

Frederick High School Biomedical Science Academy



Project Lead the Way



Creating college and career opportunities for students in the rapidly expanding field of Biomedical Science

In a partnership with Project Lead the Way, Frederick High School will prepare students for 21st century careers as biomedical professionals.

The Biomedical Science Academy will prepare students for the following:

- 🏠 Clinical Medicine
- 🏠 Biomedical Engineering
- 🏠 Public Health
- 🏠 Medical Diagnostics
- 🏠 University Study

Students will study topics in the following Biomedical Science courses:

- 🏠 Autopsy Reports
- 🏠 Medical History
- 🏠 Human Body Systems
- 🏠 Code of Human DNA
- 🏠 Medical Interventions
- 🏠 Cancer Treatment Options
- 🏠 Biomedical Innovations

ST. VRAIN VALLEY SCHOOLS
academic excellence by design



Students explore the roles of biomedical professionals by engaging in real-world cases, working collaboratively to understand and design solutions to the most pressing health challenges of today and the future.



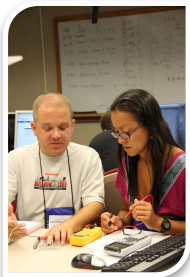
Year One: Principles of Biomedical Science

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. Students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life.



Year Two: Human Body Systems

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken® and take on the roles of biomedical professionals to solve real-world medical cases.



Year Three: Medical Interventions

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.



Year Four: Biomedical Innovation (Capstone Course)

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. They have the opportunity to work on an independent design project with a mentor or advisor from a university, medical facility, or research institution.