PROJECT LEAD THE WAY – Biomedical ACADEMY

Biomedical Sciences is a broad field encompassing many different medical and healthcare disciplines. These include biochemistry, dentistry, forensics, immunology, microbiology, pharmacology, physiology, radiological sciences, and more. PLTW's Biomedical Sciences program will give students the educational foundation to enter any of these fields.

People in Biomedical Sciences seek to understand the chemistry and biology of life to diagnose and treat disease, improve health, and ease pain and suffering. This includes not only doctors and nurses, but scientists, engineers, administrators, and technicians. The PLTW™ Biomedical Sciences program prepares students for diverse long-term careers in health care, research, specialized laboratory work, education, and management.

This program will consist of four courses: Principles of the Biomedical Sciences, Human Body Systems, Medical Interventions, and Biomedical Innovation. One course will be implemented each year over the next four years with Principles of the Biomedical Sciences being the first and geared toward the freshman student. The second course, Human Body Systems, can serve as a replacement for the current Anatomy and Physiology course. The third course, Medical Interventions, will include interventions to support humans in treating disease and maintaining health. Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. The final capstone course, Biomedical Innovation, will give student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare.

Students must earn at least a C+ or better in all PLTW - Biomedical courses, to continue in the program.

Required courses:

9th Grade: PBS – Principles of Biomedical Sciences
10th Grade: HBS – Human Body Systems
11th Grade: MI – Medical Interventions
12th Grade: BI – Biomedical Innovation

Course descriptions of these courses are found in the Science Department section of this guide.

Biomedical Academy

CURRICULUM

RECOMMENDED PREREQUISITES	
Algebra I	2 semesters
Biology I	2 semesters
CORE COURSES	
PBS – Principles of Biomedical Sciences	Freshman year, 2 semesters
HBS – Human Body Systems	Sophomore year, 2 semesters
MI – Medical Interventions	Junior year, 2 semesters
BI – Biomedical Innovation	Senior year, 2 semesters
ELECTIVE ENGINEERING COURSES For students interested in the following careers	
BE – Biotech Engineering	Biotechnology, biomedical, bioengineering
SUGGESTED ELECTIVE COURSE	
Students are encouraged to take other related science and math courses appropriate to the biomedical field.	

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