



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. This career cluster includes occupations ranging from medical assistant, registered nurse, and physical therapist to forensic science technician and athletic trainer.

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 Biomedical Science (PLTW)

- Level 2**
- Human Body Systems (PLTW)

- Level 3**
- Medical Interventions (PLTW)

- Level 4**
- Biomedical Innovation (PLTW)

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities

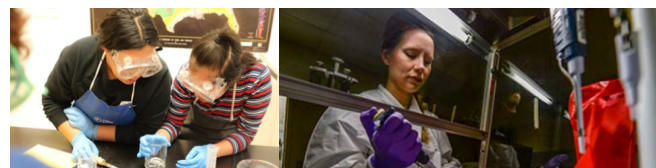
- Intern with a biological or medical scientist at a healthcare organization or health research company to learn scientific testing methods
- Shadow a clinical laboratory technician to observe laboratory testing processes

Expanded Learning Opportunities

- Participate in Health Occupations Students of America (HOSA)

Aligned Industry-Based Certifications

- Bioscience Core Skills Institute Essential Skills
- Medical Laboratory Assistant
- Medical Laboratory Technician
- Biotechnology Aptitude and Competency 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: \$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%

Data Source: TexasWages, Texas Workforce Commission. Retrieved 3/8/2024.



For more information visit:

<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/hs-biomedical-science-extended.pdf>



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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 Recommended Prerequisites: None Recommended Corequisites: None	
Principles of Bioscience 13036300 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Principles of Biomedical Science (PLTW) N1302092 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Medical Terminology* 13020300 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Biotechnology I 13036400 (1 credit)	Prerequisites: One credit in biology Corequisites: None Recommended Prerequisites: Principles of Bioscience and one credit in chemistry Recommended Corequisites: None	
Human Body Systems (PLTW) N1302093 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended 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 Recommended Prerequisites: None Recommended Corequisites: None	

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

For additional information on the **Health Science** career cluster, contact cte@tea.texas.gov or visit <https://tea.texas.gov/cte>



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Course Information

Level 3

Course	Prerequisites Corequisites	Career Clusters
Biotechnology II 13036450 (1 credit)	Prerequisites: One credit in chemistry and Biotechnology I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Clinical Ethics* N1302121 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Nursing Science and Science of Nursing Recommended Corequisites: None	
Quality Assurance for Biosciences N1303771 (1 credit)	Prerequisites: Biotechnology I Corequisites: Biotechnology I Recommended Prerequisites: None Recommended Corequisites: None	
Anatomy and Physiology* 13020600 (1 credit)	Prerequisites: One credit in biology and one credit in chemistry, Integrated Physics and Chemistry (IPC), or physics Corequisites: None Recommended Prerequisites: A course from the Health Science career cluster Recommended Corequisites: None	
Medical Interventions (PLTW) N1302094 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: At least one credit in a Level 2 or higher course in the Biomedical Science program of study Recommended 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 Recommended Prerequisites: Anatomy and Physiology Recommended Corequisites: None	

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Level 4

Course	Prerequisites Corequisites	Career Clusters
Biomedical Innovation (PLTW) N1302095 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: At least one credit in a Level 2 or higher course in the Biomedical Science program of study Recommended Corequisites: None	
Career and Technical Education Project-Based Capstone* First Time Taken: 12701101 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended 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 Recommended Prerequisites: None Recommended Corequisites: None	
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 Recommended Prerequisites: None Recommended Corequisites: None	
Practicum in Engineering First Time Taken: 12756080 (2 credits) Second Time Taken: 12756090 (2 credits)	Prerequisites: Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Engineering + Extended Practicum in Engineering First Time Taken: 12756085 (3 credits) Second Time Taken: 12756095 (3 credits)	Prerequisites: Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Career Preparation for Programs of Study* First Time Taken: 12701121 (2 credits)	Prerequisites: At least one Level 2 or higher CTE course Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Career Preparation for Programs of Study + Extended Career Preparation* First Time Taken: 12701141 (3 credits)	Prerequisites: At least one Level 2 or higher CTE course Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Scientific Research and Design 13037200 (1 credit)	Prerequisites: Biology, and one credit of the following: Physics for Engineering, chemistry, Integrated Physics and Chemistry (IPC), or physics Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

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