

# 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 Biosciences
  - Principles of Biomedical Science (PLTW)

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

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

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- 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

<b>AP or IB</b>	AP Biology	AP Chemistry
	IB Biology SL IB Biology HL	IB Chemistry SL IB Chemistry HL
<b>Dual Credit</b>	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.

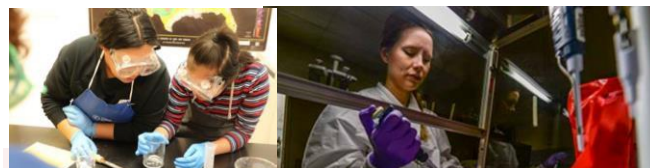
### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>• Intern with a biological or medical scientist at a healthcare organization or health research company to learn scientific testing methods</li> <li>• Shadow a clinical laboratory technician to observe laboratory testing processes</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>• Participate in Health Occupations Students of America (HOSA)</li> </ul>

### 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 Public Services endorsement or the STEM endorsement if the math and science requirements are met.



### Example Postsecondary Opportunities

#### Apprenticeships

- Medical Laboratory Technician

#### Associate Degrees

- Biotechnology
- Biological Sciences

#### Bachelor's Degrees

- Biomedical Sciences
- Medical Science

#### Master's, Doctoral, and Professional Degrees

- Cellular and Molecular Biology
- Biomedical Sciences

#### Additional Stackable IBCs/Licensures

- 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%

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/programs-of-study-additional-resources>



# Health Science Career Cluster

## Statewide Program of Study: *Biomedical Science*

### Course Information

Level 1

Course	Prerequisites   Corequisites	Career Clusters
<b>Principles of Health Science*</b> 13020200 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
<b>Principles of Biosciences</b> 13036300 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
<b>Principles of Biomedical Science (PLTW)</b> N1302092 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites   Corequisites	Career Clusters
<b>Medical Terminology*</b> 13020300 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
<b>Biotechnology I</b> 13036400 (1 credit)	Prerequisites: One credit in Biology Corequisites: None Recommended prerequisites: Principles of Bioscience and one credit in Chemistry Recommended corequisites: None	
<b>Human Body Systems (PLTW)</b> N1302093 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Medical Microbiology*</b> 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	
<b>Biotechnology II</b> 13036450 (1 credit)	Prerequisites: One credit in Chemistry and Biotechnology I Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
<b>Clinical Ethics*</b> N1302121 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles of Nursing Science and Science of Nursing Recommended 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](mailto:cte@tea.texas.gov) or visit <https://tea.texas.gov/cte>



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## Statewide Program of Study: *Biomedical Science*

### Course Information

Level 3

Course	Prerequisites   Corequisites	Career Clusters
<b>Quality Assurance for Biosciences</b> N1303771 (1 credit)	<b>Prerequisites:</b> Biotechnology I <b>Corequisites:</b> None <b>Recommended prerequisites:</b> Biotechnology I <b>Recommended corequisites:</b> Biotechnology I	
<b>Anatomy and Physiology*</b> 13020600 (1 credit)	<b>Prerequisites:</b> One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> A course from the Health Science career cluster	
<b>Medical Interventions (PLTW)</b> N1302094 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended prerequisites:</b> At least one credit in a Level 2 or higher course in the Biomedical Science program of study <b>Recommended corequisites:</b> None	

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Pathophysiology*</b> 13020800 (1 credit)	<b>Prerequisites:</b> 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 <b>Corequisites:</b> None <b>Recommended prerequisites:</b> Anatomy and Physiology <b>Recommended corequisites:</b> None	
<b>Biomedical Innovation (PLTW)</b> N1302095 (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended prerequisites:</b> At least one credit in a Level 2 or higher course in the Biomedical Science program of study <b>Recommended corequisites:</b> None	
<b>Practicum in Health Science*</b> First Time Taken: 13020500 (2 credits) Second Time Taken: 13020510 (2 credits)	<b>Prerequisites:</b> Health Science Theory and Biology Biology <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	

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## Statewide Program of Study: *Biomedical Science*

### Course Information

Level 4

Course	Prerequisites   Corequisites	Career Clusters
<b>Practicum in Health Science + Extended Practicum in Health Science*</b> First Time Taken: 13020505 (3 credits) Second Time Taken: 13020515 (3 credits)	<b>Prerequisites:</b> Health Science Theory and Biology <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	
<b>Practicum in Science, Technology, Engineering, and Mathematics</b> First Time Taken: 13037400 (2 credits) Second Time Taken: 13037410 (2 credits)	<b>Prerequisites:</b> Algebra I and Geometry <b>Corequisites:</b> None <b>Recommended prerequisites:</b> Two STEM career cluster credits <b>Recommended corequisites:</b> None	
<b>Practicum in Science, Technology, Engineering, and Mathematics + Extended Practicum in Science, Technology, Engineering, and Mathematics</b> First Time Taken: 13037405 (3 credits) Second Time Taken: 13037415 (3 credits)	<b>Prerequisites:</b> Algebra I and Geometry <b>Corequisites:</b> None <b>Recommended prerequisites:</b> Two STEM career cluster credits <b>Recommended corequisites:</b> None	
<b>Career Preparation for Programs of Study*</b> (2 credits)	<b>Prerequisites:</b> At least one Level 2 or higher Career and Technical Education course <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	
<b>Career Preparation for Programs of Study + Extended Career Preparation*</b> (3 credits)	<b>Prerequisites:</b> At least one Level 2 or higher Career and Technical Education course <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	
<b>Scientific Research and Design*</b> 13037200 (1 credit)	<b>Prerequisites:</b> Biology, Chemistry, Integrated Physics and Chemistry, or Physics <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	
<b>Career and Technical Education Project-Based Capstone*</b> (1 credit)	<b>Prerequisites:</b> None <b>Corequisites:</b> None <b>Recommended prerequisites:</b> None <b>Recommended corequisites:</b> None	

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