Health Science

The Health Science career cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

Program of Study: Biomedical Science

The Biomedical Science program of study focuses on occupational and educational opportunities associated with the study of biology and medicine. This program of study includes researching and diagnosing diseases, pre-existing conditions, and other determinants of health. Students will also practice patient care and communication.

Courses

9th Grade	Principles of Biomedical Science (PLTW)
10th Grade	Human Body Systems (PLTW) Medical Terminology
11th Grade	Medical Interventions (PLTW) Anatomy and Physiology
12th Grade	Practicum in STEM - Biomedical

Aligned Advanced Academic Course(s)

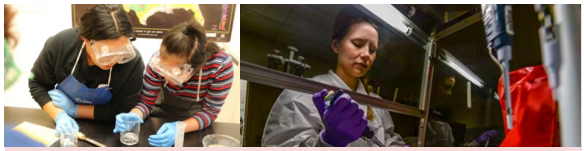
- AP Biology
- AP Chemistry

Work-Based Learning/Expanded Learning Opportunities

Work-Based Learning Activities	• Earn industry certification • Work on industry projects
Expanded Learning Opportunities	Health Occupation Students of America (HOSA)

Aligned Industry-Based Certifications

- Biotechnician Assistant Credentialing Exam (BACE)



Example Postsecondary Opportunities

Apprenticeships

- Medical Laboratory Technician

Associate Degrees

- Biotechnology
- Biological Sciences

Bachelor's Degrees

- Biology
- Cellular and Molecular Biology

Master's, Doctoral, and Professional Degrees

- Forensic Science and Technology
- Biomedical Sciences

Additional Stackable IBCs/License

- Cytotechnologist

Example Aligned Occupations

Medical Equipment Preparers
Median Wage: $38,827
Annual Openings: 519
10-Year Growth: 18%

Forensic Science Technicians
Median Wage: $56,971
Annual Openings: 249
10-Year Growth: 22%

Biological Technicians
Median Wage: $45,787
Annual Openings: 879
10-Year Growth: 14%

Successful completed of this program of study will fulfill requirements of the Public Services endorsement or the STEM endorsement if the math and science requirements are met.
Approved Statewide Program of Study. C. E. King High School – 2024-25

Biomedical Science
Course Information

Level 1

Principles of Biomedical Science (PLTW) — **N1302092**

Grade: 9-12 **Credit: 1**

Students explore concepts of biology and medicine as they take on roles of different medical professionals to solve real-world problems. Over the course of the year, students are challenged in various scenarios including investigating a crime scene to solve a mystery, diagnosing and proposing treatment to patients in a family medical practice, to tracking down and containing a medical outbreak at a local hospital, stabilizing a patient during an emergency, and collaborating with others to design solutions to local and global medical problems.

Level 2

Human Body Systems (PLTW) — **N1302093**

Grade: 10-12 **Credit: 1**

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis in the body. Exploring science in action, students build organs and tissues on a skeletal Maniken®; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.

Medical Terminology — **13020300**

Grade: 10-12 **Credit: 1**

The Medical Terminology course is designed to introduce students to the structure of medical terms, including prefixes, suffixes, word roots, singular and plural forms, and medical abbreviations. The course allows students to achieve comprehension of medical vocabulary appropriate to medical procedures, human anatomy and physiology, and pathophysiology.

Level 3

Medical Interventions (PLTW) — **N1302094**

Grade: 10-12 **Credit: 1**

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.

Anatomy and Physiology (Satisfies a science credit) — **13020600**

Grade: 11-12 **Credit: 1** **GPA: 5.0**

Prerequisite: 1 credit in Biology AND 1 credit in Chemistry, IPC, or Physics

In Anatomy and Physiology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Anatomy and Physiology study a variety of topics, including the structure and function of the human body and the interaction of body systems for maintaining homeostasis.

Level 4

Practicum in Science, Technology, Engineering, and Math - Biomedical — **13037400**

Grade: 12 **Credit: 2**

Prerequisite: Algebra I and Geometry; two Biomedical Science POS courses

This practicum in Science, Technology, Engineering, and Mathematics is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience. Although periods should be adhered to in order to provide students with experience, completion of skill sets may be demonstrated throughout the practicum; thus, units do not have to be delivered.

Industry Based Certification: Biotechnician Assistant Credentialing Exam (BACE)