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 (PTECH Only)

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

	PTECH Pathway	Dual Credit Pathway*
9th Grade	Principles of Biomedical Science (PLTW)	Principles of Biomedical Science (PLTW)
10th Grade	Human Body Systems (PLTW) Medical Terminology	Human Body Systems (PLTW) Medical Terminology
11th Grade	Medical Interventions (PLTW) Anatomy and Physiology	Biotechnology I @ San Jacinto College Anatomy and Physiology
12th Grade	Practicum in Health Science	Biotechnology II @ San Jacinto College Quality Assurance for Biosciences

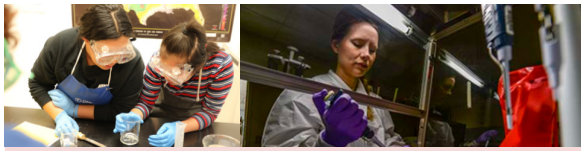
* Application only through the PTECH Program.
Students must maintain a 2.5 GPA or higher to qualify for dual credit.

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

- Bioscience Core Skills Institute Essential Skills



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: $44,460
Annual Openings: 591
10-Year Growth: 18%

Forensic Science Technicians
Median Wage: $55,598
Annual Openings: 325
10-Year Growth: 22%

Biological Technicians
Median Wage: $47,968
Annual Openings: 665
10-Year Growth: 14%

Successful completion 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 – 2026-27

Biomedical Science (PTECH Only)

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.

Biotechnology I @ San Jacinto College — **13036400**

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

Prerequisite: 1 credit in Biology

In Biotechnology I, students will apply advanced academic knowledge and skills to the emerging fields of biotechnology such as agricultural, medical, regulatory, and forensics. Students will have the opportunity to use sophisticated laboratory equipment, perform statistical analysis, and practice quality-control techniques. Students will conduct laboratory and field investigations and make informed decisions using critical thinking, scientific problem solving, and the engineering design process. Students in Biotechnology I will study a variety of topics that include structures and functions of cells, nucleic acids, proteins, and genetics.

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.

Biomedical Science (PTECH Only)

Course Information

Level 3

Biotechnology II @ San Jacinto College **13036450**

Grade: 12 **Credit: 1**

Prerequisite: Biotechnology I and one credit in Chemistry

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.

Quality Assurance for Biosciences @ San Jacinto College **N1303771**

Grade: 12 **Credit: 1**

Prerequisite: Biotechnology I

In Quality Assurance for the Biosciences, students will be introduced to quality principles and regulatory affairs as they apply to the biotechnology, biopharmaceutical, and biomedical device industries. Students will investigate and identify online regulatory websites such as FDA.gov, explain how new regulations arise, locate new regulations, and interpret new regulations.

Level 4

Practicum in Health Science **13020500**

Grade: 12 **Credit: 2**

Prerequisite: Biology

The Practicum in Health Science course is designed to give students practical application of previously studied knowledge and skills in Health science. Practicum experiences offer a variety of opportunities to pursue a career in the health care industry. Students are expected to apply the knowledge and skills necessary to pursue a health science certification or licensure through further education and employment and are encouraged to participate in extended learning experiences such as career and technical student organizations and other leadership or extracurricular organizations.