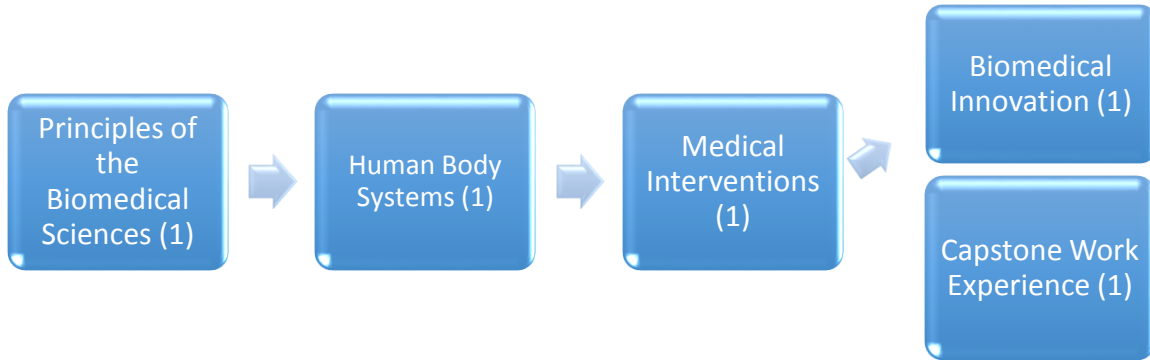




Project Lead the Way: Biomedical Sciences



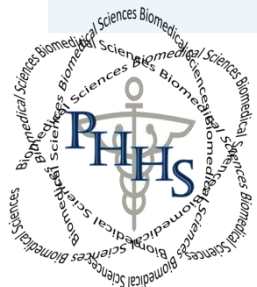
Careers in Biomedical Sciences:

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

The Applied Knowledge of Biomedical Sciences™

Project Lead the Way's Biomedical Sciences™ program is a four year series of courses designed to bring students closer to the possibilities of a medical based career. The courses are integrated into the students' core curriculum and designed to expand upon the college preparatory math and science courses.



The PHHS Biomedical Sciences program is rigorous and requires an application. Students will be accepted based on their grades, math level, attendance, teacher recommendations, and written essays. All courses receive honors level credit.

***Course descriptions on back**

Prerequisites

Students should have an interest in the bio-medical sciences and have a plan to complete all four courses in the program while in high school.

Requisite Courses

Students enrolled in the PLTW Biomedical Sciences courses must also be enrolled in college-preparatory mathematics and science courses. 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.

Principles of the Biomedical Sciences™

Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in subsequent courses.

Human Body Systems™

Students engage in the study of the processes, structures, and interactions of the human body systems. Students design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries.

Medical Interventions™

Students investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease as they follow the lives of a fictitious family. Through scenarios, students are exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Lifestyle choices and preventive measures are emphasized throughout the course as well as the important roles scientific thinking and engineering design play in the development of interventions of the future.

Biomedical Innovation™

In this capstone course students design and conduct experiments related to the diagnosis, treatment, and prevention of disease or illness. They apply their knowledge and skills to answer questions or to solve problems related to the biomedical sciences. They may work with a mentor or advisor from a university, hospital, physician's office, or industry as they complete their work. Students are expected to present their results to an adult audience, which may include representatives from the local healthcare or business communities.

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.

**Students who complete the program successfully may earn up to 3 articulated (FREE) college credits with CCBC.*