

# CTE Programs of Study Frameworks

School Year 2025 - 2027



## Architecture and Construction

- Architectural Drafting and Design



## Arts, Audio/Visual Technology, and Communications

- Digital Communications
- Graphic Design and Interactive Media



## Business, Marketing, and Finance

- Accounting and Financial Services
- Business Management
- Entrepreneurship
- Marketing and Sales



## Education and Training

- Teaching and Training



## Engineering

- Civil Engineering
- Drone (Unmanned Vehicle)
- Electrical Engineering
- Engineering Foundations
- Mechanical & Aerospace Engineering



## Health Science

- Diagnostic & Therapeutic Science\*
- Exercise Science, Wellness & Restoration
- Nursing Science
- \*Fire Academy



## Hospitality and Tourism

- Culinary Arts



## Human Services

- Cosmetology and Personal Care Services
- Family and Community Services
- Health and Wellness



## Information Technology

- Cybersecurity
- Information
- Technology Support and Services
- Networking Systems
- Programming & Software Development
- Web Development



## Law and Public Service

- Law Enforcement
- Legal Studies



## Manufacturing

- Robotics & Automation Technology
- Welding



## Transportation, Distribution, and Logistics

- Automotive

### Non-Discrimination Policy

It is the policy of Hurst-Eules-Bedford ISD not to discriminate on the basis of race, color, national origin, sex or handicap, in its career and technology (vocational) programs, services or activities and provide equal access to the Boy Scouts and other designated youth programs as required by Title VI of the civil rights act of 1964, as amended: Title IX of the Education Amendments of 1972: and section 504 of the Rehabilitation Act of 1973, as amended. Hurst-Eules-Bedford ISD will take steps to assure that lack of English language skills not be a barrier to admission and participation in all educational and career and technology (vocational) programs. Admission to these programs is based on interest and aptitude, age appropriateness and class space availability.

# HEB ISD Programs of Study Career Clusters

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## ARCHITECTURAL DRAFTING & DESIGN



FOR ADDITIONAL INFORMATION ON THE ARCHITECTURE AND CONSTRUCTION CAREER CLUSTER,  
PLEASE CONTACT:  
HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.





# Architecture and Construction Career Cluster

The Architecture and Construction career cluster focuses on designing, planning, managing, building, and maintaining the built environment. This career cluster includes occupations ranging from architect, carpenter, and construction manager to electrician, plumber and heating, air conditioning and refrigeration technician.

## Statewide Program of Study: Architectural Drafting and Design

The Architectural Drafting and Design program of study focuses on occupational and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study includes reading, interpreting, and drawing blueprints for interior and exterior construction projects.

### Aligned Advanced Academic Courses

**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 toward Completer status for this program of study.

### Work-Based Learning and Expanded Learning Opportunities

#### Work-Based Learning Activities

- Intern at an architectural firm to develop CADD drafting and design technology skills
- Shadow a civil engineer to learn more about their day-to-day responsibilities

#### Expanded Learning Opportunities

- Conduct an informational interview with an architect to learn about their role and responsibilities
- Participate in a CTSO (Career & Technical Education Student Organization)

### Industry-Based Certifications

- Autodesk Associate (Certified User) 3ds MAX
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Revit Architecture



### Example Postsecondary Opportunities

#### Apprenticeships

- Drafter



#### Associate Degrees

- CAD/CADD Drafting and/or Design Technology
- Drafting and Design Technology
- Surveying Technology/Surveying
- Architectural Drafting and Architectural CAD/CADD

#### Bachelor's Degrees

- Civil Engineering
- Construction Engineering
- Surveying Engineering
- Drafting and Design Technology

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

- Civil Engineering
- Geographic Information Science and Cartography
- Construction Engineering Technology



### Example Aligned Occupations

#### Architectural and Civil Drafters

Median Wage: \$57,424  
Annual Openings: 1,366  
10-Year Growth: 15%

#### Architects

Median Wage: \$80,903  
Annual Openings: 966  
10-Year Growth: 18%

#### Construction Managers

Median Wage: \$95,072  
Annual Openings: 6,325  
10-Year Growth: 24%

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>

# Architecture and Construction Career Cluster

The Architecture and Construction Career Cluster focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

## Architectural Drafting and Design Statewide Program of Study



The Architectural Drafting and Design program of study explores the occupations and educational opportunities associated with developing, engineering, and designing building structures and facilities. This program of study may also include exploration into collecting and interpreting geographic information, researching and preparing maps, and interior design.

### Secondary Courses for High School Credit

#### Level 2

- Architectural Design I (1 Credit)  
*IBC: Autodesk Associate (Certified User) Revit Architecture*
- Interior Design I (1 Credit)  
*IBC: Autodesk Associate (Certified User) 3ds Max*

#### Level 3

- Honors Architectural Design II (1 Credit)
- Honors Interior Design II (1 Credit)

#### Level 4

- Honors Practicum in Architectural Design (2 Credits)
- Honors Extended Practicum in Architectural Design (3 Credits)
- Honors Practicum in Interior Design (2 Credits)
- Honors Extended Practicum in Interior Design (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Autodesk Certified Professional in Auto CAD for Design and Drafting*  
*Autodesk Associate (Certified User) Fusion 360*

### Pathway to Completer

Level 2	CTA0010/11/12 Architectural Design I (1 Credit) CTA0020/21/22 Interior Design 1 (1 Credit)
Level 3	CTP0013/14 Honors Architectural Design II (2 Credits) CTA0061/62 Honors Interior Design II (2 Credits)
Level 4	CTA0041/42 Honors Practicum in Architectural Design (2 Credits)* CTA0071/72 Honors Practicum in Interior Design (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Architectural Drafting and Design Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

## DIGITAL COMMUNICATIONS

## GRAPHIC DESIGN AND INTERACTIVE MEDIA



## ARTS, AUDIO/VISUAL TECHNOLOGY AND COMMUNICATION

FOR ADDITIONAL INFORMATION ON THE ARTS, AUDIO/VISUAL TECHNOLOGY, AND COMMUNICATIONS CAREER CLUSTER, PLEASE CONTACT:

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# Arts, Audio Visual Technology and Communication Career Cluster

The Arts, Audio Visual Technology and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

## Statewide Program of Study: Digital Communications

The Digital Communications program of study focuses on occupational and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. The program of study includes operating machines and equipment such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment to record sound and images.

### Aligned Advanced Academic Courses

**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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Shadow a sound designer to learn how sound and folly is created for movies or podcasts</li> <li>Intern with a technical director at a sports team, recording studio, or radio station</li> <li>Shadow a technician on a live news broadcast, concert, or other event</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in CTSO (Career &amp; Technical Education Student Organization)</li> <li>Participate in Student Television Network</li> <li>Capture and edit film and audio for a podcast with a local community organization</li> </ul>

### Aligned Industry-Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere
- Adobe Certified Professional in Visual Design Using Pro Adobe Photoshop



### Example Postsecondary Opportunities

- Apprenticeships**
  - Light Technician
- Associate Degrees**
  - Commercial and Advertising Art
  - Animation, Interactive Technology, Video Graphics, and Special Effects
- Bachelor's Degrees**
  - Cinematography and Film/Video Production
  - Recording Arts Technology
- Master's, Doctoral, and Professional Degrees**
  - Animation, Interactive Technology, Video Graphics, and Special Effects
  - Communications Technology
- Additional Stackable IBCs/Licensures**
  - CompTIA Digital Media and Entertainment Professional Certification (DMEP)



### Example Aligned Occupations



#### Camera Operators, Television, Video, and Film

Median Wage: \$48,422  
Annual Openings: 155  
10-Year Growth: 20%

#### Audio and Video Technicians

Median Wage: \$46,319  
Annual Openings: 626  
10-Year Growth: 30%

#### Producers and Directors

Median Wage: \$65,029  
Annual Openings: 522  
10-Year Growth: 12%

Non-Discrimination Statement: Hurst-Euleless-Bedford ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Luke DeFilippis, Title IX Coordinator - lukedefilippis@hebisd.edu, 817-283-4461.

NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).



Successful completion of the Digital Communications program of study will fulfill requirements of the Business and Industry endorsement.

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>

# Arts, Audio Visual Technology, and Communication Career Cluster

The Arts, Audio Visual Technology, and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

## Digital Communications Statewide Program of Study



The Digital Communications program of study focuses on occupational and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. The program of study includes operating machines and equipment such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment to record sound and images.

### Secondary Courses for High School Credit

#### Level 1

- Professional Communications (.5 Credit)

#### Level 2

- Audio/Video Production I (1 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Audio/Video Production II + Audio/Video Production II Lab (2 Credits) *IBC: Adobe Certified Professional in Digital Video Using Adobe Premiere Pro*

#### Level 4

- Honors Practicum in Audio/Video Production (2 Credits)
- Honors Extended Practicum in Audio/Video Production (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Adobe Certified Professional in Visual Design Using Adobe Photoshop*

### Pathway to Completer

Level 1	CTV0000 Professional Communication (.5 Credit)
Level 2	CTV0001 Audio/Video Production I (1 Credit) CTM0021/2 Entrepreneurship I (1 Credit)
Level 3	CTV0021/22 Audio/Video Production II (2 Credits)
Level 4	CTV0031/32 Honors Practicum in Audio/Video Production (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Digital Communications Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Arts, Audio Visual Technology and Communication Career Cluster

The Arts, Audio Visual Technology and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

## Statewide Program of Study: *Graphic Design and Interactive Media*

The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes designing clothing and accessories, creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in computer games, movies, music videos, and commercials.

### Aligned Advanced Academic Courses

**Dual Credit** Dual credit offerings will vary by Local Education Agency.

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### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Shadow an art director at a branding firm or design agency</li> <li>Intern in the marketing and communications department of a technology company</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in CTSO (Career &amp; Technical Education Student Organization)</li> <li>Participate in Student Television Network</li> <li>Join a related co-curricular or extracurricular club such as web development or computer coding</li> </ul>

### Aligned Industry-Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro
- Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator
- Adobe Certified Professional in Visual Design Using Adobe Photoshop
- Autodesk Associate (Certified User) 3ds MAX
- Certified Entry-Level Python Programmer (PCEP)
- Certified User: Programmer
- CodeHS Python Level I Certification



### Example Postsecondary Opportunities

#### Associate Degrees

- Graphic Design
- Digital Arts



#### Bachelor's Degrees

- Web Page, Digital/Multimedia and Information Resources Design
- Design and Visual Communications

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

- Game and Interactive Media Design
- Animation, Interactive Technology, Video Graphics, and Special Effects

#### Additional Stackable IBCs/Licensures

- Certified Textile Designer (CTD)



### Example Aligned Occupations

#### Software Developers

Median Wage: \$111,705  
Annual Openings: 15,324  
10-Year Growth: 36%

#### Graphic Designers

Median Wage: \$50,973  
Annual Openings: 1,766  
10-Year Growth: 10%

#### Art Directors

Median Wage: \$81,926  
Annual Openings: 619  
10-Year Growth: 18%

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



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Successful completion of the *Graphic Design and Interactive Media* program of study will fulfill requirements of the Business and Industry endorsement.

# Arts, Audio Visual Technology, and Communication Career Cluster

The Arts, Audio Visual Technology, and Communication (AAVTC) career cluster focuses on designing, producing, exhibiting, performing, writing, and publishing multimedia content requiring creative aptitude, fluency in computer and technology applications, and proficiency in oral and written communication. This career cluster includes occupations ranging from camera operator, audio and video technician, director, and producer to graphic designer and web and digital interface designer.

## Graphic Design and Interactive Media Statewide Program of Study



The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes designing clothing and accessories and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in computer games, movies, music videos, and commercials.

### Secondary Courses for High School Credit

#### Level 1

- Video Game Design (1 Credit)
- Digital Media (1 Credit)

#### Level 2

- Video Game Programming (1 Credit)
- Graphic Design and Illustration I (1 Credit) *IBC: Adobe Certified Professional in Visual Design Using Adobe Photoshop*
- Animation 1 (1 Credit)
- Commercial Photography I (1 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Advanced Video Game Programming (1 Credit) *IBC: Certified User-Programmer*
- Graphic Design and Illustration II +Graphic Design and Illustration II Lab (2 Credits)  
*IBC: Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator*

- Animation II + Animation II Lab (2 Credits) *IBC: Autodesk Associate (Certified User) 3ds Max*
- Commercial Photography II (1 Credit)

#### Level 4

- Honors Practicum in Graphic Design and Illustration (2 Credits)
- Honors Extended Practicum in Graphic Design and Illustration (3 Credits)
- Honors Practicum in Animation (2 Credits)
- Honors Extended Practicum in Animation (3 Credits)
- Honors Practicum in Commercial Photography (2 Credits)
- Honors Extended Practicum in Commercial Photography (3 Credits)
- Honors Independent Study in Technology Applications (1 Credit)

#### Other Course Industry-Based Certifications (IBC's)

*Certified Entry Level: Python Programmer (PCEP)  
CodeHS Python Level 1 Certification  
Adobe Certified Professional in Digital Video Using Adobe Premiere Pro*

### Pathway to Completer

Level 1	CTV0050 Video Game Design (1 Credit) CTN0021 Digital Media (1 Credit - Home Campus)
Level 2	CTV0153 Video Game Programming (1 Credit) • CTV0081/82 Graphic Design and Illustration (1 Credit) CTV0011 Animation 1 (1 Credit) • CTM0021/22 Entrepreneurship I (1 Credit) CTV0061/62 Commercial Photography 1 (1 Credit - Home Campus (THS))
Level 3	CTV0153 Advanced Video Game Programming (1 Credit) CTV0070 Graphic Design and Illustration II (2 Credits) • CTV0012/13 Animation II (2 Credits) CTV0063/64 Commercial Photography II (1 Credit - Home Campus (THS))
Level 4	CTV0083/84 Honors Practicum in Graphic Design and Illustration (2 Credits)* CTV0044/45 Honors Practicum in Animation (2 Credits)*
	CTV0065/66 Honors Practicum in Commercial Photography (2 Credits)*

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**ACCOUNTING  
AND FINANCIAL  
SERVICES**

**BUSINESS  
MANAGEMENT**

**ENTREPRENEURSHIP**

**MARKETING  
AND SALES**



**BUSINESS,  
MARKETING,  
AND FINANCE**

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# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur, to accountant, retail manager and market analyst.

## Statewide Program of Study: Accounting and Financial Services

The Accounting and Financial Services program of study focuses on occupational and educational opportunities associated with examining, analyzing, and interpreting financial records. It includes exploration of financial services, preparing financial statements, auditing financial statements prepared by others, and interpreting accounting records. This program of study also introduces students to mathematical modeling tools.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	IB Mathematics Analysis and Approaches SL IB Mathematics Analysis and Approaches HL
<b>Dual Credit</b>	Dual credit offerings will vary by Local Educational Agency.

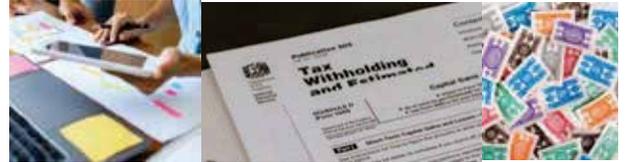
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### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Intern with a public certified accountant (CPA) at a local business</li> <li>Intern with a city or county auditor's office</li> <li>Shadow a financial advisor as an intern at an investment company</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Explore student membership in professional organizations such as AICPA, CIMA, or TXCPA</li> </ul>

### Aligned Industry-Based Certifications

- Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)



### Example Postsecondary Opportunities

#### Associate Degrees

- Accounting
- Bookkeeping

#### Bachelor's Degrees

- Accounting
- Banking and Financial Support Services

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

- Business Administration and Management
- Finance

#### Additional Stackable IBCs/Licensures

- Project Management Professional
- Property Tax Consultants Service Contract Providers



### Example Aligned Occupations



#### Tax Preparers

Median Wage: \$56,956  
Annual Openings: 898  
10-Year Growth: 14%

#### Accountants and Auditors

Median Wage: \$78,022  
Annual Openings: 12,989  
10-Year Growth: 20%

#### Personal Financial Advisors

Median Wage: \$77,605  
Annual Openings: 1,877  
10-Year Growth: 21%

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

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### Secondary Courses for High School Credit

#### Level 1

- Principles of Business, Marketing, and Finance (1 Credit)
- Foundations of Business Communications & Technologies (1 Credit)

*IBC: Microsoft Office Specialist: Microsoft Excel Expert*

#### Level 2

- Accounting I (1 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Accounting II (1 Credit)

#### Level 4

- Honors Practicum in Business Management (2 Credits)
- Honors Extended Practicum in Business Management (3 Credits)

### Pathway to Completer

Level 1	CTB0001/02 Principles of Business, Marketing, and Finance (1 Credit) CTB0011/12 Foundations of Business Communications & Technologies (1 Credit)
Level 2	CTF0011/12 Accounting I (1 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTF0021/22 Accounting II (2 Credits)
Level 4	CTB0071/72 Honors Practicum in Business Management (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

**0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)**

<b>1 Semester/Trimester [Home Campus]</b> .5 Credit = 1 Schedule Slot	<b>2 Semester/Trimester [Home Campus]</b> 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Accounting and Financial Services Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

## Statewide Program of Study: *Business Management*

The Business Management program of study focuses on occupational and educational opportunities associated with planning, directing, and coordinating the administrative services and operations of an organization. It includes formulating policies, managing daily operations, and allocating the use of materials and human resources. This program of study also introduces students to mathematical modeling tools and organizational evaluation methods.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Microeconomics AP Statistics	IB Economics SL IB Economics HL
<b>Dual Credit</b>	Dual credit offerings will vary by Local Education Agency.	

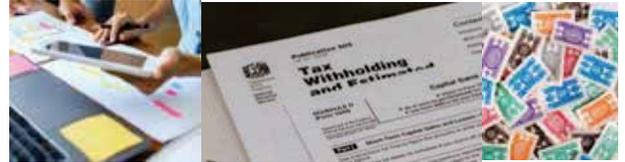
Students should be advised to consider these course opportunities to enrich their preparation. AP or IB courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Intern at local business in the HR department</li> <li>Shadow the COO of a local business or chamber of commerce</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Explore student membership in related professional organizations</li> </ul>

### Aligned Industry-Based Certifications

- Entrepreneurship and Small Business
- Microsoft Office Specialist: Microsoft Word Expert (Word 2019)
- Microsoft Office Specialist: Microsoft Excel Expert (Excel 2019)



### Example Postsecondary Opportunities

#### Associate Degrees

- Business Administration and Management
- Human Resources Management



#### Bachelor's Degrees

- Business Analytics
- Accounting and Business

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

- Business Administration and Management
- Organizational Leadership

#### Additional Stackable IBCs/Licensures

- Professional Certificate in Team Leadership
- Property Tax Professionals



### Example Aligned Occupations

**First-Line Supervisors of Administrative Support Workers**  
 Median Wage: \$59,585  
 Annual Openings: 13,885  
 10-Year Growth: 9%

**Human Resources Specialists**  
 Median Wage: \$61,278  
 Annual Openings: 6,239  
 10-Year Growth: 23%

**General and Operations Managers**  
 Median Wage: \$83,220  
 Annual Openings: 25,450  
 10-Year Growth: 23%

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>

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# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

## Business Management Statewide Program of Study



The Business Management program of study focuses on occupational and educational opportunities associated with planning, directing, and coordinating the administrative services and operations of an organization. It includes formulating policies, managing daily operations, and allocating the use of materials and human resources. This program of study also introduces students to mathematical modeling tools and organizational evaluation methods.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Business, Marketing and Finance (1 Credit)
- Foundations of Business Communications & Technologies (1 Credit)

#### Level 2

- Virtual Business (.5 Credit)
- Honors Business Communications & Technologies (1 Credit)  
*IBC: Microsoft Office Specialist: Microsoft Excel Expert*  
*IBC: Microsoft Office Specialist: Microsoft Word Expert*
- Entrepreneurship I (1 Credit)

#### Level 3

- Business Management (1 Credit)  
*IBC: Entrepreneurship and Small Business*
- Global Business (.5 Credit)

#### Level 4

- Honors Practicum in Business Management (2 Credits)
- Honors Extended Practicum in Business Management (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Stukent Social Media Marketing Certification*

### Pathway to Completer

Level 1	CTB0001/02 Principles of Business, Marketing, and Finance (1 Credit) CTB0011/12 Foundations of Business Communications & Technologies (1 Credit)
Level 2	CTB0060 Virtual Business (.5 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
	CTB0024/25 Honors Business Communications & Technologies (1 Credit)
Level 3	CTB0311/12 Business Management (1 Credit)
	CTB0041 Global Business (.5 Credit)
Level 4	CTB0071/72 Honors Practicum in Business Management (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Business Management Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur, to accountant, retail manager and market analyst.

## Statewide Program of Study: *Entrepreneurship*

The Entrepreneurship program of study focuses on occupational and educational opportunities associated with planning, launching, directing, and coordinating public or private sector ventures. This program of study includes formulating policies, launching businesses or organizations, managing daily operations, analyzing management structures, and planning for the use of materials and human resources.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Statistics IB Mathematics: Analysis and Approaches
<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 at a local start-up or a business incubator</li> <li>• Participate in the development and launch of a school-based enterprise</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>• Job shadow an entrepreneur</li> <li>• Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Entrepreneurship and Small Business
- Stukent Social Media Marketing Certification



### Example Postsecondary Opportunities

#### Associate Degrees

- Operations Management and Supervision
- Organizational Leadership



#### Bachelor's Degrees

- Business Administration and Management
- Public Administration

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

- Business Administration
- Public Administration

#### Additional Stackable IBCs/Licensures

- Salesforce
- Service Contract Providers



### Example Aligned Occupations

#### General and Operations Managers

Median Wage: \$83,220  
Annual Openings: 25,450  
10-Year Growth: 23%

#### Management Analysts

Median Wage: \$93,983  
Annual Openings: 6,030  
10-Year Growth: 25%

#### Chief Executives

Median Wage: \$163,567  
Annual Openings: 648  
10-Year Growth: 3%

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>



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# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

## Entrepreneurship Statewide Program of Study



The Entrepreneurship program of study focuses on occupational and educational opportunities associated with planning, launching, directing, and coordinating public or private sector ventures. This program of study includes formulating policies, launching businesses or organizations, managing daily operations, analyzing management structures, and planning for the use of materials and human resources.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Business, Marketing, and Finance (1 Credit)
- Foundations of Business Communications & Technologies (1 Credit)

#### Level 2

- Entrepreneurship I (1 Credit)  
*IBC: Entrepreneurship and Small Business*

#### Level 3

- Entrepreneurship II (1 Credit) (Available 2026-2027)

#### Level 4

- Honors Practicum in Business Management (2 Credits)
- Honors Extended Practicum in Business Management (3 Credits)
- Honors Practicum in Marketing (2 Credits)
- Honors Extended Practicum in Marketing (3 Credits)
- Honors Practicum in Entrepreneurship (2 Credits) (Available 2026-2027)
- Honors Extended Practicum in Entrepreneurship (3 Credits) (Available 2026-2027)

#### Other Course Industry-Based Certifications (IBC's)

*Student Social Media Marketing Certification*

#### Pathway to Completer

Level 1	CTB0001/02 Principles of Business, Marketing, and Finance (1 Credit) CTB0011/12 Foundations of Business Communications & Technologies (1 Credit)
Level 2	CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTM0031/32 Entrepreneurship II (1 Credit)
Level 4	CTB0071/72 Honors Practicum in Business Management (2 Credits)*
	CTM0081/82 Honors Practicum in Marketing (2 Credits)* Honors Practicum in Entrepreneurship (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Entrepreneurship Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to an accountant, retail manager, and market analyst.

## Statewide Program of Study: *Marketing and Sales*

The Marketing and Sales program of study focuses on occupational and educational opportunities associated with collecting information to estimate potential sales of a product or service and create campaigns to market or distribute goods and services. It includes applying data related to customer demographics, preferences, needs, and buying habits.



### Secondary Courses for High School Credit

- |                |  |
|----------------|--|
| <b>Level 1</b> | <ul style="list-style-type: none"> <li>Principles of Business, Marketing, and Finance</li> <li>Digital Media</li> </ul>                    |
| <b>Level 2</b> | <ul style="list-style-type: none"> <li>Sports and Entertainment Marketing</li> <li>Virtual Business</li> <li>Entrepreneurship I</li> </ul> |
| <b>Level 3</b> | <ul style="list-style-type: none"> <li>Advertising</li> <li>Social Media Marketing</li> </ul>  |
| <b>Level 4</b> | <ul style="list-style-type: none"> <li>Honors Practicum in Marketing + Honors Extended Practicum in Marketing</li> </ul>                   |

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Statistics
<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 at a marketing and advertising company</li> <li>Job shadow a pharmaceutical sales representative</li> <li>Intern at a local retail company</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Job shadow an account representative at a marketing firm</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Entrepreneurship and Small Business
- Student Social Media Marketing Certification

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### Example Postsecondary Opportunities

#### Associate Degrees

- Marketing/Marketing Management
- Retail Management



#### Bachelor's Degrees

- Business Administration
- Marketing/Marketing Management
- Fashion Merchandising

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

- Business Administration
- Applied Economics
- Business Analytics

#### Additional Stackable IBCs/Licensures

- Salesforce
- Service Contract Providers



### Example Aligned Occupations

#### Retail Salespersons

Median Wage: \$28,356  
Annual Openings: 56,132  
10-Year Growth: 15%

#### Market Research Analysts

Median Wage: \$60,926  
Annual Openings: 5,688  
10-Year Growth: 35%

#### Sales Managers

Median Wage: \$123,729  
Annual Openings: 3,368  
10-Year Growth: 21%

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>



# Business, Marketing, and Finance Career Cluster

The Business, Marketing, and Finance career cluster focuses on careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. This career cluster includes occupations ranging from business owner and entrepreneur to accountant, retail manager, and market analyst.

## Marketing and Sales Statewide Program of Study



The Marketing and Sales program of study focuses on occupational and educational opportunities associated with collecting information to estimate potential sales of a product or service and create campaigns to market or distribute goods and services. It includes applying data related to customer demographics, preferences, needs, and buying habits.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Business, Marketing and Finance (1 Credit)
- Digital Media (1 Credit)

#### Level 2

- Sports and Entertainment Marketing (.5 Credit)  
*IBC: Student Social Media Marketing Certification*
- Virtual Business (.5 Credit)  
*IBC: Entrepreneurship/Small Business*
- Entrepreneurship I (1 Credit)

#### Level 3

- Advertising (.5 Credit)
- Social Media Marketing (.5 Credit)

#### Level 4

- Honors Practicum in Marketing (2 Credits)
- Honors Extended Practicum in Marketing (3 Credits)

### Pathway to Completer

Level 1	CTB0001/02 Principles of Business, Marketing, and Finance (1 Credit) CTN0021/22 Digital Media (1 Credit)
Level 2	CTM0040 Sports and Entertainment Marketing (.5 Credit) CTB0060 Virtual Business (.5 Credit)
	CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTM0010 Advertising (.5 Credit) CTM0050 Social Media Marketing (.5 Credit)
Level 4	CTM0081/82 Honors Practicum in Marketing (2 Credits)*

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Marketing and Sales Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

## TEACHING AND TRAINING



## EDUCATION AND TRAINING

FOR ADDITIONAL INFORMATION ON THE EDUCATION AND TRAINING CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.



# Education and Training Career Cluster

The Education and Training career cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training Career Cluster. This Career Cluster includes a diverse spectrum of occupations, ranging from teaching assistant, classroom teacher, to school administrator.

## Statewide Program of Study: *Teaching and Training*

The Teaching and Training program of study focuses on occupational and educational opportunities associated with careers related to teaching, instructing, and creating instructional and enrichment materials. The program of study includes recognizing a variety of student groups and their corresponding needs, identifying processes for developing curriculum and coordinating educational content, and coaching groups and individuals.

### Aligned Advanced Academic Courses

#### Dual Credit

Dual credit offerings will vary by Local Educational 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

- Serve as a camp counselor to learn mentoring, facilitation, and lesson planning skills
- Volunteer in a tutoring center to learn lesson planning and skills assessment

#### Expanded Learning Opportunities

- Participate in a CTSO (Career & Technical Education Student Organization)

### Aligned Industry-Based Certifications

- Educational Aide I



### Example Postsecondary Opportunities

#### Apprenticeships

- Teacher Apprentice

#### Associate Degrees

- Adult and Continuing Education and Teaching
- Educational/Instructional Technology

#### Bachelor's Degrees

- Elementary Education and Teaching
- Secondary Education and Teaching

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

- Educational Leadership and Administration, General
- Curriculum and Instruction

#### Additional Stackable IBCs/Licensures

- Generalist, Grades EC-4



### Example Aligned Occupations

#### Teaching Assistants, Except Postsecondary

Median Wage: \$28,066  
Annual Openings: 10,000  
10-Year Growth: 15%

#### Secondary School Teachers, Except Special Education and CTE

Median Wage: \$61,035  
Annual Openings: 8,288  
10-Year Growth: 14%

#### Education Administrators, Kindergarten through Secondary

Median Wage: \$81,976  
Annual Openings: 2,676  
10-Year Growth: 14%

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



For more information visit:

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Successful completion of the Teaching and Training Program of Study will fulfill requirements of the Public Service endorsement.

# Education and Training Career Cluster Career Cluster

The Education and Training career cluster focuses on planning, managing, and providing education and training services and related learning support services. All parts of courses are designed to introduce learners to the various careers available within the Education and Training career cluster. This career cluster includes a diverse spectrum of occupations, ranging from teaching assistant, classroom teacher, to school administrator.

## Teaching and Training Statewide Program of Study



The Teaching and Training program of study focuses on occupational and educational opportunities associated with careers related to teaching, instructing, and creating instructional and enrichment materials. The program of study includes recognizing a variety of student groups and their corresponding needs, identifying processes for developing curriculum and coordinating educational content, and coaching groups and individuals.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Human Services (1 Credit)

#### Level 2

- Human Growth and Development (1 Credit)
- Child Development (1 Credit)

#### Level 3

- Instructional Practices (2 Credits)  
*IBC: Educational Aide I*

#### Level 4

- Honors Practicum in Education and Training (2 Credits)
- Honors Extended Practicum in Education and Training (3 Credits)

### Pathway to Completer

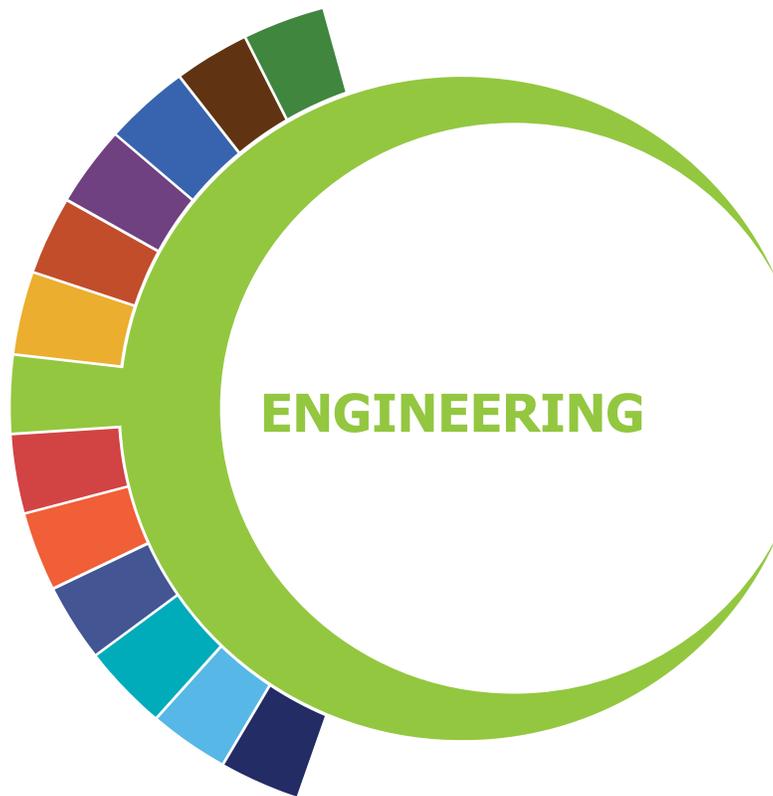
Level 1	CTU0900/01/02 Principles of Human Services (1 Credit)
Level 2	CTE0001/02 Human Growth and Development (1 Credit)
	CTU0030/31/32 Child Development (1 Credit)
Level 3	CTE0011/12 Instructional Practices (2 Credits)
Level 4	CTE0021/22 Honors Practicum in Education and Training (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Teaching and Training Program of Study will fulfill requirements of the Public Service endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



**CIVIL  
ENGINEERING**

**DRONE (UNMANNED  
VEHICLE)**

**ELECTRICAL  
ENGINEERING**

**ENGINEERING  
FOUNDATIONS**

**MECHANICAL &  
AEROSPACE  
ENGINEERING**

FOR ADDITIONAL INFORMATION ON THE ENGINEERING CAREER CLUSTER,

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HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

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CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.



# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Statewide Program of Study: *Civil Engineering*

The Civil Engineering program of study focuses on occupational and educational opportunities associated with the design, build, operation, and maintenance of infrastructure related to roads, buildings, airports, bridges, and transportation systems. This program of study includes exploration of infrastructure, site inspections, feasibility assessments and scope, and cost estimates. It addresses applying scientific, mathematical, and empirical evidence to solve problems in construction, infrastructure, and the environment.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Calculus AB AP Calculus BC	AP Physics 1 AP Statistics	AP Physics 2 IB Physics SL IB Physics HL
<b>Dual Credit</b>	Dual credit offerings vary based 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 at a local infrastructure company and use computer-aided design (CAD)</li> <li>Shadow a civil engineering professional</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Tour a construction site</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Join a local engineering association and attend meetings</li> </ul>

### Aligned Industry-Based Certifications

- Autodesk Associate (Certified User) 3ds MAX
- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Inventor for Mechanical Design
- Autodesk Associate (Certified User) Revit Architecture



### Example Postsecondary Opportunities

#### Apprenticeships

- Surveyor Assistant Instrument Apprentice



#### Associate Degrees

- Civil Engineering, General
- Surveying Technology/Surveying

#### Bachelor's Degrees

- Civil Engineering, General
- Construction Engineering

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

- Civil Engineering, General
- Surveying Engineering

#### Additional Stackable IBCs/Licensures

- Professional Civil Engineer (CE License)
- Civil Engineering Certification ASCE



### Example Aligned Occupations

#### Surveying and Mapping Technicians

Median Wage: \$45,804  
Annual Openings: 1,487  
10-Year Growth: 18%

#### Architectural and Civil Drafters

Median Wage: \$57,424  
Annual Openings: 1,366  
10-Year Growth: 15%

#### Civil Engineers

Median Wage: \$80,980  
Annual Openings: 2,823  
10-Year Growth: 22%

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>

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NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Civil Engineering Statewide Program of Study



The Civil Engineering program of study focuses on occupational and educational opportunities associated with the design, build, operation, and maintenance of infrastructure related to roads, buildings, airports, bridges, and transportation systems. This program of study includes exploration of infrastructure, site inspections, feasibility assessments and scope, and cost estimates. It addresses applying scientific, mathematical, and empirical evidence to solve problems in construction, infrastructure, and the environment.

### Secondary Courses for High School Credit

#### Level 1

- \*Principles of Applied Engineering (1 Credit)

#### Level 3

- \*Engineering Design and Presentation I (1 Credit)  
*IBC: Autodesk Certified Professional in Inventor for Mechanical Design*  
*IBC: Autodesk Associate (Certified User) Fusion 360*
- Engineering Mathematics (1 Credit)

\*An Honors (Tier II) option is available for this course

#### Level 4

- Honors Engineering Design and Presentation II (2 Credits)
- Honors Practicum in Science, Technology, Engineering and Mathematics (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering and Mathematics (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Autodesk Associate (Certified User) 3ds Max*  
*Autodesk Revit for Architectural Design*  
*Autodesk Associate (Certified User) AutoCAD*

### Pathway to Completer

Level 1	CTS0911/12 Principles of Applied Engineering (1 Credit) CTP0821/22 Honors Principles of Applied Engineering (1 Credit) (CJH only)
Level 3	CTS0020/21/22 Engineering Design and Presentation (1 Credit) CTS0041/42 Engineering Mathematics (1 Credit)
Level 4	CTS0034/35 Honors Engineering Design and Presentation II (2 Credits) CTP0051/52 Honors Practicum in Science, Technology, Engineering and Mathematics (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Civil Engineering Program of Study will fulfill requirements of the STEM endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Regional Program of Study: Drone (Unmanned Vehicle)

The Drone (Unmanned Vehicle) regional program of study focuses on the occupational and educational opportunities associated with operating or designing an unmanned aircraft using a ground-based controller. This program of study includes understanding and designing systems of communications between the controller and the aircraft to ensure compliance with federal aviation safety regulations.

### Aligned Advanced Academic Courses

**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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Intern with a public service, engineering, construction, or transportation firm</li> <li>Practice drone operations with an industry professional at a work site</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in an aerial drone competition</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- FAA Part 107 Remote Drone Pilot



### Example Postsecondary Opportunities

#### Associate Degrees

- Airline/Commercial/Professional Pilot and Flight Crew
- Manufacturing Engineering Technology/Technician



#### Bachelor's Degrees

- Aviation Science
- Aeronautical/Aerospace Engineering Technology

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

- Aerospace, Aeronautical, and Astronautical/Space Engineering, General

#### Additional Stackable IBCs/Licensures

- Aerial Mapping and 3D Modeling Certification



### Example Aligned Occupations

#### Aerospace Engineering and Operations Technicians

Median Wage: \$48,204  
Annual Openings: 192  
10-Year Growth: 21%

#### Avionics Technicians

Median Wage: \$72,461  
Annual Openings: 255  
10-Year Growth: 16%

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>

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Drone (Unmanned Vehicle) Statewide Program of Study



The Drone (Unmanned Vehicle) regional program of study focuses on the occupational and educational opportunities associated with operating or designing an unmanned aircraft using a ground-based controller. This program of study includes understanding and designing systems of communications between the controller and the aircraft to ensure compliance with federal aviation safety regulations.

### Secondary Courses for High School Credit

#### Level 2

- Honors Introduction to Unmanned Aerial Vehicles (UAV) (1 Credit)  
*IBC: FAA Part 107 Remote Drone Pilot*
- \*Robotics I (1 Credit)

#### Level 3

- \*Robotics II (1 Credit)
- Engineering Science (1 Credit)

#### Level 4

- Honors Practicum in Manufacturing (2 Credits)
- Honors Extended Practicum in Manufacturing (3 Credits)
- Honors Scientific Research and Design (Honors Aerospace I) (1 Credit)

*\*An Honors (Tier II) option is available for this course*

### Pathway to Completer

Level 2	CTP0100/01/02 Honors Introduction to Unmanned Aerial Vehicles (UAV) (1 Credit) CTS0060/61/62 *Robotics I (1 Credit) (available at CJH)
Level 3	CTS0070 *Robotics II (1 Credit) SCR0038/39 Engineering Science (1 Credit)
Level 4	SCP0071/72 Honors Scientific Research and Design (Honors Aerospace I) (1 Credit)
	CTP0111/12 Honors Practicum in Manufacturing (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Drone (Unmanned Vehicle) Program of Study will fulfill requirements of the STEM endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Statewide Program of Study: *Electrical Engineering*

The Electrical Engineering Program of Study focuses on occupational and educational opportunities associated with the design, development, testing, and supervision of electrical equipment and systems. Students will design, test, and evaluate projects related to electrical motors, radar, navigation systems, and communication systems. This program study includes applying scientific, mathematical, and empirical evidence to solve problems in electrical systems associated with instruments, facilities, components, and equipment.

### Aligned Advanced Academic Courses

AP or IB	AP Calculus AB AP Calculus BC AP Computer Science Principles	AP Physics 1 AP Physics 2 AP Statistics	IB Physics SL IB Physics HL IB Computer Science SL 1B Computer Science 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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Intern for a construction company and use computer-aided design (CAD) to draw electrical blueprints</li> <li>Shadow an electrical engineering professional</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Tour a telecommunications site</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Join a local engineering association and attend meetings</li> </ul>

### Aligned Industry-Based Certifications

- FANUC Robot Operator 1
- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Inventor for Mechanical Design
- Autodesk Associate (Certified User) Revit Architecture



### Example Postsecondary Opportunities

#### Apprenticeship

- Electrical Technician Apprenticeship



#### Associate Degrees

- Electrical, Electronic, and Communications Engineering Technology/Technician
- Electromechanical/Electromechanical Engineering Technology/Technician

#### Bachelor's Degrees

- Electrical and Electronics Engineering
- Systems Engineering

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

- Electrical and Electronics Engineering
- Bioengineering and Biomedical Engineering

#### Additional Stackable IBCs/Licensures

- Professional Electrical Engineer (EE License)
- Electrical Apprenticeship Certificate Level 1 (520)



### Example Aligned Occupations

#### Electrical and Electronic Engineering Technologists and Technicians

Median Wage: \$62,968  
Annual Openings: 1,156  
10-Year Growth: 14%

#### Electrical and Electronics Drafters

Median Wage: \$58,987  
Annual Openings: 406  
10-Year Growth: 16%

#### Electrical Engineers

Median Wage: \$102,534  
Annual Openings: 1,271  
10-Year Growth: 21%

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>

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Electrical Engineering Statewide Program of Study



The Electrical Engineering program of study focuses on occupational and educational opportunities associated with the design, development, testing, and supervision of electrical equipment and systems. Students will design, test, and evaluate projects related to electrical motors, radar, navigation systems, and communication systems. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems in electrical systems associated with instruments, facilities, components, and equipment.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Applied Engineering (1 Credit)  
(Honors option at CJH only 8th grade)

#### Level 2

- \* Robotics I (1 Credit)

#### Level 3

- \*Robotics II (1 Credit)
- \*Engineering Design and Presentation I (1 Credit)  
*IBC: Autodesk Certified Professional in Inventor for Mechanical Design*  
*IBC: Autodesk Associate (Certified User) Fusion 360*
- Engineering Math (1 Credit)
- Engineering Science (1 Credit)

#### Level 4

- Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering, and Math (3 Credits)  
*IBC: FANUC Robot Operator*

#### Other Course Industry-Based Certifications (IBC's)

*Autodesk Certified User Revit*  
*Autodesk Associate (Certified User) AutoCAD*

*\*An Honors (Tier II) option is available for this course.*

### Pathway to Completer

Level 1	CTS0911/12 Principles of Applied Engineering (1 Credit)
Level 2	CTS0060/61/62 *Robotics I (1 Credit) (Available at CJH)
Level 3	CTS0070 *Robotics II (1 Credit) CTS0020/21/22 Engineering Design and Presentation (1 Credit) CTS0041/42 Engineering Math (1 Credit) SCR0038/39 Engineering Science (1 Credit)
Level 4	CTP0051/52 Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Electrical Engineering Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Statewide Program of Study: *Engineering Foundations*

The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Calculus AB AP Computer Science A AP Physics I	AP Physics 2 AP Statistics IB Physics SL	IB Physics HL IB Computer Science SL IB Computer Science 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 at an engineering, robotics, or aerospace company</li> <li>Visit an engineering firm and shadow multiple types of engineers</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Join a local engineering association and attend meetings.</li> </ul>

### Aligned Industry-Based Certificate

- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Inventor for Mechanical Design
- Autodesk Associate (Certified User) Revit Architecture
- FANUC Robot Operator 1



### Example Postsecondary Opportunities

#### Apprenticeships

- Industrial Engineering Technician Apprenticeship



#### Associate Degrees

- Manufacturing Engineering Technology/Technician
- Robotics Technology/Technician

#### Bachelor's Degrees

- Electrical and Electronics Engineering
- Engineering, General

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

- Electrical and Electronics Engineering
- Engineering, General

#### Additional Stackable IBCs/Licensures

- Professional Engineer (PE License)
- Engineer in Training Certification (EIT)



### Example Aligned Occupations

#### Civil Engineering Technologists and Technicians

Median Wage: \$61,138  
Annual Openings: 765  
10-Year Growth: 11%

#### Aerospace Engineers

Median Wage: \$115,694  
Annual Openings: 483  
10-Year Growth: 18%

#### Mechanical Engineers

Median Wage: \$99,937  
Annual Openings: 1,755  
10-Year Growth: 19%

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



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# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Engineering Foundations Statewide Program of Study



The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study V applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

### Secondary Courses for High School Credit

#### Level 1

- \*Principles of Applied Engineering (Honors option at CJH only 8th grade) (1 Credit)

#### Level 2

- \*Robotics I (1 Credit)

#### Level 3

- \*Robotics II (1 Credit)
- \*Engineering Design and Presentation I (1 Credit)  
*IBC: Autodesk Certified Professional in Inventor for Mechanical Design*  
*IBC: Autodesk Associate (Certified User) Fusion 360*
- Engineering Math (1 Credit)
- Engineering Science (1 Credit)

#### Level 4

- Honors Engineering Design and Presentation II (2 Credits)
- Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering, and Math (3 Credits)  
*IBC: FANUC Robot Operator 1*

#### Other Course Industry-Based Certifications (IBC's)

*Autodesk Revit*  
*Autodesk Associate (Certified User) AutoCAD*

\*An Honors (Tier II) option is available for this course.

### Pathway to Completer

Level 1	CTS0911/12 *Principles of Applied Engineering (1 Credit)
Level 2	CTS0060/61/62 *Robotics I (1 Credit) (Available at CJH)
Level 3	CTS0070 *Robotics II (1 Credit) CTS0021/22 *Engineering Design and Presentation I (1 Credit) CTS0041/42 Engineering Math (1 Credit) SCR0038/39 Engineering Science (1 Credit)
Level 4	CTS0034/35 Honors Engineering Design and Presentation II (2 Credits) CTP0051/52 Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Engineering Foundations Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Statewide Program of Study: *Mechanical and Aerospace Engineering*

The Mechanical and Aerospace Engineering program of study focuses on occupational and educational opportunities associated with the design, development, maintenance, and testing of engines, machines, and structures related to aircraft and spacecraft. Students will design, test, and evaluate projects related to aerodynamics, structural, and mechanical design. This program study includes applying scientific, mathematical, and empirical evidence to solve problems related to navigation, mechanics, robotics, propulsion, and combustion.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Calculus AB AP Calculus BC AP Physics I	AP Physics 2 AP Statistics	IB Physics SL IB Physics HL
<b>Dual Credit</b>	Dual credit offerings will vary by Local Education Agency.		

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### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>• Intern at an aviation or aerospace company</li> <li>• Shadow a mechanical engineer to understand design and testing processes</li> <li>• Complete a project to test and evaluate a new product design for a local company</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>• Tour an aerospace facility</li> <li>• Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Inventor
- Autodesk Associate (Certified User) Fusion 360 for Mechanical Design
- Autodesk Associate (Certified User) Revit Architecture



### Example Postsecondary Opportunities

#### Apprenticeships

- Mechanical Engineering Technician Apprenticeship

#### Associate Degrees

- Mechanical Engineering
- Aeronautics/Aviation/Aerospace Science and Technology, General

#### Bachelor's Degrees

- Aeronautical/Aerospace Engineering Technology/Technician
- Aeronautics/Aviation/Aerospace Science and Technology, General

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

- Electrical and Electronics Engineering
- Aerospace, Aeronautical, and Astronautical/Space Engineering, General

#### Additional Stackable IBCs/Licensures

- Professional Engineer (PE License)
- Aerospace Engineering Certification



### Example Aligned Occupations

#### *Aerospace Engineering and Operations Technologists and Technicians*

Median Wage: \$48,204  
Annual Openings: 192  
10-Year Growth: 21%

#### *Mechanical Engineers*

Median Wage: \$99,937  
Annual Openings: 1,755  
10-Year Growth: 18%

#### *Aerospace Engineers*

Median Wage: \$115,694  
Annual Openings: 483  
10-Year Growth: 18%

Mechanical and Aerospace Engineering

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# Engineering Career Cluster

The Engineering career cluster focuses on planning, designing, testing, building, and maintaining of machines, structures, materials, systems, and processes using empirical evidence and science, technology, and math principles. This career cluster includes occupations ranging from mechanical engineer and drafter to electrical engineer and to mapping technician.

## Mechanical and Aerospace Engineering Statewide Program of Study



The Mechanical and Aerospace Engineering program of study focuses on occupational and educational opportunities associated with the design, development, maintenance, and testing of engines, machines, and structures related to aircraft and spacecraft. Students will design, test, and evaluate projects related to aerodynamics, structural, and mechanical design. This program of study includes applying scientific, mathematical, and empirical evidence to solve problems related to navigation, mechanics, robotics, propulsion, and combustion.

### Secondary Courses for High School Credit

#### Level 1

- \*Principles of Applied Engineering (Honors option at CJH only 8th grade) (1 Credit)

#### Level 3

- \*Engineering Design and Presentation I (1 Credit)  
*IBC: Autodesk Certified Professional in Inventor for Mechanical Design*  
*IBC: Autodesk Associate (Certified User) Fusion 360*
- Engineering Math (1 Credit)
- Engineering Science (1 Credit)

#### Level 4

- Engineering Design and Problem Solving (Honors Aerospace II) (1 Credit)  
*IBC: Autodesk Associate (Certified User) Auto CAD*
- Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering, and Math (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Autodesk Associate (Certified User) Revit*

*\*An Honors (Tier II) option is available for this course.*

### Pathway to Completer

Level 1	CTS0911/12 *Principles of Applied Engineering (1 Credit)
Level 3	CTS0020/21/22 *Engineering Design and Presentation I (1 Credit) CTS0041/42 Engineering Math (1 Credit) SCR0038/39 Engineering Science (1 Credit)
Level 4	SCP0073 Engineering Design and Problem Solving (Honors Aerospace II) (1 Credit) CTP0051/52 Honors Practicum in Science, Technology, Engineering, and Math (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Mechanical and Aerospace Engineering Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

**DIAGNOSTIC &  
THERAPEUTIC  
SERVICES  
\*(FIRE ACADEMY)**

**EXERCISE  
SCIENCE,  
WELLNESS &  
RESTORATION**

**NURSING  
SCIENCE**



FOR ADDITIONAL INFORMATION ON THE HEALTH SCIENCE CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.



# 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: *Diagnostic and Therapeutic Services*

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Biology IB Biology SL IB Biology HL	AP Chemistry 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 medical assistant at a community clinic, hospital, assisted living or long-term care facility</li> <li>Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along, hospital/clinical job shadow</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event</li> </ul>

### Aligned Industry-Based Certifications

- Certified EKG Technician
- Certified Patient Care Technician (CPCT)
- Emergency Medical Technician–Basic
- Pharmacy Technician
- Phlebotomy Technician



### Example Postsecondary Opportunities

#### Apprenticeships

- Medical Assistant



#### Associate Degrees

- Emergency Medical Technology
- Radiologic Technology/Science

#### Bachelor's Degrees

- Emergency Medical Technology
- Medical Insurance Coding

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

- Medicine
- Occupational Therapy

#### Additional Stackable IBCs/Licensures

- Registered Diagnostic Medical Sonographer



### Example Aligned Occupations

#### Medical Assistants

Median Wage: \$36,834  
Annual Openings: 11,638  
10-Year Growth: 29%

#### Dental Hygienists

Median Wage: \$79,663  
Annual Openings: 1,352  
10-Year Growth: 32%

#### Physician Assistants

Median Wage: \$127,332  
Annual Openings: 974  
10-Year Growth: 41%

Non-Discrimination Statement: Hurst-Eules-Bedford ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Luke DeFilippis, Title IX Coordinator - lukedefilippis@hebisd.edu, 817-283-4461.

NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).



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

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

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.

## Diagnostic and Therapeutic Services Statewide Program of Study



The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Health Science (1 Credit)

#### Level 2

- Medical Terminology (1 Credit)
- Disaster Response (Fire Academy) (1 Credit)

#### Level 3

- \*Anatomy and Physiology (1 Credit)
  - Honors Medical Microbiology (1 Credit)
  - Health Science Theory (Fire Academy) (1 Credit)
  - Honors Health Science Theory + Honors Health Science Clinical (Clinical Rot./Site/PCT) (2 Credits)
- IBC: Patient Care Technician*

#### Level 4

- Honors Pathophysiology (1 Credit)
  - Honors Pharmacology (1 Credit)
- IBC: Pharmacy Technician*
- Honors Practicum in Health Science (Phlebotomy) (2 Credits)
- IBC: Phlebotomy Technician*
- Honors Extended Practicum in Health Science (Fire Academy) (3 Credits)
- IBC: Certified EKG Technician*  
*IBC: Emergency Medical Technician (EMT)*

\*An Honors (Tier II) option is available for this course.

### Pathway to Completer

Level 1	CTH0011/12 Principles of Health Science (1 Credit)
Level 2	CTH0041/42 Medical Terminology (1 Credit) CTL0030 Disaster Response (Fire Academy) (1 Credit)
Level 3	SCR0051/2 Anatomy and Physiology (1 Credit) SCP0051/52 Honors Anatomy and Physiology (1 Credit)
	CTP0043/45 Honors Medical Microbiology (1 Credit) CTH0061/62 Health Science Theory (Fire Academy) (1 Credit) CTP0025/26 Honors Health Science Theory + Honors Health Science Clinical (Clinical Rot./Site/PCT) (2 Credits)

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Diagnostic and Therapeutic Services Program of Study will fulfill requirements of the Public Service endorsement or STEM endorsement if the math and science requirements are met.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# 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.

## Diagnostic and Therapeutic Services

Pathway to Completer ...Continued

Level 4	CTP0045/46 Honors Pathophysiology (1 Credit) CTP0041/42 Honors Pharmacology (1 Credit) CTP0031/32 Honors Practicum in Health Science (Phlebotomy) (2 Credits)
	CTP0091/92/93 Honors Extended Practicum in Health Science (Fire Academy) (3 Credits)

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

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- Successful completion of the Diagnostic and Therapeutic Services Program of Study will fulfill requirements of the Public Service endorsement or STEM endorsement if the math and science requirements are met.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# 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: *Exercise Science, Wellness, and Restoration*

The Exercise Science, Wellness, and Restoration program of study focuses on occupational and educational opportunities associated with assisting patients with maintaining physical, mental, and emotional health. This program of study includes researching diet and exercise needed to maintain a healthy, balanced lifestyle and exploring techniques to help patients recover from injury, illness, or disease.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Biology	IB Biology SL IB Biology 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>Participate in an internship with a physical therapist, occupational therapist, or speech therapist</li> <li>Shadow an athletic trainer from a local sports team</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Volunteer at a hospital or rehabilitation center</li> </ul>

### Aligned Industry-Based Certifications

- Emergency Medical Technician - Basic



### Example Postsecondary Opportunities

#### Apprenticeships

- Medical Assistant

#### Associate Degrees

- Associate of Applied Science

#### Bachelor's Degrees

- Nutrition Sciences
- Exercise Physiology and Kinesiology

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

- Exercise Science and Kinesiology
- Physical Therapy

#### Additional Stackable IBCs/Licensures

- Physical Therapy Technician/Aide Certification



### Example Aligned Occupations

#### Exercise Trainers and Group Fitness Instructors

Median Wage: \$44,916  
Annual Openings: 5,022  
10-Year Growth: 41%

#### Physical Therapist Assistants

Median Wage: \$74,866  
Annual Openings: 1,218  
10-Year Growth: 44%

#### Athletic Trainers

Median Wage: \$54,447  
Annual Openings: 295  
10-Year Growth: 13%

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>



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# 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.

## Exercise Science, Wellness, and Restoration Statewide Program of Study



The Exercise Science, Wellness, and Restoration program of study focuses on occupational and educational opportunities associated with assisting patients with maintaining physical, mental, and emotional health. This program of study includes researching diet and exercise needed to maintain a healthy, balanced lifestyle and exploring techniques to help patients recover from injury, illness, or disease.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Health Science (1 Credit)

#### Level 2

- Lifetime Nutrition and Wellness (.5 Credit)
- Interpersonal Studies (.5 Credit)
- Medical Terminology (1 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Health Science Theory (Fire Academy) (1 Credit)
- Honors Health Science Theory + Honors Health Science Clinical (Clinical Rot./Site/PCT) (2 Credits)
- \*Anatomy and Physiology (1 Credit)

#### Level 4

- Honors Practicum in Health Science (Phlebotomy) (2 Credits)  
*IBC: Phlebotomy Technician*
- Honors Extended Practicum in Health Science (Fire Academy) (3 Credits)  
*IBC: Emergency Medical Technician*

\*An Honors (Tier II) option is available for this course.

### Pathway to Completer

Level 1	CTH0011/12 Principles of Health Science (1 Credit)
Level 2	CTU0010 Lifetime Nutrition and Wellness (.5 Credit) CTU0020 Interpersonal Studies (.5 Credit)
	CTH0041/42 Medical Terminology (1 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	SCR0051/52 Anatomy and Physiology (1 Credit) SCP0051/52 Honors Anatomy and Physiology (1 Credit)
	CTH0061/62 Health Science Theory (Fire Academy) (1 Credit) Honors Health Science Theory + Honors Health Science Clinical • CTH0021/22 Clinical Rotation (2 Credits) CTP0023/24 Site (2 Credits) • CTP0036/37 PCT (2 Credits)
Level 4	CTP0031/32 Honors Practicum in Health Science (Phlebotomy) (2 Credits)
	CTP0091/92/93 Honors Extended Practicum in Health Science (Fire Academy) (3 Credits)

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Exercise Science, Wellness, and Restoration Program of Study will fulfill requirements of the Public Services endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# 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: **Nursing Science**

The Nursing Science Program of Study focuses on occupational and educational opportunities associated with patient care. This Program of Study includes the practice of caring for patients, performing routine procedures such as monitoring vital signs, developing, and implementing care plans, maintaining medical records, and managing disease or pain.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Biology	AP Chemistry
	IB Biology SL	IB Chemistry SL
	IB Biology HL	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 medical assistant at a community clinic, hospital, or assisted living facility</li> <li>Conduct informational interviews with nurses in different departments and healthcare settings</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Volunteer at community clinics, hospitals, assisted living and long-term care facilities</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Certified Patient Care Technician (CPCT)
- Phlebotomy Technician



### Example Postsecondary Opportunities

#### Apprenticeships

- Registered Nurse Resident



#### Associate Degrees

- Medical Assisting
- Vocational Nursing

#### Bachelor's Degrees

- Registered Nursing
- Nursing Administration

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

- Nursing Administration
- Nursing Science

#### Additional Stackable IBCs/Licensures

- Certified Nursing Assistant



### Example Aligned Occupations

#### Nursing Assistants

Median Wage: \$30,856  
Annual Openings: 10,936  
10-Year Growth: 15%

#### Licensed Practical and Licensed Vocational Nurses

Median Wage: \$50,913  
Annual Openings: 6,865  
10-Year Growth: 17%

#### Registered Nurses

Median Wage: \$79,831  
Annual Openings: 16,207  
10-Year Growth: 17%

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# 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.

## Nursing Science Statewide Program of Study



The Nursing Science program of study focuses on occupational and educational opportunities associated with patient care. This program of study includes the practice of caring for patients, performing routine procedures such as monitoring vital signs, developing, and implementing care plans, maintaining medical records, and managing disease or pain.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Health Science (1 Credit)

#### Level 2

- Medical Terminology (1 Credit)

#### Level 3

- Health Science Theory (Fire Academy) (1 Credit)
- Honors Health Science Theory + Honors Health Science Clinical (Clinical Rot./Site/PCT) (2 Credits)  
*IBC: Patient Care Technician*
- \*Anatomy and Physiology (1 Credit)
- Honors Medical Microbiology (1 Credit)

#### Level 4

- Honors Pathophysiology (1 Credit)
- Honors Pharmacology (1 Credit)
- Honors Practicum in Health Science (Phlebotomy) (2 Credits)  
*IBC: Phlebotomy Technician*

\*An Honors (Tier II) option is available for this course.

### Pathway to Completer

Level 1	CTH0011/12 Principles of Health Science (1 Credit)
Level 2	CTH0041/42 Medical Terminology (1 Credit)
Level 3	SCR0051/52 Anatomy and Physiology (1 Credit) SCP0051/52 Honors Anatomy and Physiology (1 Credit)
	CTH0061/62 Health Science Theory (Fire Academy) (1 Credit) Honors Health Science Theory + Honors Health Science Clinical • CTP0025/26 Clinical Rotation (2 Credits) • CTP0023/24 Site (2 Credits) • CTP0036/37 PCT (2 Credits) CTP0043/44 Honors Medical Microbiology (1 Credit)
Level 4	CTP0045/46 Honors Pathophysiology (1 Credit) CTP0041/42 Pharmacology (1 Credit) CTP0031/32 Honors Practicum in Health Science (Phlebotomy) (2 Credits)

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Nursing Science Program of Study will fulfill requirements of the Public Service endorsement or STEM endorsement if the math and science requirements are met.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

## CULINARY ARTS



### HOSPITALITY AND TOURISM

FOR ADDITIONAL INFORMATION ON THE HOSPITALITY AND TOURISM CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.





# Hospitality and Tourism Career Cluster

The Hospitality and Tourism career cluster focuses on the management, marketing, and operations of restaurants, lodging, attractions, recreation events, and travel-related services. This career cluster includes occupations ranging from reservation and transportation ticket agent to event planner and general manager.

## Statewide Program of Study: *Culinary Arts*

The Culinary Arts Program of Study focuses on occupational and educational opportunities associated with the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study includes opportunities involved in directing and participating in the preparation of food.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Chemistry IB Chemistry SL
<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>Shadow a director of a non-profit that produces and delivers food for communities in need</li> <li>Intern at a catering company and learn about food production for large-scale events</li> <li>Work part-time in a restaurant as a line cook or chef</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Participate in American Culinary Association or the Texas Restaurant Association</li> </ul>

### Aligned Industry-Based Certifications

- ServSafe Manager



### Example Postsecondary Opportunities

#### Associate Degrees

- Culinary Arts
- Baking and Pastry Arts



#### Bachelor's Degrees

- Hotel/Motel Administration/Management
- Culinary Science

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

- Organizational Leadership
- Foodservice Systems Administration/Management

#### Additional Stackable IBCs/Licensures

- Food Manager License



### Example Aligned Occupations

#### Bakers

Median Wage: \$29,466  
Annual Openings: 2,942  
10-Year Growth: 26%

#### Chefs and Head Cooks

Median Wage: \$44,761  
Annual Openings: 950  
10-Year Growth: 37%

#### General and Operations Managers

Median Wage: \$83,220  
Annual Openings: 25,450  
10-Year Growth: 23%

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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>



Successful completion of the Culinary Arts program of study will fulfill requirements of the Business and Industry endorsement.

# Hospitality and Tourism Career Cluster

The Hospitality and Tourism career cluster focuses on the management, marketing, and operations of restaurants, lodging, attractions, recreation events, and travel-related services. This career cluster includes occupations ranging from reservation and transportation ticket agent to event planner and general manager.

## Culinary Arts Statewide Program of Study



The Culinary Arts program of study focuses on occupational and educational opportunities associated with the planning, directing, or coordinating activities of a food and beverage organization or department. This program of study includes opportunities involved in directing and participating in the preparation of food.

### Secondary Courses for High School Credit

#### Level 1

- Introduction to Culinary Arts (1 Credit)

#### Level 2

- Culinary Arts (2 Credits)
- Entrepreneurship I (1 Credit)

#### Level 4

- Honors Practicum in Culinary Arts (2 Credits)
- Honors Extended Practicum in Culinary Arts (3 Credits)  
*IBC: ServSafe Manager*

### Roadmap to Completer

Level 1	CTC0009 Introduction to Culinary Arts (1 Credit)
Level 2	CTC0012/13 Culinary Arts (2 Credits)
	CTM0021/22 Entrepreneurship I (1 Credit)
Level 4	CTC0021/22 Honors Practicum in Culinary Arts (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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*0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)*

<b>1 Semester/Trimester [Home Campus]</b> <i>.5 Credit = 1 Schedule Slot</i>	<b>2 Semester/Trimester [Home Campus]</b> <i>1 Credit = 2 Schedule Slots</i> May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> <i>.5 Credit = 1 Schedule Slot</i> <i>1 Credit = 2 Schedule Slots</i> May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> <i>1 Credit = 2 Schedule Slots</i> <i>2 Credits = 4 Schedule Slots</i> May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Culinary Arts Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



**COSMETOLOGY  
AND PERSONAL  
CARE SERVICES**  
REGIONAL PROGRAM OF  
STUDY

**FAMILY AND  
COMMUNITY  
SERVICES**

**HEALTH  
AND  
WELLNESS**

FOR ADDITIONAL INFORMATION ON THE HUMAN SERVICES CAREER CLUSTER,  
PLEASE CONTACT:  
HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.





# Human Services Career Cluster

The Human Services career cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

## Regional Program of Study: Cosmetology and Personal Care Services

The Cosmetology and Personal Care Services regional Program of Study focuses on occupational and educational opportunities associated with providing beauty and personal care services. This program of study includes managing personal care facilities and coordinating or supervising personal service workers.

### Aligned Advanced Academic Courses

**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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Work part-time in a salon, spa, or barbershop</li> <li>Participate in an apprenticeship at a salon to become an apprentice stylist</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Tour a salon, spa, or barbershop</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Cosmetology Operator License



### Example Postsecondary Opportunities

#### Apprenticeships

- Apprentice Stylist

#### Associate Degrees

- Cosmetology Operator
- Esthetics and Skin Care

#### Additional Stackable IBCs/Licensures

- Class A Barber
- Eye Lash Extension Specialist
- Hair Weaving Specialist



### Example Aligned Occupations

#### Hairdressers, Hairstylists, and Cosmetologists

Median Wage: \$27,286  
Annual Openings: 8,014  
10-Year Growth: 25%

#### Skincare Specialists

Median Wage: \$35,112  
Annual Openings: 778  
10-Year Growth: 38%

#### First-Line Supervisors of Personal Service Workers

Median Wage: \$36,795  
Annual Openings: 2,253  
10-Year Growth: 29%

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

For more information visit:



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NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).

# Human Services Career Cluster

The Human Services career cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs, such as counseling and mental health services, family and community services, personal care services, and consumer services. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

## Cosmetology and Personal Care Services Statewide Program of Study



The Cosmetology and Personal Care Services regional program of study focuses on occupational and educational opportunities associated with providing beauty and personal care services. This program of study includes managing personal care facilities and coordinating or supervising personal service workers.

### Secondary Courses for High School Credit

#### Level 2

- Introduction to Cosmetology (1 Credit)  
*Offered Fall Trimester only. Must be taken in same year (11th grade) as Cosmetology I (Level 3)*
- Entrepreneurship I (1 Credit)

#### Level 3

- Cosmetology I (3 Credits)  
*Offered Winter and Spring trimesters only. Must be taken in same year (11th grade) as Introduction to Cosmetology (Level 2)*

#### Level 4

- Cosmetology II+ Cosmetology II Lab (3 credits)  
*IBC: Cosmetology Operator License*

### Pathway to Completer

Level 2	CTU0060 Introduction to Cosmetology (1 Credit)
	CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTU0071/72 Cosmetology I (2 Credits)
Level 4	CTU0074/75/76 Cosmetology II+ Cosmetology II Lab (3 credits)

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<b>1 Semester/Trimester</b> <b>[Home Campus]</b> <i>.5 Credit = 1 Schedule Slot</i>	<b>2 Semester/Trimester</b> <b>[Home Campus]</b> <i>1 Credit = 2 Schedule Slots</i> May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> <i>.5 Credit = 1 Schedule Slot</i> <i>1 Credit = 2 Schedule Slots</i> May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> <i>1 Credit = 2 Schedule Slots</i> <i>2 Credits = 4 Schedule Slots</i> May be blocked into one trimester
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CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Cosmetology and Personal Care Services Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Human Services Career Cluster

The Human Services career cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

## Statewide Program of Study: Family and Community Services

The Family and Community Services program of study focuses on occupational and educational opportunities associated with social services, including child and human development and consumer sciences. This program of study includes managing social and community services, managing family and consumer sciences, and understanding career paths in social work or therapy for children, families, or school communities.

### Aligned Advanced Academic Courses

#### 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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Participate in a community health worker apprenticeship at a community health center</li> <li>Shadow a social worker in a community non-profit organization to learn about providing social and community services</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Community Health Workers



### Example Postsecondary Opportunities

#### Apprenticeships

- Community Health Worker Apprentice



#### Associate Degrees

- Social Work
- Human Development and Family Studies

#### Bachelor's Degrees

- Social Work
- Human Development and Family Studies

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

- Mental Health Counseling
- Marriage and Family Therapy

#### Additional Stackable IBCs/Licensures

- Certified Diabetes Educator



### Example Aligned Occupations

#### Community Health Workers

Median Wage: \$39,520  
Annual Openings: 501  
10-Year Growth: 25%

#### Social and Human Service Assistants

Median Wage: \$38,442  
Annual Openings: 3,298  
10-Year Growth: 21%

#### Child, Family, and School Social Workers

Median Wage: \$49,398  
Annual Openings: 2,342  
10-Year Growth: 14%

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

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# Human Services Career Cluster

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## Family and Community Services Statewide Program of Study



The Family and Community Services program of study focuses on occupational and educational opportunities associated with social services, including child and human development and consumer sciences. This program of study includes managing social and community services, managing family and consumer sciences, and understanding career paths in social work or therapy for children, families, or school communities.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Human Services (1 Credit)
- Professional Communications (.5 Credit)
- Dollars and Sense (.5 Credit)

#### Level 2

- Human Growth and Development (1 Credit)
- Child Development (1 Credit)
- Lifetime Nutrition and Wellness (.5 Credit)
- Interpersonal Studies (.5 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Family and Community Services (1 Credit)
- Counseling and Mental Health (1 Credit)

#### Level 4

- Honors Practicum in Human Services (2 Credits)
- Honors Extended Practicum in Human Services (3 Credits)

*IBC: Community Health Workers*

### Pathway to Completer

Level 1	CTV0000 Professional Communications (.5 Credit) CTU0090 Dollars and Sense (.5 Credit)
	CTU0900/01/02 Principles of Human Services (1 Credit)
Level 2	CTU0010 Lifetime Nutrition and Wellness (.5 Credit) CTU0020 Interpersonal Studies (.5 Credit)
	CTU0030/31/32 Child Development (1 Credit)
	CTE0001/02 Human Growth and Development (1 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTU0101/02 Family and Community Services (1 Credit)
	CTU0051/52 Counseling and Mental Health (1 Credit)
Level 4	CTU0043/44 Honors Practicum in Human Services (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Family and Community Services Program of Study will fulfill requirements of the Public Services endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Human Services Career Cluster

The Human Services career cluster focuses on preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care services, and consumer services. This career cluster includes occupations ranging from community health workers to cosmetologists and nutritionists.

## Statewide Program of Study: Health and Wellness

The Health and Wellness program of study focuses on occupational and educational opportunities associated with promoting physical, emotional, and mental health and wellness. This program of study includes assisting patients in planning for their health and wellness, responding to crises, providing education or counseling, making referrals, and addressing barriers to accessing health and wellness services.

### Aligned Advanced Academic Courses

#### 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

- Shadow a dietician in a local hospital or nursing home to learn about tailoring diets to patient needs
- Work part-time as a peer counselor at a community non-profit organization that works with children

#### Expanded Learning Opportunities

- Intern at a non-profit organization to learn about identifying resources to serve needs of participants
- Participate in a CTSO (Career & Technical Education Student Organization)

### Aligned Industry-Based Certifications

- Community Health Workers



### Example Postsecondary Opportunities

#### Apprenticeships

- Community Health Worker Apprentice



#### Associate Degrees

- Social Work
- Community Health Services Counseling

#### Bachelor's Degrees

- Social Work
- Mental Health Counseling

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

- Nutrition Sciences
- Dietetics

#### Additional Stackable IBCs/Licensures

- Dietician



### Example Aligned Occupations

#### Community Health Workers

Median Wage: \$39,520  
Annual Openings: 501  
10-Year Growth: 25%

#### Dietetic Technician

Median Wage: \$28,919  
Annual Openings: 160  
10-Year Growth: 18%

#### Dietitians and Nutritionists

Median Wage: \$63,687  
Annual Openings: 475  
10-Year Growth: 21%

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



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# Human Services Career Cluster

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## Health and Wellness Statewide Program of Study



The Health and Wellness program of study focuses on occupational and educational opportunities associated with promoting physical, emotional, and mental health and wellness. This program of study includes assisting patients in planning for their health and wellness, responding to crises, providing education or counseling, making referrals, and addressing barriers to accessing health and wellness services.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Human Services (1 Credit)
- Dollars and Sense (.5 Credit)

#### Level 2

- Human Growth and Development (1 Credit)
- Child Development (1 Credit)
- Lifetime Nutrition and Wellness (.5 Credit)
- Interpersonal Studies (.5 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Family and Community Services (1 Credit)
- Counseling and Mental Health (1 Credit)

#### Level 4

- Honors Practicum in Human Services (2 Credits)
- Honors Extended Practicum in Human Services (3 Credits)

*IBC: Community Health Workers*

### Pathway to Completer

Level 1	CTU0090 Dollars and Sense (.5 Credit)
	CTU0900/01/02 Principles of Human Services (1 Credit)
Level 2	CTU0010 Lifetime Nutrition and Wellness (.5 Credit) CTU0020 Interpersonal Studies (.5 Credit)
	CTU0030/31/32 Child Development (1 Credit)
	CTE0001/02 Human Growth and Development (1 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTU0051/52 Counseling and Mental Health (1 Credit)
	CTU0101/02 Family and Community Services (1 Credit)
Level 4	CTU0043/44 Honors Practicum in Human Services (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Health and Wellness Program of Study will fulfill requirements of the Public Services endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

## CYBERSECURITY

## INFORMATION TECHNOLOGY SUPPORT AND SERVICES

## NETWORKING SYSTEMS

## PROGRAMMING & SOFTWARE DEVELOPMENT

## WEB DEVELOPMENT



FOR ADDITIONAL INFORMATION ON THE INFORMATION TECHNOLOGY CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

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Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: Cybersecurity

The Cybersecurity program of study focuses on occupational and educational opportunities associated with planning, implementing, upgrading, or monitoring security measures for the protection of computer networks and information. This program of study includes responding to computer security breaches and viruses and administering network security measures.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	AP Computer Science A AP Computer Science Principles
<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 at a local bank, hospital, or government office to develop skills in implementing security measures</li> <li>Interview an information security analyst to learn how they plan for, monitor, and upgrade security measures at their organization</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a Hackathon</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- CodeHS Cybersecurity Level I Certification
- CompTIA A+ Certification
- CompTIA Network+
- CompTIA Security+
- Computer Networking Fundamentals - Job Ready



### Examples Postsecondary Opportunities

#### Associate Degrees

- Computer and Information Systems Security
- Computer Programming



#### Bachelor's Degrees

- Computer Science
- Computer Software Engineering

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

- Computer and Information Systems Security/Auditing/Information Assurance
- Computer Software Engineering

#### Additional Stackable IBCs/Licensures

- Certified Ethical Hacker (CEH)



### Example Aligned Occupations

#### Computer User Support Specialists

Median Wage: \$51,411  
Annual Openings: 5,757  
10-Year Growth: 21%

#### Software Developers

Median Wage: \$111,705  
Annual Openings: 15,324  
10-Year Growth: 36%

#### Information Security Analysts

Median Wage: \$110,268  
Annual Openings: 1,719  
10-Year Growth: 49%

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## Cybersecurity Statewide Program of Study



The Cybersecurity program of study focuses on occupational and educational opportunities associated with planning, implementing, upgrading, or monitoring security measures for the protection of computer networks and information. This program of study includes responding to computer security breaches and viruses and administering network security measures.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Information Technology (Hurst Junior High) (1 Credit)
- Fundamentals of Computer Science (Euleess Junior High) (1 Credit)
- Principles of Cybersecurity (Hurst Junior High) (1 Credit)

#### Level 2

- Computer Science I (1 Credit)
- Computer Maintenance (1 Credit)
- AP Computer Science Principles (1 Credit)

#### Level 3

- Digital Forensics (1 Credit)
- Networking (1 Credit) *IBC: Computer Networking Fundamentals-Job Ready*
- Networking/Networking Lab (2 Credits)
- AP Computer Science A (1 Credit)
- IB Computer Science Standard Level (1 Credit)
- IB Computer Science Higher Level (1 Credit)

#### Level 4

- Cybersecurity Capstone (1 Credit)  
*IBC: CodeHS Cybersecurity Level 1 Certification*
- Honors Independent Study in Technology Applications (1 Credit)
- Honors Practicum in Information Technology (2 Credits)  
*IBC: CompTIA A+ Certification*  
*IBC: CompTIA Network+ Certification*  
*IBC: CompTIA Security+ Certification*
- Honors Extended Practicum in Information Technology (3 Credits)
- Honors Practicum in Science, Technology, Engineering, and Mathematics (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering, and Mathematics (3 Credits)

### Pathway to Completer

Level 1	CTN9011/12 Principles of Information Technology (1 Credit) TAR0001/02 Fundamentals of Computer Science (1 Credit) CTS0921/22 Principles of Cybersecurity (1 Credit)
Level 2	TAR00035 Computer Science I (1 Credit) CTN0010 Computer Maintenance (1 Credit)
	TAP0001/02 AP Computer Science Principles (1 Credit)

\*An Extended Practicum option is available for qualified students.

*Roadmap to Completer cont'd next page*

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Cybersecurity Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Cybersecurity

### Roadmap to Completer cont'd

Level 3	CTN0060 Digital Forensics (1 Credit) CTN0030 Networking (1 Credit) CTN0033/34 Networking/Networking Lab (2 Credits)
	TAP0021/22 AP Computer Science A (1 Credit) TAI0021/22 IB Computer Science Standard Level (1 Credit) TAI0031/32 IB Computer Science Higher Level (1 Credit)
Level 4	TAR0051/52 Honors Independent Study in Technology Applications (1 Credit)
	CTS0081/82 Cybersecurity Capstone (1 Credit) CTN0071/72 Honors Practicum in Information Technology (2 Credits)* CTP0051/52 Honors Practicum in Science, Technology, Engineering, and Mathematics (2 Credits)*

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<b>1 Semester/Trimester</b> <b>[Home Campus]</b> .5 Credit = 1 Schedule Slot	<b>2 Semester/Trimester</b> <b>[Home Campus]</b> 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Cybersecurity Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: Information Technology Support and Services

The Information Technology Support and Services Program of Study focuses on occupational and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study includes analyzing user requirements, automating or improving existing systems, and reviewing computer system capabilities. It also includes research, design, and testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	<b>AP Computer Science A</b> <b>AP Computer Science Principles</b>	<b>IB Computer Science SL</b> <b>1B Computer Science HL</b>
<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 at a local IT company to develop skills in computer system maintenance and setting up computer equipment</li> <li>Shadow a database administrator or computer software or hardware engineer to learn about their day-to-day responsibilities</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Subscribe to industry journals</li> </ul>

### Aligned Industry-Based Certifications

- Computer Repair Technology - Job Ready
- CompTIA A+ Certification
- CompTIA Networking+



### Example Postsecondary Opportunities

#### Apprenticeships

- Coding Apprenticeship



#### Associate Degrees

- Computer Science
- Network and System Administration

#### Bachelor's Degrees

- Computer and Information Systems Security/Auditing/Information Assurance
- Computer Engineering

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

- Information Science/Studies
- Electrical and Electronics Engineering

#### Additional Stackable IBCs/Licensures

- CompTIA Server+



### Example Aligned Occupations

#### Computer User Support Specialists

Median Wage: \$51,411  
Annual Openings: 5,757  
10-Year Growth: 21%

#### Computer Network Support Specialists

Median Wage: \$65,646  
Annual Openings: 1,634  
10-Year Growth: 19%

#### Computer Hardware Engineers

Median Wage: \$119,662  
Annual Openings: 377  
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>



Non-Discrimination Statement: Hurst-Euleless-Bedford ISD does not discriminate on the basis of race, color, national origin, sex, or disability in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Luke DeFilippis, Title IX Coordinator - lukedefilippis@hebisd.edu, 817-283-4461.

NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](https://www.hebisd.edu).

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Information Technology Support and Services Statewide Program of Study



The Information Technology Support and Services program of study focuses on occupational and educational opportunities associated with administering, testing, and implementing computer databases and applying knowledge of database management systems. This program of study includes analyzing user requirements, automating or improving existing systems, and reviewing computer system capabilities. It also includes research, design, and testing of computer or computer-related equipment for commercial, industrial, military, or scientific use.

### Secondary Courses for High School Credit

#### Level 1

- **Principles of Information Technology (1 Credit)**  
(Hurst Junior High)
- **Fundamentals of Computer Science (1 Credit)**  
(Eules Junior High)

#### Level 2

- Computer Maintenance (1 Credit)  
*IBC: Computer Repair Technician - Job Ready*
- Entrepreneurship I (1 Credit)

#### Level 4

- Honors Independent Study in Technology Applications (1 Credit)
- Computer Technician Practicum (2 Credits)  
*IBC: CompTIA A+ Certification*  
*IBC: CompTIA Network+ Certification*
- Honors Practicum in Information Technology (2 Credits)
- Honors Extended Practicum in Information Technology (3 Credits)

### Pathway to Completer

Level 1	CTN0094/95 Principles of Information Technology (1 Credit) TAR0001/02 Fundamentals of Computer Science (1 Credit)
Level 2	CTN0010 Computer Maintenance (1 Credit) CTM0021/22 Entrepreneurship 1 (1 Credit)
Level 4	CTN0041/42 Computer Technician Practicum (2 Credits) CTN0071/72 Honors Practicum in Information Technology (2 Credits)*
	TAR0051/52 Honors Independent Study in Technology Applications (1 Credit)

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

**0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)**

<b>1 Semester/Trimester</b> [Home Campus] .5 Credit = 1 Schedule Slot	<b>2 Semester/Trimester</b> [Home Campus] 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Information Technology Support and Services Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: *Networking Systems*

The Networking Systems Program of Study focuses on occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study includes analysis of data processing challenges to implementing and improving computer systems.

### Aligned Advanced Academic Courses

#### 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 at a local education, public service, or technology organization to develop skills in installing hardware and software
- Interview a network administrator to learn about their career path and what credentials they earned to be successful in their role

#### Expanded Learning Opportunities

- Participate in a Hackathon
- Participate in a CTSO (Career & Technical Education Student Organization)

### Aligned Industry-Based Certifications

- CompTIA A+ Certification
- CompTIA Networking+
- Computer Networking Fundamentals - Job Ready



### Example Postsecondary Opportunities

#### Apprenticeships

- Network Engineer Apprenticeship



#### Associate Degrees

- Computer Systems Networking and Telecommunications
- Network and System Administration

#### Bachelor's Degrees

- Computer and Information Sciences
- Information Technology

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

- Computer Science
- Information Technology

#### Additional Stackable IBCs/Licensures

- Aruba Certified Mobility Associate (ACMA)



### Example Aligned Occupations

#### Computer Network Support Specialists

Median Wage: \$65,646  
Annual Openings: 1,634  
10-Year Growth: 19%

#### Computer Systems Analysts

Median Wage: \$101,716  
Annual Openings: 4,985  
10-Year Growth: 19%

#### Network and Computer Systems Administrators

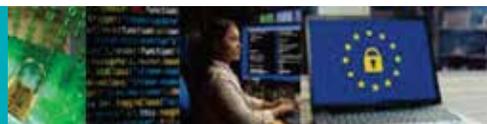
Median Wage: \$85,375  
Annual Openings: 2,900  
10-Year Growth: 20%

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>

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Networking Systems Statewide Program of Study



The Networking Systems program of study focuses on occupations and educational opportunities associated with designing and implementing computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. This program of study includes analysis of data processing challenges to implementing and improving computer systems.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Information Technology (1 Credit)  
(Hurst Junior High)
- Fundamentals of Computer Science (1 Credit)  
(Eules Junior High)

#### Level 2

- Computer Science I (1 Credit)
- Computer Maintenance (1 Credit)
- AP Computer Science Principles (1 Credit)
- Entrepreneurship (1 Credit)

#### Level 3

- Networking (1 Credit) *IBC: Computer Networking Fundamentals - Job Ready*
- Networking + Networking Lab (2 Credits)

#### Level 4

- Honors Independent Study in Technology Applications (1 credit)
- Honors Practicum in Information Technology (2 Credits)  
*IBC: CompTIA A+ Certification*  
*IBC: CompTIA Network+ Certification*
- Honors Extended Practicum in Information Technology (3 Credits)

### Pathway to Completer

Level 1	CTN0094/95 Principles of Information Technology (1 Credit) TAR0011/12 Fundamentals of Computer Science (1 Credit)
Level 2	TAP0001/02 AP Computer Science Principles (1 Credit)
	TAR0003 Computer Science I (1 Credit) CTN0010 Computer Maintenance (1 Credit) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTN0030 Networking (1 Credit) CTN0033/34 Networking + Networking Lab (2 Credits)
Level 4	TAR0051/52 Honors Independent Study in Technology Applications (1 credit)
	CTN0071/72 Honors Practicum in Information Technology (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

**0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)**

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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study.  
CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Networking Systems Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: *Programming and Software Development*

The Programming and Software Development Program of Study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	<i>AP Calculus AB</i> <i>AP Statistics</i> <i>IB Mathematics Applications and Interpretation SL</i>
<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 at a local IT company to develop skills in programming and coding</li> <li>Shadow a software developer to learn how they create and improve software to support efficient processes at their company</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Program and create a game</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- Certified Entry-Level Python Programmer (PCEP)
- Certified User: Programmer
- CodeHS Python Level 1 Certification
- CompTIA A+ Certification



### Example Postsecondary Opportunities

#### Apprenticeships

- Computer Programmer Apprenticeship



#### Associate Degrees

- Computer Programming
- Web Page, Digital/Multimedia and Information Resources Design

#### Bachelor's Degrees

- Data Science
- Computer Engineering

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

- Management Science
- Computer Software Engineering

#### Additional Stackable IBCs/Licensures

- AWS Certified Developer Associate



### Example Aligned Occupations

#### Computer User Support Specialists

Median Wage: \$51,411  
Annual Openings: 5,757  
10-Year Growth: 21%

#### Software Developers

Median Wage: \$111,705  
Annual Openings: 15,324  
10-Year Growth: 36%

#### Computer Programmers

Median Wage: \$87,997  
Annual Openings: 1,176  
10-Year Growth: 4%

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

For more information visit:

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# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Programming and Software Development Statewide Program of Study



The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Information Technology (1 Credit)  
(Hurst Junior High)
- Fundamentals of Computer Science (1 Credit)  
(Eules Junior High)  
*IBC: CodeHS Python Level I Certification*

#### Level 2

- Computer Science 1 (1 Credit)  
*IBC: Certified Entry-Level Python Programmer (PCEP)*
- AP Computer Science Principles (1 Credit)
- Entrepreneurship (1 Credit)

#### Level 3

- Computer Science II (1 Credit)
- AP Computer Science A (1 Credit)

- IB Computer Science Standard Level (1 Credit)
- IB Computer Science Higher Level (1 Credit)

#### Level 4

- Honors Independent Study in Technology Applications (1 Credit)
- Honors Practicum in Information Technology (2 Credits)  
*IBC: CompTIA A+ Certification*
- Honors Extended Practicum in Information Technology (3 Credits)
- Honors Practicum in Science, Technology, Engineering, and Mathematics (2 Credits)
- Honors Extended Practicum in Science, Technology, Engineering, and Mathematics (3 Credits)

#### Other Course Industry-Based Certifications (IBC's)

*Certified User: Programmer*

### Pathway to Completer

Level 1	CTN0094/95 Principles of Information Technology (1 Credit) TAR0001/02 Fundamentals of Computer Science (1 Credit)
Level 2	TAP0001/02 AP Computer Science Principles (1 Credit)
	TAR0003 Computer Science I (1 Credit) CTM0021/22 Entrepreneurship (1 Credit)

\*An Extended Practicum option is available for qualified students.

*continued to next page...*

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Programming and Software Development Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Programming and Software Development

### Roadmap to Completer ...continued

Level 3	TAI0021/22 IB Computer Science Standard Level (1 Credit) TAI0031/32 IB Computer Science Higher Level (1 Credit)
	TAR0006 Computer Science II (1 Credit) TAP0021/22 AP Computer Science A (1 Credit)
Level 4	TAR0051/52 Honors Independent Study in Technology Applications (1 Credit)
	CTN0073/74 Honors Practicum in Information Technology (2 Credits)* CTP0053/54 Honors Practicum in Science, Technology, Engineering, and Mathematics (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Programming and Software Development Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Statewide Program of Study: *Web Development*

The Web Development Program of Study focuses on occupational and educational opportunities associated with designing, creating, and modifying websites. It includes integration of websites with other computer applications and conversion of written, graphic, audio, and video components to compatible web formats using software designed to facilitate the creation of web and multimedia content.

### Aligned Advanced Academic Courses

<b>AP or IB</b>	<b>AP Computer Science A</b> <b>AP Computer Science Principles</b>	<b>IB Computer Science SL</b> <b>IB Computer Science HL</b>
<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 at a nonprofit or small business to support developing or updating their website and digital media</li> <li>Interview a web designer to learn about how they developed their digital design skills and what factors they consider when developing a website.</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Create a website</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- CodeHS Python Level I Certification



### Example Postsecondary Opportunities

#### Associate Degrees

- Web Page, Digital/Multimedia and Information Resources Design
- Web/Multimedia Management

#### Bachelor's Degrees

- Computer and Information Sciences
- Information Technology

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

- Computer and Information Sciences
- Computer Software Engineering

#### Additional Stackable IBCs/Licensures

- HTML Developer



### Example Aligned Occupations

#### Web Developers

Median Wage: \$77,712  
Annual Openings: 1,170  
10-Year Growth: 24%

#### Software Developers

Median Wage: \$111,705  
Annual Openings: 15,324  
10-Year Growth: 36%

#### Computer and Information Systems Managers

Median Wage: \$155,593  
Annual Openings: 3,064  
10-Year Growth: 26%

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>



# Information Technology Career Cluster

The Information Technology (IT) career cluster focuses on the design, development, support, and management of hardware, software, multimedia, and systems integration services. This career cluster includes occupations ranging from Software Developer and Programmer to Cybersecurity Specialists and Network Analysts.

## Web Development Statewide Program of Study



The Web Development program of study focuses on occupational and educational opportunities associated with designing, creating, and modifying websites. It includes integration of websites with other computer applications and conversion of written, graphic, audio, and video components to compatible web formats using software designed to facilitate the creation of web and multimedia content.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Information Technology (1 Credit)  
(Hurst Junior High)
- Fundamentals of Computer Science (1 Credit)  
(Eules Junior High)  
*IBC: CodeHS Python Level 1 Certification*

#### Level 2

- Computer Science I (1 Credit)
- Entrepreneurship (1 Credit)

#### Level 3

- Web Design (1 Credit)

#### Level 4

- Honors Independent Study in Technology Applications (1 Credit)
- Honors Practicum in Information Technology (2 Credits)
- Honors Extended Practicum in Information Technology (3 Credits)

### Pathway to Completer

Level 1	CTN0094/95 Principles of Information Technology (1 Credit) TAR0001/02 Fundamentals of Computer Science (1 Credit)
Level 2	TAR0003 Computer Science I (1 Credit)
	CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	TAR0011/12 Web Design (1 Credit)
Level 4	CTN0071/72 Honors Practicum in Information Technology (2 Credits)*
	TAR0051/52 Honors Independent Study in Technology Applications (1 Credit)

\*An Extended Practicum option is available for qualified students.

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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Web Development Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



**LAW  
ENFORCEMENT**

**LEGAL STUDIES**

FOR ADDITIONAL INFORMATION ON THE INFORMATION TECHNOLOGY CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.

# Law and Public Service Career Cluster



The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

## Statewide Program of Study: Law Enforcement

The Law Enforcement Program of Study focuses on occupational and educational opportunities associated with the development and enforcement of laws by various branches of law enforcement. This program of study includes the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

### Aligned Advanced Academic Courses

#### 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

- Shadow a detective to learn about investigations and the role of detectives in law enforcement
- Intern in dispatch at a local law enforcement agency to learn about first responder roles and processes

#### Expanded Learning Opportunities

- Visit a police department
- Participate in a CTSO (Career & Technical Education Student Organization)

### Aligned Industry-Based Certifications

- IAED Emergency Telecommunicator 2025-2026



### Example Postsecondary Opportunities

#### Apprenticeships

- Security Specialist

#### Associate Degrees

- Criminal Justice
- Law Enforcement

#### Bachelor's Degrees

- Forensic Science
- Criminal Justice

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

- Criminal Justice
- Criminology and Criminal Justice

#### Additional Stackable IBCs/Licensures

- Jailer – Basic County Corrections
- Basic Telecommunicator



### Example Aligned Occupations

#### Police and Sheriff's Patrol Officers

Median Wage: \$64,373  
Annual Openings: 5,424  
10-Year Growth: 13%

#### Detectives and Criminal Investigators

Median Wage: \$82,090  
Annual Openings: 1,536  
10-Year Growth: 8%

#### First-Line Supervisors of Police and Detectives

Median Wage: \$97,571  
Annual Openings: 5461  
0-Year Growth: 12%

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>

# Law and Public Service Career Cluster

The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

## Law Enforcement Statewide Program of Study



The Law Enforcement program of study focuses on occupational and educational opportunities associated with the development and enforcement of laws by various branches of law enforcement. This program of study includes the history, organization, and functions of local, state, and federal law enforcement. Students will understand the role of constitutional law at local, state, and federal levels; the U.S. legal system; criminal law; and law enforcement terminology and the classification and elements of crime.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Law, Public Safety, Corrections, and Security (1 Credit)

#### Level 2

- Law Enforcement I (Rotation/911 Dispatch) (1 Credit)

#### Level 3

- Law Enforcement II (1 Credit)
- Counseling and Mental Health (1 Credit)

#### Level 4

- Forensic Science (1 Credit)
- Honors Practicum in Law, Public Safety, Corrections, and Security (2 Credits)
- Honors Extended Practicum in Law, Public Safety, Corrections, and Security (3 Credits)  
*IBC: IAED Emergency Telecommunicator*

### Pathway to Completer

Level 1	CTL0011/12 Principles of Law, Public Safety, Corrections, and Security (1 Credit)
Level 2	CTL0033 Law Enforcement I Rotation (1 Credit) CTL0036 Law Enforcement I 911 Dispatch (1 Credit)
Level 3	CTL0043 Law Enforcement II (1 Credit)
	CTU0051/52 Counseling and Mental Health (1 Credit)
Level 4	SCR0061/62 Forensic Science (1 Credit) CTL0051/52 Honors Practicum in Law, Public Safety, Corrections, and Security (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

1 Semester/Trimester [Home Campus] .5 Credit = 1 Schedule Slot	2 Semester/Trimester [Home Campus] 1 Credit = 2 Schedule Slots May be blocked into one trimester	1 Trimester [BCTEA] .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	2 Trimesters [BCTEA] 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study.  
CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Law Enforcement Program of Study will fulfill requirements of the Public Services endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

# Law and Public Service Career Cluster



The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

## Statewide Program of Study: Legal Studies

The Legal Studies Program of Study focuses on topics such as legal research, legal writing, rules of procedure, case management, law office technology and legal ethics. Areas of the legal system studied include aspects of family law, criminal law, and contract law.

### Aligned Advanced Academic Courses

#### 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

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Shadow a clerk in a courthouse to learn about civil litigation</li> <li>Intern at a law firm, working alongside a paralegal to produce and organize legal documents</li> <li>Work part-time as an administrative assistant at a local non-profit that provides legal aid</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> <li>Participate in a Mock Trial</li> </ul>

### Aligned Industry-Based Certifications

- Administrative Assisting
- General Management



### Example Postsecondary Opportunities

#### Apprenticeships

- Law Apprenticeship

#### Associate Degrees

- Paralegal Studies
- Court Reporting and Captioning

#### Bachelor's Degrees

- Legal Research
- Legal Studies

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

- Juris Doctorate
- International and Comparative Law

#### Additional Stackable IBCs/Licensures

- Paralegal



### Example Aligned Occupations

#### Court Reporters

Median Wage: \$51,177  
Annual Openings: 174  
10-Year Growth: 11%

#### Paralegals and Legal Assistants

Median Wage: \$56,310  
Annual Openings: 4,046  
10-Year Growth: 23%

#### Lawyers

Median Wage: \$134,158  
Annual Openings: 3,915  
10-Year Growth: 19%

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NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).

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>



# Law and Public Service Career Cluster

The Law and Public Service career cluster focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. This career cluster includes occupations ranging from police officer and firefighter to political scientist and lawyer.

## Legal Studies Statewide Program of Study



The Legal Studies program of study focuses on topics such as legal research, legal writing, rules of procedure, case management, law office technology, and legal ethics. Areas of the legal system studied include aspects of family law, criminal law, and contract law.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Law, Public Safety, Corrections, and Security (1 Credit)

#### Level 2

- Court Systems and Practices (1 Credit)

#### Level 3

- Advanced Legal Skills and Professions (1 Credit)  
*IBC: General Management*  
*IBC: Administrative Assisting*

#### Level 4

- Forensic Science (1 Credit)
- Honors Practicum in Law, Public Safety, Corrections, and Security (2 Credits)
- Honors Extended Practicum in Law, Public Safety, Corrections, and Security (3 Credits)

### Pathway to Completer

Level 1	CTL0011/12 Principles of Law, Public Safety, Corrections, and Security (1 Credit)
Level 2	CTL0021/22 Court Systems and Practices (1 Credit)
Level 3	CTL0060 Advanced Legal Skills and Professions (1 Credit)
Level 4	SCR0061/62 Forensic Science (1 Credit) CTL0051/52 Honors Practicum in Law, Public Safety, Corrections, and Security (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

**0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)**

<b>1 Semester/Trimester [Home Campus]</b> .5 Credit = 1 Schedule Slot	<b>2 Semester/Trimester [Home Campus]</b> 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>1 Trimester [BCTEA]</b> .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	<b>2 Trimesters [BCTEA]</b> 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Legal Studies Program of Study will fulfill requirements of the Public Services endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.

**ROBOTICS &  
AUTOMATION  
TECHNOLOGY**

**WELDING**



FOR ADDITIONAL INFORMATION ON THE MANUFACTURING CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.



# Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from Welder and Machinist to Industrial Engineering Technician, and Semi-Conductor Processing Technician.

## Statewide Program of Study: Robotics and Automation Technology

The Robotics and Automation Technology program of study focuses on occupational and educational opportunities associated with the assembly, operation, maintenance, and repair of electromechanical equipment or devices. This program of study includes exploration of a variety of mechanical fields, including robotics, refinery and pipeline systems, deep ocean exploration, and hazardous waste removal.

### Aligned Advanced Academic Courses

#### 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

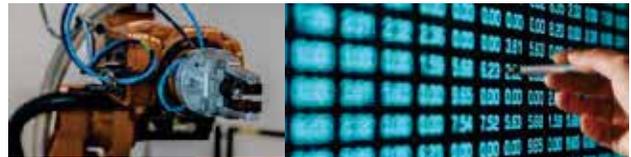
- Intern with a robotics technician working at manufacturing plant
- Shadow a PLC programmer

#### Expanded Learning Opportunities

- Tour a manufacturing facility
- Participate in a CTSO (Career & Technical Education Student Organization)
- Build a robot and participate in a robotics competition

### Aligned Industry-Based Certifications

- C-101 Certified Industry 4.0 Associate - Basic 1
- FANUC Robot Operator I Operations
- Certified Manufacturing Associate



### Example Postsecondary Opportunities

#### Associate Degrees

- Instrumentation Technology
- Industrial Technology
- Robotics Technology
- Automation Engineer Technology



#### Bachelor's Degrees

- Mechanical Engineering
- Electrical and Electronics Engineering
- Electrical, Electronic, and Communications Engineering Technology
- Electromechanical Engineering Technology

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

- Mechanical Engineering
- Engineering/Industrial Management
- Industrial Engineering
- Electrical and Electronics Engineering



### Example Aligned Occupations

#### Computer Numerically Controlled Tool Operators

Median Wage: \$46,353  
Annual Openings: 1,146  
10-Year Growth: 10%

#### Semiconductor Processing Technicians

Median Wage: \$36,902  
Annual Openings: 621  
10-Year Growth: 9%

#### Industrial Engineers

Median Wage: \$100,000  
Annual Openings: 1,898  
10-Year Growth: 26%

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



For more information visit:

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Successful completion of the Robotics and Automation Technology program of study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.

# Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from welder and machinist to industrial engineering technician and semi-conductor processing technician.

## Robotics and Automation Technology Statewide Program of Study



The Robotics and Automation Technology program of study focuses on occupational and educational opportunities associated with the assembly, operation, maintenance, and repair of electromechanical equipment or devices. This program of study includes exploration of a variety of mechanical fields, including robotics, refinery and pipeline systems, deep ocean exploration, and hazardous waste removal.

### Secondary Courses for High School Credit

#### Level 1

- Principles of Applied Engineering (Honors option at CJH only 8th Grade) (1 Credit)

#### Level 2

- \*Robotics I (1 Credit)  
*IBC: C-101 Certified Industry 4.0 Associate - Basic Operations*

#### Level 3

- \*Engineering Design and Presentation I (1 Credit)
- \*Robotics II (1 Credit)  
*IBC: Certified Manufacturing Associate*

#### Level 4

- Honors Practicum in Manufacturing (2 Credits)
- Honors Extended Practicum in Manufacturing (3 Credits)  
*IBC: FANUC Robot Operator I*

\*An Honors (Tier II) option is available for this course.

### Pathway to Completer

Level 1	CTS0911/12 Principles of Applied Engineering (1 Credit)
Level 2	CTS0060/61/62 Robotics I (1 Credit) (Available at CJH)
Level 3	CTS0020/21/22 Engineering Design and Presentation I (1 Credit) CTS0070 Robotics II (1 Credit)
Level 4	CTS0011/12 Honors Practicum in Manufacturing (2 Credits)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.

*0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)*

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Robotics and Automation Program of Study will fulfill requirements of the STEM endorsement if the math and science requirements are met or the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



# Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from Welder and Machinist to Industrial Engineering Technician, and Semi-Conductor Processing Technician.

## Statewide Program of Study: *Welding*

The Welding Program of Study focuses on occupational and educational opportunities associated with the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. This Program of Study addresses how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.

### Aligned Advanced Academic Courses

#### 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 toward Completer status for this Program of Study.

### Work-Based Learning and Expanded Learning Opportunities

#### Work-Based Learning Activities

- Job shadow a welder
- Intern for a local welding company

#### Expanded Learning Opportunities

- Tour a welding shop
- Participate in a CTSO (Career & Technical Education Student Organization)
- Participate in a welding project that benefits the community

### Industry-Based Certifications

- API 1104 Welding Pipelines and Related Facilities
- AWS D1.1 Structural Steel
- AWS D9.1 Sheet Metal Welding



### Example Postsecondary Opportunities

#### Apprenticeships

- Welding



#### Associate Degrees

- Welding Technology
- Building/Construction Site Management
- Operations Management and Supervision

#### Bachelor's Degrees

- Welding Technology
- Construction Management
- Project Management
- Building/Construction Site Management

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

- Engineering
- Engineering/Industrial Management
- Manufacturing Engineering
- Construction Engineering



### Example Aligned Occupations

#### Welders, Cutters, Solderers, and Brazers

Median Wage: \$48,177  
 Annual Openings: 6,792  
 10-Year Growth: 23%

#### First-Line Supervisors of Production and Operating Workers

Median Wage: \$62,584  
 Annual Openings: 5,926  
 10-Year Growth: 17%

#### Industrial Production Managers

Median Wage: \$119,691  
 Annual Openings: 1,296  
 10-Year Growth: 19%

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

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NOTE: A full version of this statement is available in both English and Spanish on the [HEB ISD website](#).



Successful completion of the Welding Program of Study will fulfill requirements of the Business and Industry endorsement.

# Manufacturing Career Cluster

The Manufacturing career cluster focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and process engineering. This career cluster includes occupations ranging from welder and machinist to industrial engineering technician and semi-conductor processing technician.

## Welding Statewide Program of Study



The Welding Program of Study focuses on the development and use of automatic and computer-controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to modify parts to make or repair machine tools or maintain individual machines and how to use hand-welding or flame-cutting equipment.

### Secondary Courses for High School Credit

#### Level 1

- Introduction to Welding (1 Credit)

#### Level 2

- Welding I (2 Credits)  
*IBC: AWS D1.1 Structural Steel*
- Entrepreneurship I (1 Credit)

#### Level 3

- Welding II (2 Credits)
- Welding II with Lab (3 Credits)  
*IBC: AWS D9.1 Sheet Metal Welding*  
*IBC: API 1104 Welding Pipelines and Related Facilities*

#### Level 4

- Honors Practicum in Manufacturing (2 Credits)
- Honors Extended Practicum in Manufacturing (3 Credits)

### Pathway to Completer

Level 1	CTU011/13/14 Introduction to Welding (1 Credit)
Level 2	CTU0111/12 Welding I (2 Credits) CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTU0021/22 Welding II (2 Credits)
	CTU0026 Welding II with Lab (1 Credit)
Level 4	CTP0011/12 Honors Practicum in Manufacturing (2 Credits)*

\*An Extended Practicum option is available for qualified students.

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- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Welding Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.



### TRANSPORTATION, DISTRIBUTION, AND LOGISTICS

FOR ADDITIONAL INFORMATION ON THE TRANSPORTATION, DISTRIBUTION, AND LOGISTICS CAREER CLUSTER,  
PLEASE CONTACT:

HEB ISD Career & Technical Education Department

<https://www.hebisd.edu/departments/career-technical-education/career-technical-education>

<https://tea.texas.gov/cte>

Students completing two or more courses for two or more credits within a program of study earn concentrator status for Perkins V federal & state accountability reporting.

Students finishing three or more courses for four or more credits with one course from level 3 or 4 within a program of study earn completer status for federal & state accountability reporting.

CCMR Credit: CTE Completer plus earned IBC (Industry-Based Certification) in aligned program of study.



# Transportation, Distribution, and Logistics Career Cluster

The Transportation, Distribution, and Logistics career cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes transportation infrastructure planning and management, logistics services, and mobile equipment and facility maintenance. This career cluster includes occupations ranging from automotive mechanic, avionics technician, and automotive entrepreneur to pilots and logistics planning professionals.

## Statewide Program of Study: **Automotive**

The Automotive Program of Study focuses on the occupational and educational opportunities associated with servicing, repairing, and refinishing various types of vehicles. This program of study includes diagnosing and servicing vehicles and learning about processes, technologies, and materials used in reconstructing vehicles.

### Aligned Advanced Academic Courses

#### Dual Credit

Dual credit offerings will vary by Local Education Agency.

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### Work-Based Learning and Expanded Learning Opportunities

<b>Work-Based Learning Activities</b>	<ul style="list-style-type: none"> <li>Shadow an automotive technician at a car dealership</li> <li>Intern at a rental car company and assist technicians with vehicle maintenance</li> <li>Work at a local automotive repair shop and hold both customer service duties and automatic repair duties</li> </ul>
<b>Expanded Learning Opportunities</b>	<ul style="list-style-type: none"> <li>Join a related automotive association and attend events</li> <li>Participate in a CTSO (Career &amp; Technical Education Student Organization)</li> </ul>

### Aligned Industry-Based Certifications

- ASE Entry Level Automobile Maintenance and Light Repair (MR)
- ASE Entry-Level Automobile Brakes (BR)
- ASE Entry-Level Automobile Electronic/Electrical Systems (EE)
- ASE Entry-Level Automobile Engine Repair (ER)
- ASE Entry-Level Automobile Manual Drive Train and Axles (MD)
- ASE Entry-Level Automobile Suspension and Steering (SS)

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### Example Postsecondary Opportunities

#### Apprenticeships

- Automotive Technician Apprenticeship



#### Associate Degrees

- Automobile/Automotive Mechanics Technology
- Autobody/Collision and Repair Technology

#### Bachelor's Degrees

- Autobody/Collision and Repair Technology
- Heavy Equipment Maintenance Technology

#### Additional Stackable IBCs/Licensures

- Automobile and Light Truck Certification (A1– A9)



### Example Aligned Occupations

#### Automotive Service Technicians and Mechanics

Median Wage: \$44,809  
Annual Openings: 6,285  
10-Year Growth: 10%

#### Bus and Truck Mechanics and Diesel Engine Specialists

Median Wage: \$50,967  
Annual Openings: 3,096  
10-Year Growth: 19%

#### First-Line Supervisors of Mechanics, Installers, and Repairers

Median Wage: \$66,535  
Annual Openings: 5,019  
10-Year Growth: 19%

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>

# Transportation, Distribution, and Logistics Career Cluster

The Transportation, Distribution, and Logistics career cluster focuses on planning, management, and movement of people, materials, and goods by road, pipeline, air, rail, and water. It also includes transportation infrastructure planning and management, logistics services, and mobile equipment and facility maintenance. This career cluster includes occupations ranging from automotive mechanic, avionics technician, and automotive entrepreneur to pilots and logistics planning professionals.

## Automotive and Collision Repair Statewide Program of Study



The Automotive and Collision Repair program of study focuses on the occupational and educational opportunities associated with servicing, repairing, and refinishing various types of vehicles. This program of study includes diagnosing and servicing vehicles and learning about processes, technologies, and materials used in reconstructing vehicles.

### Secondary Courses for High School Credit

#### Level 2

- Automotive Basics (1 Credit)
- Entrepreneurship I (1 Credit)

#### Level 3

- Automotive Technology I: Maintenance and Light Repair (2 Credits)  
*IBC: ASE Entry Level Automobile Brakes (BR)*  
*IBC: ASE Entry Level Automobile Engine Repair (ER)*  
*IBC: ASE Entry Level Automobile Manual Drive Train and Axles (MD)*  
*IBC: ASE Entry Level Automobile Suspension and Steering (SS)*

#### Level 4

- Automotive Technology II: Automotive Service (2 Credits)  
*IBC: ASE Entry Level Electronic/Electrical Systems (EE)*  
*IBC: ASE Entry Level Automobile Maintenance and Light Repair (MR)*
- Automotive Technology II: Automotive Service + Advanced Transportation Systems Laboratory (1 Credit)
- Honors Practicum in Transportation Systems (2 Credits)
- Honors Extended Practicum in Transportation Systems (3 Credits)

### Pathway to Completer

Level 2	CTT0010 Automotive Basics (1 Credit)
	CTM0021/22 Entrepreneurship I (1 Credit)
Level 3	CTT0011/12 Automotive Technology I: Maintenance and Light Repair (2 Credits)
Level 4	CTT0021/22 Automotive Technology II: Automotive Service (2 Credits) CTT0051/52 Honors Practicum in Transportation Systems (2 Credits)
	CTT0023 Automotive Technology II: Automotive Service + Advanced Transportation Systems Laboratory (1 Credit)*

\*An Extended Practicum option is available for qualified students.

**High School Schedules** contain 15 available schedule slots per year. **Junior High School Schedules** contain 14 available schedule slots per year.  
0.5 Credit = 1 slot    1 credit = 2 slots    2 credits = 4 slots    3 credits = 6 slots (BCTEA-2 slots per trimester)

1 Semester/Trimester [Home Campus] .5 Credit = 1 Schedule Slot	2 Semester/Trimester [Home Campus] 1 Credit = 2 Schedule Slots May be blocked into one trimester	1 Trimester [BCTEA] .5 Credit = 1 Schedule Slot 1 Credit = 2 Schedule Slots May be blocked into one trimester	2 Trimesters [BCTEA] 1 Credit = 2 Schedule Slots 2 Credits = 4 Schedule Slots May be blocked into one trimester
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- A Completer is a student who completes three or more courses for four or more credits with one course from Level 3 or 4 within a Program of Study. CCMR Credit = CTE Completer + earned IBC (Industry Based Certification) in an aligned Program of Study.
- Students without their own transportation may not be able to participate in a practicum course.
- Successful completion of the Automotive Program of Study will fulfill requirements of the Business and Industry endorsement.
- Please refer to the Academic Planning Guide course descriptions for required course prerequisites.