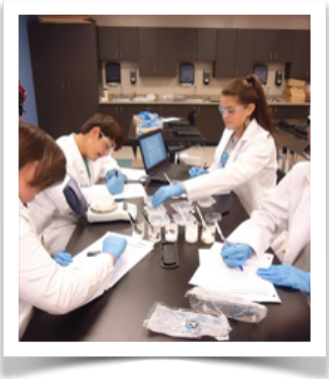
DVRHS

Biomedical ScienceAcademy

Innovation • Design • Technology

The Biomedical Sciences Academy (BSA) is a rigorous and focused four year program within Delaware Valley Regional High School for students with career interests in biomedical sciences.

The nationally recognized Project Lead the Way (PLTW) curriculum combines resources from multiple colleges and universities, as well as experiments, diagnostic tests, and patient case studies. This program provides students with exposure to concepts of human medicine, physiology, genetics, microbiology, and public health through engaging real-world applications and experiences.

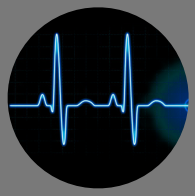


OVERVIEW

- All eighth grade students are eligible to apply.
- Acceptance into the program will be based on placement test scores, attendance, discipline records, and 7th & 8th grade transcripts.
- The Academy program is designed for students to attend DVRHS the entire day and for all four years of high school.
- Each academy class is equivalent to one regular class period.
- There are no fees for this program.
- Students will be eligible to earn over 20 college credits during their 4 years in the Biomedical Academy at DVRHS from Seton Hall University and Raritan Valley Community College.

Hands-on
Students learn to apply theory to real-world situations and product design.

Future-Ready
DVRHS was one for the first schools in NJ to earn the "Future Ready" designation.



Experienced
Our highly-qualified faculty come from STEM-education and engineering professional backgrounds.

COURSE SEQUENCE AND DESCRIPTIONS

9

Principles of Biomedical Sciences: Students explore the concepts of biology and medicine to determine the factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

10

Human Body Systems: Students are introduced to Anatomy & Physiology and Medical Terminology. Students explore science in action, building organs and tissues on a skeletal Maniken and use data acquisition software to monitor body functions such as muscle movement, reflex, heart function, and respiration. Students use experiments to explore the areas of oncology and immunology, and utilize experiments, case studies, and patient histories to solve real-world medical cases.

11

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 related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

12

Biomedical Innovations: In the final course of the 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 design project with a mentor or advisor from a university, medical facility, or research institution.