



Biomedical Science

	Year 1	Year 2	Year 3	Year 4
Course Sequence	Principles of Biomedical Science (PBS)	Human Body Systems (HBS)	Medical Interventions (MI)	Biomedical Innovation (BI)
Pre- Requisite Courses	Biology I (completed or currently enrolled)			

Recommended Advanced Electives
AP Biology
AP Chemistry

Course Descriptions

Principles of Biomedical Science

5218 PRIN BIOMED

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

5216 HUMAN SYST

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,



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reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.

Medical Interventions

5217 MED INTERV

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

5219 BIO INN

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.

Career Outlook

