

# Perry Hall High School

## PLTW Biomedical Science Program



### PROGRAM DESCRIPTION

Students investigate and study the concepts of human medicine, physiology, genetics, microbiology, and public health as they engage in activities like investigating the death of a fictional person or dissecting a sheep's heart. Students learn content in the context of real-world cases. They examine the structures and interactions of human body systems and explore the prevention, diagnosis, and treatment of disease. The future of the biomedical sciences comes alive in this rigorous and relevant four-course sequence that prepares students to continue their studies through post-secondary education and careers.

### COURSE SEQUENCE:

Freshman: Principles of Biomedical Sciences

Sophomore: Human Body Systems

Junior: Medical Interventions

Senior: Biomedical Innovations

*Sophomores entering the program will need to take two of the above classes in the same year.*

### **WHO**

**Class of 2025**

**Anyone interested in careers in biomedical sciences**

### **WHAT**

**A 4 YEAR PROGRAM**

**4 COURSES**

**COLLEGE CREDIT POSSIBLE  
FIELD-RELATED EXPERIENCES**

### **HOW**

**Apply Online**

<https://forms.gle/qNKkWr9NzCqupjtX9>

### **WHEN**

**Applications now available**

**Deadline 2:15 on Friday  
2/26/2021**

**Acceptances will be  
mailed in March.**

### **FOR MORE INFO:**

**Contact: Dr. Lipinski  
llipinski@bcps.org**

## Sample Schedule

*Students have plenty of room to take Biomed courses  
and still participate in their favorite electives!*

Grade 9	Grade 10	Grade 11	Grade 12
English 9	English 10	English 11	English 12
Government	World History	US History	Economics (.5) + Elective (.5)
Math	Math	Math	Math
Earth Systems	Living Systems	Integrated Physics and Chemistry OR Chemistry	Physics AND/OR Science Elective
<b>Principles of Biomedical Sciences</b>	<b>Human Body Systems</b>	<b>Medical Interventions</b>	<b>Biomedical Innovations</b>
Foreign Language	Foreign Language	Elective	Elective
PE	Tech Ed	Elective	Elective
Fine Art: Art, Music, Theatre, Dance	Elective	Health (0.5 credit) + Elective (0.5 credit)	Elective

### Course Descriptions:

#### **Course #1: Principles of the Biomedical Sciences (9<sup>th</sup> grade)**

- Students complete forensic medical investigations to determine the cause of death of a fictitious college student.
- The activities and projects introduce students to medical investigations, clinical care, outbreaks and emergencies, and biomedical innovations.
- This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the scientific foundation for subsequent courses through exciting hands-on projects and problems.

#### **Course #2: Human Body Systems (10<sup>th</sup> grade)**

- Students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis.
- Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration.

#### **Course #3: Medical Interventions (11<sup>th</sup> grade)**

- Students investigate the variety of interventions involved in the prevention, diagnosis and treatment of disease.
- Explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose and treat cancer, and how to prevail when the organs of the body begin to fail.
- Exposed to the wide range of interventions related to Immunology, Surgery, Genetics, Pharmacology, Medical Devices, and Diagnostics.

#### **Course #4: Biomedical Innovations (12<sup>th</sup> grade)**

- Students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences.
- Students design innovative solutions for the health challenges of the 21<sup>st</sup> century as they work through progressively challenging open-ended problems.
- Address topics such as clinical medicine, physiology, biomedical engineering, and public health.