Revised – February 2024

Health Science Career Cluster

The Health Science Career Cluster focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry, students should learn to reason, think critically, make decisions, solve problems, communicate effectively, and work well with others.

Statewide 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.

Secondary Courses for High School Credit

Level 1
- Principles of Health Science
- Principles of Biosciences
- Principles of Biomedical Science (PLTW)

Level 2
- Medical Terminology
- Biotechnology I
- Human Body Systems (PLTW)

Level 3
- Medical Microbiology
- Biotechnology II
- Clinical Ethics
- Quality Assurance for Biosciences
- Anatomy and Physiology
- Medical Interventions (PLTW)

Level 4
- Pathophysiology
- Biomedical Innovation (PLTW)
- Practicum in Health Science
- Practicum in Health Science + Extended Practicum in Health Science
- Practicum in Science, Technology, Engineering, and Mathematics
- Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics
- Career Preparation for Programs of Study
- Career Preparation for Programs of Study + Extended Career Preparation
- Scientific Research and Design
- Career and Technical Education Project-Based Capstone

Aligned Advanced Academic Courses

AP or IB	AP Biology IB Biology SL IB Biology HL	AP Chemistry IB Chemistry SL IB Chemistry HL
Dual Credit	Dual credit offerings will vary by Local Education Agency.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

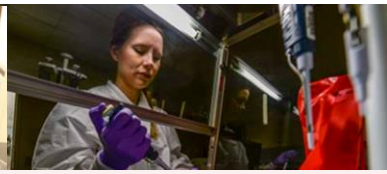
Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	• Intern with a biological or medical scientist at a healthcare organization or health research company to learn scientific testing methods • Shadow a clinical laboratory technician to observe laboratory testing processes
Expanded Learning Opportunities	• Participate in Health Occupations Students of America (HOSA)

Aligned Industry-Based Certifications

- Biotechnician Assistant Credentialing Exam (BACE)
- Medical Laboratory Assistant
- Medical Laboratory Technician

Successful completion of the Biomedical program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Public Services endorsement.



Example Postsecondary Opportunities

Apprenticeships
- Medical-Laboratory Technician

Associate Degrees
- Biotechnology
- Biology/Biological Sciences

Bachelor's Degrees
- Biomedical Sciences
- Medical Science

Master's, Doctoral, and Professional Degrees
- Cell/Cellular and Molecular Biology
- Biomedical Sciences,

Additional Stackable IBCs/Licensures
- Cytotechnologist

Example Aligned Occupations

Medical Equipment Preparers

Median Wage: $37,572
Annual Openings: 586
10-Year Growth: 17%

Clinical Laboratory Technologists and Technicians

Median Wage: $48,497
Annual Openings: 2,369
10-Year Growth: 16%

Biological Technicians

Median Wage: $49,566
Annual Openings: 850
10-Year Growth: 22%

Data Source: Lightcast™. (2022). Occupation Table. Retrieved 9/27/2022.

For more information visit:
https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources

Biomedical Science

Health Science Career Cluster

Statewide Program of Study: Biomedical Science

Course Information

Level 1

Course	Prerequisites | Corequisites	Career Clusters
Principles of Health Science* 13020200 (1 credit)	**Prerequisites:** None **Corequisites:** None	
Principles of Biosciences 13036300 (1 credit)	**Prerequisites:** None **Corequisites:** None	
Principles of Biomedical Science (PLTW) N1302092 (1 credit)	**Prerequisites:** None **Corequisites:** None	

Level 2

Course	Prerequisites | Corequisites	Career Clusters
Medical Terminology* 13020300 (1 credit)	**Prerequisites:** None **Corequisites:** None	
Biotechnology I 13036400 (1 credit)	**Prerequisites:** biology **Corequisites:** None	
Human Body Systems (PLTW) N1302093 (1 credit)	**Prerequisites:** None **Corequisites:** None	

Level 3

Course	Prerequisites | Corequisites	Career Clusters
Medical Microbiology* 13020700 (1 credit)	**Prerequisites:** one credit in biology, one credit in chemistry, and at least one credit in a course from the Health Science Career Cluster **Corequisites:** None	
Biotechnology II 13036450 (1 credit)	**Prerequisites:** One credit in chemistry and Biotechnology I **Corequisites:** None	
Clinical Ethics* N1302121 (1 credit)	**Prerequisites:** None **Corequisites:** None	

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** Indicates course is included in more than one program of study.*

For additional information on the **Health Science Career Cluster**, contact cte@tea.texas.gov or visit https://tea.texas.gov/cte

Health Science Career Cluster

Statewide Program of Study: Biomedical Science

Course Information

Level 3

Course	Prerequisites | Corequisites	Career Clusters
Quality Assurance for Biosciences N1303771 (1 credit)	**Prerequisites:** Biotechnology 1 **Corequisites:** None	
Anatomy and Physiology 13020600 (1 credit)	**Prerequisites:** one credit in biology and one credit in chemistry, Integrated Physics and Chemistry, or physics **Corequisites:** None	
Medical Interventions (PLTW) N1302094 (1 credit)	**Prerequisites:** None **Corequisites:** None	

Level 4

Course	Prerequisites | Corequisites	Career Clusters
Pathophysiology* 13020800 (1 credit)	**Prerequisites:** One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Health Science Career Cluster **Corequisites:** None	
Biomedical Innovation (PLTW) N1302095 (1 credit)	**Prerequisites:** None **Corequisites:** None	
Practicum in Health Science* First Time Taken: 13020500 (2 credits) Second Time Taken: 13020510 (2 credits)	**Prerequisites:** Health Science Theory and biology **Corequisites:** None	

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Health Science Career Cluster

Statewide Program of Study: Biomedical Science

Course Information

Level 4

Course	Prerequisites | Corequisites	Career Clusters
Practicum in Health Science + Extended Practicum in Health Science* First Time Taken: 13020505 (3 credits) Second Time Taken: 13020515 (3 credits)	**Prerequisites:** Health Science Theory and biology **Corequisites:** None	
Practicum in Science, Technology, Engineering, and Mathematics First Time Taken: 13037400 (2 credits) Second Time Taken: 13037410 (2 credits)	**Prerequisites:** Algebra I and geometry **Corequisites:** None	
Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics First Time Taken: 13037405 (3 credits) Second Time Taken: 13037415 (3 credits)	**Prerequisites:** Algebra I and geometry **Corequisites:** None	
Career Preparation for Programs of Study (2 credits)	**Prerequisites**: at least one Level 2 or higher Career and Technical Education course **Corequisites:** None	
Career Preparation for Programs of Study + Extended Career Preparation (3 credits)	**Prerequisites:** at least one Level 2 or higher Career and Technical Education course **Corequisites:** None	
Scientific Research and Design 13037200 (1 credit)	**Prerequisites:** biology, chemistry, Integrated Physics and Chemistry (IPC), or physics **Corequisites:** None	
Career and Technical Education Project-Based Capstone (1 credit)	**Prerequisites:** None **Corequisites:** None	

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Biomedical Science