

# PHHS BIOMEDICAL SCIENCE

## 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 identifying brain and heart abnormalities. 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 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?

**Students interested in careers in biomedical sciences.**

## WHAT?

**A 4 YEAR PROGRAM**

**4 COURSES**

**COLLEGE CREDIT POSSIBLE**

**FIELD-RELATED EXPERIENCES**

## HOW?

<https://forms.gle/uVLCGSwb9vRa4whcA>



## WHEN?

**Applications now available**

**Deadline for applications:**

**2/29/24**

## FOR MORE INFO:

**Contact: Dr. Lipinski**

[llipinski@bcps.org](mailto:llipinski@bcps.org)

**Come to PHHS Open House see**

**[Home - Perry Hall High](#)**

**[bcps.org](https://bcps.org) for more info!**

### Course Descriptions:

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

- Students investigate the human body systems and various health conditions.
- The activities and projects introduce students to forensic science, human physiology, infectious disease, genetic disorders, and research processes.
- 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.

Career Exploration: Students explore Biomedical Careers to learn more about required education and career paths.

Students are introduced to many careers including

- Anesthesiologist
- Audiologist
- Cytogeneticist
- Dietician
- Emergency Response Team Member
- Epidemiologist
- Forensic Scientist
- Geneticist
- Medical Technologist
- Neurologist
- Nurses (LPN, RN, NP)
- Occupational Therapist
- Otolaryngologist
- Pharmaceuticals (Pharmacist, Sales Representative, Scientist)
- Phlebotomist
- Physical Therapist
- Primary Care Physician
- Psychologist
- Radiologist
- Reconstructive Surgeon
- Reproductive Endocrinologist
- Respiratory Therapist
- Sports Medicine Physician
- Transplant Surgeon
- Virologist
- X-ray Technician