The Project Lead The Way Biomedical Sciences program is based on the National Standards for Science, Mathematics, and English Language Arts, and the Accountability Criteria for the National Health Care Cluster Foundation Standards. The biomedical science courses include Principles of Biomedical Science, Human Body Systems, Medical Interventions, and Biomedical Innovation.

The PHHS Biomedical Sciences program is rigorous and requires an application from students during their eighth-grade year. Students will be accepted based on their grades, math level, attendance, and written essays. The Biomedical Sciences are not designed to replace the traditional science courses; they are designed to enhance them and to focus on the concepts directly related to Biomedical Science.

Students should have an interest in the biomedical sciences and have a plan to complete all four courses in the program while in high school.
*Course descriptions on back

Principles of the Biomedical Sciences™



In this course, students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing, and proposing treatment to patients in a family medical practice, to tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems.

Human Body Systems™

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis in the body. 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.

Medical Interventions™

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.

Biomedical Innovation™

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 project with a mentor or advisor from a university, medical facility, or research institution.

PLTW Biomed Capstone Work Experience Prerequisite: Successful completion of the preceding sequence of courses for this pathway is required. Eligible students can participate in a CWE in addition to enrollment in Biomedical Innovation.

2023-2024 Articulation Agreement

between

Baltimore County Public Schools and Community College of Baltimore County

BCPS Program Title:

Project Lead The Way: Biomedical Sciences

CCBC Program Title:

Biology

BCPS Course #	BCPS Course Title	BCPS Credits Earned	CCBC Course #	CCBC Course Title	CCBC Credits Awarded
<i>Required</i>	<i>BCPS Courses</i>	<i>Below</i>	<i>CCBC</i>	<i>Courses Awarded</i>	<i>Below</i>
63.5200	PLTW Biomed Principles	1	BIOL 107	Human Biology	4
63.5210	PLTW Biomed Human Body Sys	1			
63.5220	PLTW Biomed Medical Intervention	1			
63.5230	PLTW Biomed Innovation	1			

This agreement is not a course by course alignment. BCPS students must successfully complete all required credits in the CTE career completer program of study with a cumulative technical Grade Point Average of a B or better and with a C grade or higher in each required course to receive articulated credit.