



PROGRAMS OF STUDY

DISTRICT GUIDEBOOK

CCMR

College, Career, and Military Readiness
Laying the foundation of Postsecondary Readiness for ALL



Presented July 2025



CTE PROGRAMS OF STUDY EAST CENTRAL ISD

Updated May 2025



BUSINESS AND INDUSTRY ENDORSEMENT	
AGRICULTURE, FOOD AND NATURAL RESOURCES CLUSTER	
Agriculture Business, Leadership, and Communications - Principles of Agriculture, Food, & Natural Resources (1) - Ag Leadership and Development 1 (Prof. Comm.) (.5) & Professional Standards (.5) - Ag Leadership and Development 2 (Ag Mgmt & Mktg) (1) - Ag Leadership and Development 3 (Ag Lead, Res. & Comm)(1)	Animal Science - Principles of Agriculture, Food, & Natural Resources (1) - Small Animal Management (.5) and Equine Science (.5) - Livestock Production (1) - Veterinary Medical Applications w/ Lab(2) *Advanced Animal Science (1)
Agricultural Technology and Mechanical Systems - Principles of Agriculture, Food, & Natural Resources (1) - Agricultural Mechanics and Metal Tech (1) - Ag Structures and Design w/Lab (2) - Ag Equipment Design and Fab. w/Lab (2)	Plant Science - Principles of Agriculture, Food, & Natural Resources (1) - Greenhouse Operations and Production (1) **Floral Design (1) - Advanced Floral Design (1)
ARCHITECTURE & CONSTRUCTION CLUSTER	
Architectural Drafting & Design - Principles of Architecture (1) - Architectural Design I (1) - Architectural Design II (2) - Practicum in Architectural Design (3)	Construction Management and Inspection - Principles of Construction (1) - Construction Management I (1) - Construction Management II (2) - Practicum in Construction Management (2)
ARTS, A/V TECHNOLOGY, & COMMUNICATIONS CLUSTER	
Digital Communications - Principles of Arts, Audio/Video Technology, and Communications(1) - Audio/Video Production I (1) - Audio/Video Production II (2) - Practicum in Audio/Video Production (2)	Graphic Design and Interactive Media -Fashion Design - Principles of Arts, Audio/Video Technology, and Communications (1) - Fashion Design I (1) - Fashion Design II (2) - Practicum in Fashion Design (2)
Graphic Design and Interactive Media - Animation - Principles of Arts, Audio/Video Technology, and Communications (1) - Animation I (1) - Animation II (2) - Practicum in Animation (2)	Graphic Design and Interactive Media -Graphic Design - Principles of Arts, Audio/Video Technology, and Communications (1) - Graphic Design and Illustration I (1) - Graphic Design and Illustration II (2) - Practicum in Graphic Design and Illustration (2)
Graphic Design and Interactive Media - Video Game - Video Game Design (1) - Video Game Programming (1) - Advanced Video Game Programming (1) - Practicum in Graphic Design and Illustration (2)	
BUSINESS, MARKETING AND FINANCE CLUSTER	
Business Management - Principles of Business Marketing and Finance (1) - Business Law (1) - Business Management (1) - Practicum in Business Management (2)	Accounting and Financial Services - Principles of Business, Marketing, and Finance (1) - Accounting I (1) ***Accounting II (1) - Practicum in Business Management (2)

*Advanced Science credit for graduation

** Fine Arts credit for graduation

*** Math credit for graduation



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Updated May 2025

ENGINEERING CLUSTER		HOSPITALITY AND TOURISM CLUSTER	
Engineering Foundations- Manufacturing 1. Principles of Applied Engineering (1) 2. Manufacturing Engineering Technology I (1) 3. Engineering Design and Presentation I (1) 4. Engineering Design and Presentation II (2)		Culinary Arts 1. Introduction to Culinary Arts (1) 2. Culinary Arts (2) 3. Advanced Culinary Arts (2) 4. Practicum in Culinary Arts (2) 5. *Food Science (1)	
Engineering Foundations- Robotics 1. Principles of Applied Engineering (1) 2. Robotics I (1) 3. Robotics II (1) 4. Practicum in STEM (2)		Drone (Unmanned Vehicle) 1. Introduction to Aerospace and Aviation (1) 2. AP Computer Science Principles (1) & Robotics I (1) 3. Robotics II (1) 4. Practicum in Manufacturing- Drone Pilot (2)	
INFORMATION TECHNOLOGY			
Programming and Software Development 1. Fundamentals of Computer Science (1) 2. AP Computer Science Principles (1) 3. ***AP Computer Science A (1) 4. Practicum in IT (2)		Cybersecurity 1. Foundations of Cybersecurity (1) 2. AP Computer Science Principles (1) 3. ***AP Computer Science A (1) 4. Cybersecurity Capstone (2)	
PUBLIC SERVICE ENDORSEMENT			
EDUCATION AND TRAINING CLUSTER			
Early Learning 1. Principles of Education and Training (1) 2. Child Development Associate Foundations (1) 3. Child Guidance (2) 4. Practicum in Early Learning (2)		Teaching and Training 1. Principles of Education and Training (1) 2. Communication and Technology in Ed (1) 3. Teacher Prep 1 (IPET) (2) 4. Teacher Prep 2 (Pract.) (2)	
LAW AND PUBLIC SERVICE CLUSTER			
Law Enforcement 1. Principles of Law, Public Safety, Security, and Corrections (1) 2. Law Enforcement I (1) 3. Law Enforcement II (1) OR Correctional Services (1) 4. Practicum in Law Enforcement (2) 5. * Forensic Science (1)		Fire Science 1. Principles of Law, Public Safety, Security, and Corrections (1) 2. Disaster Response (1) 3. Firefighter I (2) 4. EMT Basic (2) & Firefighter II (3)	
HEALTH SCIENCE CLUSTER			
Exercise Science, Wellness, and Restoration 1. Principles of Health Science (1) 2. Kinesiology I (Sports Medicine I) (1) 3. Kinesiology II (Sports Medicine II) (1) & Health Science Theory (1) 4. Practicum in Health Science- Kinesiology (2)		Diagnostic and Therapeutic Services - Certified Medical Assistant (CCMA) 1. Principles of Health Science (1) 2. Medical Terminology (1) 3. Health Science Theory (1) 4. Practicum in Health Science- CMA (2)	
Nursing Science (CNA) 1. Principles of Health Science (1) 2. Medical Terminology (1) 3. Health Science Theory (1) 4. Practicum in Health Science- CNA (2)		Diagnostic and Therapeutic Services - Pharmacy Technician 1. Principles of Health Science (1) 2. Pharmacy I (1) 3. Health Science Theory (1) 4. Practicum in Health Science- Pharmacy Technician (2)	

*Advanced Science credit for graduation

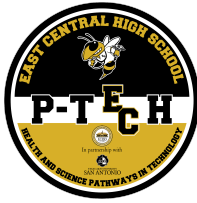
** Fine Arts credit for graduation

*** Math credit for graduation



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PATHWAYS IN TECHNOLOGY (P-TECH) CTE COURSE PLANS

HEALTH SCIENCE CLUSTER

PCT/Phlebotomy 1. Medical Terminology (1) & Principles of Health Science (1) 2. Health Science Theory (1) 3. *Anatomy and Physiology (1) 4. Practicum in Health Science- PCT (2)	CNA/Phlebotomy 1. Medical Terminology (1) & Principles of Health Science (1) 2. Health Science Theory (1) 3. *Anatomy and Physiology (1) 4. Practicum in Health Science- CNA (2)
Pharmacy Technician 1. Medical Terminology (1) & Principles of Health Science (1) 2. Health Science Theory (1) 3. *Anatomy and Physiology (1) & Pharmacy I (1) 4. Practicum in Health Science-Pharmacy (2)	Certified Personal Trainer 1. Medical Terminology (1) & Principles of Health Science (1) 2. Kinesiology I (1) & Health Science Theory (1) 3. *Anatomy and Physiology (1) & Kinesiology II (1) 4. Practicum in Entrepreneurship (2)

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BUSINESS AND INDUSTRY ENDORSEMENT	
HOSPITALITY AND TOURISM	
Retail Leadership 1. Principles of Business, Marketing, and Finance (1) 2. Human Resource Management (0.5) 3. Retail Management (1) 4. Marketing (1) 5. Entrepreneurship (1) 6. Practicum in Entrepreneurship (2)	E-Commerce 1. Principles of Information Technology (1) 2. Web Design (1) 3. Entrepreneurship (1) 4. AP Computer Science Principles (1) 5. Foundations of User Experience UX (1) 6. Advanced User Experience Design (1) 7. Practicum in Entrepreneurship (2)
Travel, Tourism, and Resort Management 1. Principles of Hospitality and Tourism (1) 2. Principles of Business, Marketing, and Finance (1) 3. Travel and Tourism Management (1) 4. Sports and Entertainment Marketing (0.5) 5. Global/Virtual Business (0.5/ 0.5) 6. Intro to Event Planning (1) 7. Entrepreneurship (1) 8. Tourism, Marketing Concepts, and Applications (1) 9. Practicum in Entrepreneurship (2)	Agriculture Business, Leadership, and Communications 1. Principles of Agriculture, Food, & Natural Resources (1) 2. Ag Leadership and Development 1 (Prof. Comm.) (.5) & Professional Standards (.5) 3. Ag Leadership and Development 2 (Ag Mgmt & Mktg) (1) 4. Ag Leadership and Development 3 (Ag Lead, Res. & Comm)(1)

*Advanced Science credit for graduation

** Fine Arts credit for graduation

*** Math credit for graduation



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HERITAGE MIDDLE SCHOOL OFFERINGS	
COURSE	ALIGNED PROGRAMS
College/ Career Readiness (CCR)	Prerequisite to choosing high school graduation endorsement, and career exploration opportunity. Not a high school credit
Intro to Robotics	Take before Robotics I- not a high school credit.
Principles of Applied Engineering	East Central High School • Advanced Manufacturing and Machinery Mechanics • Engineering
Principles of Business, Marketing, and Finance	East Central High School • Business Management • Accounting and Financial Services CAST Lead • Retail Leadership • Travel, Tourism, & Resort Management

*Advanced Science credit for graduation

** Fine Arts credit for graduation

*** Math credit for graduation



CTE PROGRAMS OF STUDY EAST CENTRAL ISD

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LEGACY MIDDLE SCHOOL OFFERINGS	
COURSE	ALIGNED PROGRAMS
College/ Career Readiness (CCR)	Prerequisite to choosing high school graduation endorsement, and career exploration opportunity. Not a high school credit
Intro to Robotics	Take before Robotics I- not a high school credit.
Principles of Applied Engineering	East Central High School • Advanced Manufacturing and Machinery Mechanics • Engineering
Principles of Business, Marketing, and Finance	East Central High School • Business Management • Accounting and Financial Services CAST Lead • Retail Leadership • Travel, Tourism, & Resort Management

*Advanced Science credit for graduation

** Fine Arts credit for graduation

*** Math credit for graduation

EC

EAST CENTRAL HIGH SCHOOL

PROGRAMS OF STUDY

CCMR

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Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Agriculture Business, Leadership, and Communications

The Agriculture Business, Leadership, and Communications program of study focuses on occupational and educational opportunities associated with farming and agriculturally related businesses that supply farm inputs, such as machinery and seeds. This program of study includes exploration of farm product marketing, the purchase of farm products either for processing or resale, and the process of grading or classifying unprocessed food or other agricultural products.



Secondary Courses for High School Credit

Level 1 • Principles of Agriculture, Food, and Natural Resources

Level 2 • Ag Leadership and Development 1
(Professional Standards in Agribusiness & Professional Communications)

Level 3 • Ag Leadership and Development 2
(Agribusiness Management and Marketing)

Level 4 • Ag Leadership and Development 3
(Agricultural Leadership, Research, and Communications)

Aligned Advanced Academic Courses

AP

AP Microeconomics
AP Statistics

Dual Credit

Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 at a farm or ranch that manages livestock and crops to learn about processing and sales
- Intern at an agrochemical manufacturer to learn about new technologies in agribusiness

Expanded Learning Opportunities

- Participate in an FFA career, leadership, and speaking contest like an agriscience fair
- Attend an agricultural industry seminar

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



Example Postsecondary Opportunities

Associate Degrees

- Accounting
- Agribusiness

Bachelor's Degrees

- Agriculture Economics
- Agribusiness

Master's, Doctoral, and Professional Degrees

- Accounting
- Applied Economics

Additional Stackable IBCs/Licensures

- Accredited Farm Manager



Example Aligned Occupations

Loan Interviewers and Clerks

Median Wage: \$46,572
Annual Openings: 2,307
10-Year Growth: 10%

Loan Officers

Median Wage: \$66,285
Annual Openings: 2,261
10-Year Growth: 14%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%

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>

Agriculture, Food, and Natural Resources Career Cluster

Agriculture Business, Leadership, and Communications



Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Agriculture, Food, and Natural Resources 7211 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership and Development 1 7254 & 7251 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership & Development 2 7253 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership & Development 3 7252 (1 credit)	Prerequisites: One credit from courses in the AFNR career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Agricultural Technology and Mechanical Systems

The Agricultural Technology and Mechanical Systems program of study focuses on occupational and educational opportunities associated with applying engineering technology and biological science to agricultural problems related to power and machinery, electrification, structures, soil and water use, and processing agricultural products. This program of study includes diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Agriculture, Food, and Natural Resources |
| Level 2 | <ul style="list-style-type: none"> Agricultural Mechanics and Metal Technologies |
| Level 3 | <ul style="list-style-type: none"> Agricultural Structures Design and Fabrication + Agricultural Laboratory and Field Experience |
| Level 4 | <ul style="list-style-type: none"> Agricultural Equipment Design and Fabrication + Agricultural Laboratory and Field Experience |

Aligned Advanced Academic Courses

Dual Credit	Dual credit offerings will vary.
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Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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

- Participate in a farm mechanic apprenticeship at an equipment production company
- Intern at an equipment manufacturing facility working with agricultural engineers

Expanded Learning Opportunities

- Participate in an FFA career, leadership, and speaking contest like an agriscience fair
- Participate in an agriculture robotics event

Aligned Industry-Based Certifications

- AWS D9.1 Sheet Metal Welding



Example Postsecondary Opportunities

Apprenticeships

- Farm Equipment Mechanic I

Associate Degrees

- Diesel Mechanics Technology
- Industrial Mechanics and Maintenance Technology

Bachelor's Degrees

- Agricultural Engineering
- Agricultural Systems Management

Master's, Doctoral, and Professional Degrees

- Agricultural Engineering
- Industrial Technology

Additional Stackable IBCs/Licensures

- Diesel Equipment Technology-Off Highway Specialization CER1
- Accredited Farm Manager



Example Aligned Occupations

Farm Equipment Mechanics and Service Technicians

Median Wage: \$46,582
Annual Openings: 326
10-Year Growth: 23%

Mobile Heavy Equipment Mechanics

Median Wage: \$57,943
Annual Openings: 2637
10-Year Growth: 31%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%

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>

Agriculture, Food, and Natural Resources Career Cluster

Agricultural Technology and Mechanical Systems



Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Agriculture, Food, and Natural Resources 7211 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Agricultural Mechanics and Metal Technologies 7239 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of AFNR Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Agricultural Structures Design and Fabrication + Agricultural Laboratory and Field Experience 7245 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Agricultural Mechanics and Metal Technologies Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Agricultural Equipment Design and Fabrication + Agricultural Laboratory and Field Experience 7233 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Agricultural Mechanics and Metal Technologies Recommended Corequisites: None	

Agricultural Technology and Mechanical Systems



Agriculture, Food, and Natural Resources Career Cluster

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Animal Science

The Animal Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of animals and other living organisms. This program of study includes applying biology and life science to real-world life processes of animals and wildlife, either in laboratories or in the field, which could include a veterinary office, a farm or ranch, or any outdoor area harboring animal life. Students will research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

Secondary Courses for High School Credit



- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Agriculture, Food, and Natural Resources |
| Level 2 | <ul style="list-style-type: none"> Small Animal Management Equine Science |
| Level 3 | <ul style="list-style-type: none"> Livestock Production |
| Level 4 | <ul style="list-style-type: none"> Advanced Animal Science Veterinary Medical Applications + Agricultural Laboratory and Field Experience |

Aligned Advanced Academic Courses

AP	AP Biology
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 dual credit 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 an animal scientist in a biology lab to learn about applying science to understand animals and wildlife - Intern in a veterinary clinic, caring for animals and wildlife being treated in the clinic
Expanded Learning Opportunities	- Participate in an FFA career, leadership, and speaking contest like an agriscience fair - Attend an agricultural industry seminar

Aligned Industry-Based Certifications

- Elanco Fundamentals of Animal Science Certification



Example Postsecondary Opportunities

Apprenticeships

- Reproduction Technician

Associate Degrees

- Biological and Physical Sciences
- Entomology

Bachelor's Degrees

- Animal Science
- Zoology/Animal Biology

Master's, Doctoral, and Professional Degrees

- Animal Sciences
- Biotechnology

Additional Stackable IBCs/Licensures

- Veterinarian
- Certified Veterinary Technician



Example Aligned Occupations

Veterinary Assistants and Laboratory Animal Caretakers

Median Wage: \$29,906
Annual Openings: 1,348
10-Year Growth: 24%

Veterinary Technologists and Technicians

Median Wage: \$33,679
Annual Openings: 1,217
10-Year Growth: 24%

Veterinarian

Median Wage: \$103,160
Annual Openings: 347
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>



Agriculture, Food, and Natural Resources Career Cluster

Animal Science

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Agriculture, Food, and Natural Resources* 7211 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Small Animal Management 7255 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Equine Science 7237 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Livestock Production 7236 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Advanced Animal Science 7258 (1 credit)	Prerequisites: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production Corequisites: None Recommended Prerequisites: Veterinary Medical Applications Recommended Corequisites: None	
Veterinary Medical Applications + Agricultural Laboratory and Field Experience 7216 (2 credit)	Prerequisites: Equine Science, Small Animal Management, or Livestock Production Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Plant Science

The Plant Science program of study focuses on occupational and educational opportunities associated with the science, research, and business of plants and other living organisms. This program of study includes the application of biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.



Secondary Courses for High School Credit

Level 1 • Principles of Agriculture, Food, and Natural Resources

Level 2 • Greenhouse Operation and Production

Level 3 • Floral Design

Level 4 • Advanced Floral Design

Aligned Advanced Academic Courses

AP	AP Biology AP Environmental Science AP Chemistry
Dual Credit	Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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	- Work in a part-time job at a landscaping company to learn about production and management of plants. - Intern at an agricultural research company, working alongside a biological technician to learn about application of biology to plant production
Expanded Learning Opportunities	- Participate in an FFA career, leadership, and speaking contest like an agriscience fair - Participate in an industry-related competition like an agriscience fair

Aligned Industry-Based Certifications

- Texas State Florist's Association Knowledge Based Floral Certification



Example Postsecondary Opportunities

Apprenticeships

- Horticulturist

Associate Degrees

- Biology/Biological Sciences
- Biological and Physical Sciences

Bachelor's Degrees

- Horticulture
- Plant Pathology/Phytopathology

Master's, Doctoral, and Professional Degrees

- Plant Breeding
- Botany/Plant Biology

Additional Stackable IBCs/Licensures

- Nursery Floral License
- Horticulturist Certification



Example Aligned Occupations

Pesticide Handlers, Sprayers, and Applicators, Vegetation

Median Wage: \$46,153
Annual Openings: 205
10-Year Growth: 17%

Biological Technicians

Median Wage: \$45,787
Annual Openings: 879
10-Year Growth: 14%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%

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



For more information visit:

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Successful completion of the Plant Science program of study will fulfill requirements of the Business and Industry endorsement.



Agriculture, Food, and Natural Resources Career Cluster

Plant Science

Course Information

Level 1	Course	Prerequisites Corequisites	Career Clusters
	Principles of Agriculture, Food, and Natural Resources 7211 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Level 2	Course	Prerequisites Corequisites	Career Clusters
	Greenhouse Operation and Production 7223 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Level 3	Course	Prerequisites Corequisites	Career Clusters
	Floral Design 7221 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Level 4	Course	Prerequisites Corequisites	Career Clusters
	Advanced Floral Design 7220 (1 credit)	Prerequisites: Floral Design Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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.

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.



Secondary Courses for High School Credit

- | | |
|----------------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Architecture |
| Level 2 | <ul style="list-style-type: none"> Architectural Design I |
| Level 3 | <ul style="list-style-type: none"> Architectural Design II |
| Level 4 | <ul style="list-style-type: none"> Practicum in Architectural Design |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 SkillsUSA

Industry-Based Certifications

- Autodesk Associate (Certified User) Revit Architecture



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

Architectural Drafting and Design

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Architecture 7512 (1 credit)	Prerequisites: None Corequisites: None Recommend Prerequisites: None Recommended Corequisites: None	 

Level 2

Course	Prerequisites Corequisites	Career Clusters
Architectural Design I 7521 (1 credit)	Prerequisites: Algebra I and English I Corequisites: None Recommended Prerequisites: Geometry, Principles of Architecture, and Principles of Construction Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Architectural Design II 7522 (2 credits)	Prerequisites: Architectural Design I or Advanced Interior Design and Geometry Corequisites: None Recommend Prerequisites: Principles of Architecture and Principles of Construction Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Architectural Design 7530 (2 credits)	Prerequisites: Architectural Design II Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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.

Construction Management and Inspection

The Construction Management and Inspection program of study focuses on occupational and educational opportunities associated with producing cost estimates for construction projects to support bidding on or determining the price of products or services. The program of study includes inspecting structures using engineering skills to determine structural soundness and compliance with specifications, building codes, and other regulations.



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | • Principles of Construction |
| Level 2 | • Construction Management I |
| Level 3 | • Construction Management II |
| Level 4 | • Practicum in Construction Management |

Aligned Advanced Academic Courses

Dual Credit	Dual credit offerings will vary.
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Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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

- Shadow a construction manager to learn how to lead a team and develop a budget
- Participate in a pre-apprenticeship to clean and prepare construction sites by digging trenches and setting up scaffolding

Expanded Learning Opportunities

- Shadow a building inspector or cost estimator
- Participate in SkillsUSA

Industry-Based Certifications

- HBI Pre-Apprenticeship Certificate Training (PACT), Core



Postsecondary Opportunities

Apprenticeships

- Building Inspector

Associate Degrees

- Construction Management
- Construction Engineering Technology
- Building/Property Maintenance
- Building/Construction Site Management

Bachelor's Degrees

- Construction Engineering Technology
- Construction Management
- Building/Property Maintenance

Master's, Doctoral, and Professional Degrees

- Construction Engineering Technology
- Construction Engineering
- Construction Management
- Project Management



Example Aligned Occupations

Construction and Building Inspectors

Median Wage: \$62,251
Annual Openings: 1,585
10-Year Growth: 9%

First-Line Supervisors of Construction Trades and Extraction Workers

Median Wage: \$64,473
Annual Openings: 9,513
10-Year Growth: 23%

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

Statewide Program of Study: *Construction Management and Inspection*

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Construction* 7513 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Construction Management I 7506 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I, Geometry, and Principles of Architecture or Principles of Construction Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Construction Management II 7507 (2 credits)	Prerequisites: Construction Management I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Construction Management 7508 (2 credits)	Prerequisites: Construction Management II Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Construction Management and Inspection

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

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 | <ul style="list-style-type: none"> Principles of Arts, Audio/Video Technology, and Communications |
| Level 2 | <ul style="list-style-type: none"> Audio/Video Production I |
| Level 3 | <ul style="list-style-type: none"> Audio/Video Production II |
| Level 4 | <ul style="list-style-type: none"> Practicum in Audio/Video Production |

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. A or dual credit 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 sound designer to learn how sound and folly is created for movies or podcasts
- Intern with a technical director at a sports team, recording studio, or radio station
- Shadow a technician on a live news broadcast, concert, or other event

Expanded Learning Opportunities

- Participate in SkillsUSA or TSA
- Participate in Student Television Network
- Capture and edit film and audio for a podcast with a local community organization

Aligned Industry-Based Certifications

- Adobe Certified Professional in Digital Video Using Adobe Premiere Pro



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%

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

Digital Communications

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Arts, Audio/Video Technology, and Communications 7721 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Audio/Video Production I 7722 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles of AAVTC Recommended corequisites: Audio/Video Production I Lab	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Audio/Video Production II + Lab 7998 (2 credit)	Prerequisites: Audio/Video Production I Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Audio/Video Production 7724 (2 credits)	Prerequisites: Audio/Video Production II and Audio/Video Production II Lab Corequisites: None Recommended prerequisites: None Recommended corequisites: None	 

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- Animation

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.



Secondary Courses for High School Credit

Level 1	Principles of Arts, Audio/Video Technology, and Communications
Level 2	Animation I
Level 3	Animation II + Animation II Lab
Level 4	Practicum in Animation

Aligned Advanced Academic Courses

AP	AP Studio Art: Two-Dimensional Design Portfolio
Dual Credit	Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 an art director at a branding firm or design agency - Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	- Participate in SkillsUSA or TSA - Participate in Student Television Network - Join a related co-curricular or extracurricular club such as web development or computer coding

Aligned Industry-Based Certifications

- Adobe Certified Professional in Visual Effects and Motion Graphics Using Adobe After Effects



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.



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

Graphic Design and Interactive Media- Animation

Course Information



Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Arts, Audio/Video Technology, and Communications 7721 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Animation I 7532 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles of AAVTC Recommended corequisites: Animation I Lab	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Animation II +Animation II Lab 7999 (2 credits)	Prerequisites: Animation I Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Animation 7535 (2 credits)	Prerequisites: Animation II and Animation II Lab Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

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- Fashion Design

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.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> Principles of Arts, Audio/Video Technology, and Communications |
| Level 2 | <ul style="list-style-type: none"> Fashion Design I |
| Level 3 | <ul style="list-style-type: none"> Fashion Design II + Fashion Design II Lab |
| Level 4 | <ul style="list-style-type: none"> Practicum in Fashion Design |

Aligned Advanced Academic Courses

AP	AP Studio Art: Two-Dimensional Design Portfolio
Dual Credit	Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 an art director at a branding firm or design agency - Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	- Participate in SkillsUSA or TSA - Participate in Student Television Network - Join a related co-curricular or extracurricular club such as web development or computer coding

Aligned Industry-Based Certifications

- Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator



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.



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

Graphic Design and Interactive Media- Fashion Design

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Arts, Audio/Video Technology, and Communications 7721 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Fashion Design I 7122 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles of AAVTC Recommended corequisites: Fashion Design I Lab	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Fashion Design II + Fashion Design II Lab 7124 (2 credits)	Prerequisites: Fashion Design I Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Fashion Design 7127 (2 credits)	Prerequisites: Fashion Design II and Fashion Design II Lab Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

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- Graphic Design

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.



Secondary Courses for High School Credit

- | | |
|---------|---|
| Level 1 | <ul style="list-style-type: none"> Principles of Arts, Audio/Video Technology, and Communications |
| Level 2 | <ul style="list-style-type: none"> Graphic Design and Illustration I |
| Level 3 | <ul style="list-style-type: none"> Graphic Design and Illustration II +
Graphic Design and Illustration II Lab |
| Level 4 | <ul style="list-style-type: none"> Practicum in Graphic Design and Illustration |

Aligned Advanced Academic Courses

AP	AP Studio Art: Two-Dimensional Design Portfolio
Dual Credit	Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 an art director at a branding firm or design agency - Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	- Participate in SkillsUSA or TSA - Participate in Student Television Network - Join a related co-curricular or extracurricular club such as web development or computer coding

Aligned Industry-Based Certifications

- Adobe Certified Professional in Visual Design Using Adobe Photoshop



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.



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

Graphic Design and Interactive Media- Graphic Design

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Arts, Audio/Video Technology, and Communications 7721 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Graphic Design and Illustration I 7531(1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles of AAVTC Recommended corequisites: Graphic Design and Illustration I Lab	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Graphic Design and Illustration II + Graphic Design and Illustration II Lab 7728 (2 credits)	Prerequisites: Graphic Design and Illustration I Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Graphic Design and Illustration 7534 (2 credits)	Prerequisites: Graphic Design and Illustration II and Graphic Design and Illustration II Lab Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

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- Video Game

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.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | <ul style="list-style-type: none"> Video Game Design |
| Level 2 | <ul style="list-style-type: none"> Video Game Programming |
| Level 3 | <ul style="list-style-type: none"> Advanced Video Game Programming |
| Level 4 | <ul style="list-style-type: none"> Practicum in Graphic Design and Illustration |

Aligned Advanced Academic Courses

AP or IB	AP Studio Art: Two-Dimensional Design Portfolio
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 an art director at a branding firm or design agency - Intern in the marketing and communications department of a technology company
Expanded Learning Opportunities	- Participate in SkillsUSA or TSA - Participate in Student Television Network - Join a related co-curricular or extracurricular club such as web development or computer coding

Aligned Industry-Based Certifications

- Adobe Certified Professional in Visual Design Using Adobe Photoshop



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.



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

Graphic Design and Interactive Media- Video Game

Course Information



Level 1

Course	Prerequisites Corequisites	Career Clusters
Video Game Design 6817 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Principles AAVTC Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Video Game Programming 6818 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Video Game Design Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Advanced Video Game Programming 6820 (2 credits)	Prerequisites: None Corequisites: None Recommended prerequisites: Video Game Programming Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Graphic Design and Illustration 7534 (2 credits)	Prerequisites: Graphic Design and Illustration II and Graphic Design and Illustration II Lab Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Business, Marketing, and Finance Career Cluster

Revised – May 2025

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.

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.

Secondary Courses for High School Credit



Level 1 • Principles of Business, Marketing, and Finance

Level 2 • Accounting I

Level 3 • Accounting II

Level 4 • Practicum in Business Management

Aligned Advanced Academic Courses

Dual Credit

Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 public certified accountant (CPA) at a local business
- Intern with a city or county auditor's office
- Shadow a financial advisor as an intern at an investment company

Expanded Learning Opportunities

- Participate in BPA, DECA, or FBLA
- Explore student membership in professional organizations such as AICPA, CIMA, or TXCPA

Aligned Industry-Based Certifications

- Intuit QuickBooks Certified User



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.

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

Accounting and Financial Services

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Business, Marketing, and Finance 6060 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 

Level 2

Course	Prerequisites Corequisites	Career Clusters
Accounting I 6721 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing, and Finance Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Accounting II 6722 (1 credit)	Prerequisites: Accounting I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Business Management 7300 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Touch System Data Entry and Business Management or Business Information Management II Recommended Corequisites: None	

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

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

Level 2 • Business Law

Level 3 • Business Management

Level 4 • Practicum in Business Management

Aligned Advanced Academic Courses

AP

AP Microeconomics
AP Statistics

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 dual credit 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 local business in the HR department
- Shadow the COO of a local business or chamber of commerce

Expanded Learning Opportunities

- Participate in BPA, DECA, FBLA, or related UIL events
- Explore student membership in related professional organizations

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



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>



Business, Marketing, and Finance Career Cluster

Business Management

Course Information

Level 1	Course	Prerequisites Corequisites	Career Clusters
	Principles of Business, Marketing, and Finance 6060 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 
Level 2	Course	Prerequisites Corequisites	Career Clusters
	Business Law 7312 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 
Level 3	Course	Prerequisites Corequisites	Career Clusters
	Business Management 7313 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 
Level 4	Course	Prerequisites Corequisites	Career Clusters
	Practicum in Business Management 7300(2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Touch System Data Entry and Business Management or Business Information Management II Recommended Corequisites: None	

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)

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 1 | • Introduction to Aerospace and Aviation |
| Level 2 | • AP Computer Science Principles
• Robotics I |
| Level 3 | • Robotics II |
| Level 4 | • Practicum in Manufacturing- Unmanned Drone |

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

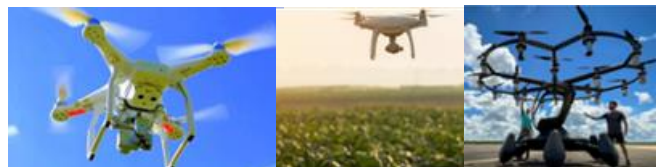
- Intern with a public service, engineering, construction, or transportation firm
- Practice drone operations with an industry professional at a work site

Expanded Learning Opportunities

- Participate in an aerial drone competition
- Participate in SkillsUSA or TSA

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/License

- 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

Drone (Unmanned Vehicle)

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Introduction to Aerospace and Aviation* N1304672 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: None Recommended Corequisites: None	 

Level 2

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science Principles 6900 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Algebra Recommended Corequisites: None	
Robotics I* 7510 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Principles of Applied Engineering Recommended Corequisites: None	 

Level 3

Course	Prerequisites Corequisites	Career Clusters
Robotics II* 7511 (1 credit)	Prerequisites: Robotics I Corequisites: None Recommended Prerequisite: None Recommended Corequisites: None	 

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Manufacturing First Time Taken: 13033000 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisite: None Recommended Corequisites: None	 

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- Manufacturing

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.



Secondary Courses for High School Credit

- Level 1**
- Principles of Applied Engineering

- Level 2**
- Manufacturing Engineering Technology I

- Level 3**
- Engineering Design and Presentation I

- Level 4**
- Engineering Design and Presentation II

Aligned Advanced Academic Courses

AP	AP Calculus AB AP Computer Science A AP Physics 1	AP Physics 2 AP Statistics
Dual Credit	Dual credit offerings will vary.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 an engineering, robotics, or aerospace company - Visit an engineering firm and shadow multiple types of engineers
Expanded Learning Opportunities	- Participate in TSA or SkillsUSA - Join a local engineering association and attend meetings.

Aligned Industry-Based Certifications

- Autodesk Associate (Certified User) Fusion 360



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.



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

Engineering Foundations- Manufacturing

Course Information

Level 1

Course

Principles of Applied Engineering
7515 (1 credit)

Prerequisites | Corequisites

Prerequisites: None
Corequisites: None
Recommended Prerequisites: None
Recommended Corequisites: None

Career Clusters



Level 2

Course

Manufacturing Engineering Technology I
7586 (1 credit)

Prerequisites | Corequisites

Prerequisites: None
Corequisites: None
Recommended Prerequisites: Algebra I
Recommended Corequisites: None

Career Clusters



Level 3

Course

Engineering Design and Presentation I
7524 (1 credit)

Prerequisites | Corequisites

Prerequisites: Algebra I and at least one credit in a course from the STEM career cluster
Corequisites: None
Recommended Prerequisites: Principles of Applied Engineering
Recommended Corequisites: None

Career Clusters



Level 4

Course

Engineering Design and Presentation II
7525 (2 credits)

Prerequisites | Corequisites

Prerequisites: Principles of Applied Engineering or Engineering Design and Presentation I, Algebra I, and Geometry
Corequisites: None
Recommended Prerequisites: Principles of Applied Engineering or Engineering Design and Presentation I
Recommended Corequisites: None

Career Clusters



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- Robotics

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.



Secondary Courses for High School Credit

- | | |
|---------|--|
| Level 1 | • Principles of Applied Engineering |
| Level 2 | • Robotics I |
| Level 3 | • Robotics II |
| Level 4 | • Practicum in Science, Technology, Engineering, and Mathematics |

Aligned Advanced Academic Courses

AP or IB	AP Calculus AB AP Computer Science A AP Physics 1	AP Physics 2 AP Statistics
Dual Credit	Dual credit offerings will vary	

Students should be advised to consider these course opportunities to enrich their preparation. AP or Dual Credit 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 an engineering, robotics, or aerospace company • Visit an engineering firm and shadow multiple types of engineers
Expanded Learning Opportunities	• Participate in TSA or SkillsUSA • Join a local engineering association and attend meetings.

Aligned Industry-Based Certifications

- Autodesk Associate (Certified User) Fusion 360



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.



For more information visit:

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Engineering Career Cluster

Engineering Foundations- Robotics

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Applied Engineering 7515 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	  

Level 2

Course	Prerequisites Corequisites	Career Clusters
Robotics I 7510 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Applied Engineering Recommended Corequisites: None	  

Level 3

Course	Prerequisites Corequisites	Career Clusters
Robotics II 7511 (1 credit)	Prerequisites: Robotics I Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	  

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Science, Technology, Engineering, and Mathematics 7500 (2 credits)	Prerequisites: Algebra I and Geometry Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	   



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

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 • Principles of Hospitality and Tourism

Level 2 • Culinary Arts

Level 3 • Advanced Culinary Arts

Level 4 • Food Science
• Practicum in Culinary Arts

Aligned Advanced Academic Courses

AP AP Chemistry

Dual Credit Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 director of a non-profit that produces and delivers food for communities in need
- Intern at a catering company and learn about food production for large-scale events
- Work part-time in a restaurant as a line cook or chef

Expanded Learning Opportunities

- Participate in FCCLA
- Participate in SkillsUSA
- Participate in American Culinary Association or the Texas Restaurant Association

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%

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>



Hospitality and Tourism Career Cluster

Culinary Arts

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Introduction to Culinary Arts 7566 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Principles of Hospitality and Tourism Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Culinary Arts 7563 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Hospitality and Tourism and Introduction to Culinary Arts Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Advanced Culinary Arts 7567 (2 credits)	Prerequisites: Culinary Arts Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Food Science 3610 (1 credit)	Prerequisites: Three units of science, including Chemistry and Biology Corequisites: None Recommended Prerequisites: Principles of Hospitality and Tourism Recommended Corequisites: None	
Practicum in Culinary Arts 7565 (2 credits)	Prerequisites: Culinary Arts Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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

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 | • Foundations of Cybersecurity |
| Level 2 | • AP Computer Science Principles |
| Level 3 | • AP Computer Science A |
| Level 4 | • Cybersecurity Capstone |

Aligned Advanced Academic Courses

AP or IB	AP Computer Science A AP Computer Science Principles
Dual Credit	Dual credit offerings will vary.

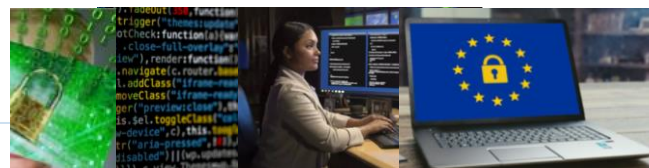
Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit courses not listed under the Secondary Courses for High School Credit section of this framework document do not count towards Concentrator/Completer status for this program of study.

Work-Based Learning and Expanded Learning Opportunities

Work-Based Learning Activities	• Intern at a local bank, hospital, or government office to develop skills in implementing security measures • Interview an information security analyst to learn how they plan for, monitor, and upgrade security measures at their organization
Expanded Learning Opportunities	• Participate in a Hackathon • Participate in TSA or SkillsUSA

Aligned Industry-Based Certifications

- CodeHS Cybersecurity Level 1 Certification



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%

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

Cybersecurity

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Foundations of Cybersecurity 7520 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science Principles 6900 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science A 6899 (1 math credit) 6901 (1 LOTE credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$ Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Cybersecurity Capstone 7518 (1 credit)	Prerequisites: Foundations of Cybersecurity Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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

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 | <ul style="list-style-type: none"> Fundamentals of Computer Science |
| Level 2 | <ul style="list-style-type: none"> AP Computer Science Principles |
| Level 3 | <ul style="list-style-type: none"> AP Computer Science A |
| Level 4 | <ul style="list-style-type: none"> Practicum in Information Technology |

Aligned Advanced Academic Courses

AP	AP Calculus AB AP Statistics
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Dual Credit Dual credit offerings will vary.

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 IT company to develop skills in programming and coding - Shadow a software developer to learn how they create and improve software to support efficient processes at their company
Expanded Learning Opportunities	- Program and create a game - Participate in TSA or SkillsUSA

Aligned Industry-Based Certifications

- CodeHS Python Level 1 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:
<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>



Information Technology Career Cluster

Programming and Software Development

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Fundamentals of Computer Science 6898 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science Principles 6900 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
AP Computer Science A 6899 (1 math credit) 6901 (1 LOTE credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$ Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Information Technology 7668 (2 credits)	Prerequisites: A minimum of two high school information technology (IT) courses Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



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. This career cluster includes occupations ranging from teaching assistant and classroom teacher to school administrator.

Early Learning

The Early Learning program of study focuses on occupational and educational opportunities associated with instructing and supporting preschool and early elementary school students. This program of study addresses social, physical, and intellectual growth and skills necessary for planning, directing, and coordinating activities for young children.



Secondary Courses for High School Credit

Level 1 • Principles of Education and Training

Level 2 • Child Development Associate (CDA) Foundations

Level 3 • Child Guidance

Level 4 • Practicum in Early Learning

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 summer camp counselor for pre-school or kindergarten students
- Serve as a teaching assistant at a lab school or daycare

Expanded Learning Opportunities

- Participate in FCCLA
- Participate in TAFE

Aligned Industry-Based Certifications

- Educational Aide I



Example Postsecondary Opportunities

Apprenticeships

- Child Care Development Specialist

Associate Degrees

- Teacher Education, Multiple Levels
- Child Care Provider/Assistant

Bachelor's Degrees

- Elementary Education and Teaching
- Early Childhood and Family Studies

Master's, Doctoral, and Professional Degrees

- Educational Leadership and Administration, General
- Education, General

Additional Stackable IBCs/Licensures

- Certified Child Care Professional



Example Aligned Occupations

Child Care Workers

Median Wage: \$23,528
Annual Openings: 12,823
10-Year Growth: 17%

Preschool Teachers, Except Special Education

Median Wage: \$34,127
Annual Openings: 4,148
10-Year Growth: 26%

Elementary School Teachers, Except Special Education

Median Wage: \$61,389
Annual Openings: 11,712
10-Year Growth: 13%

Data Source: TexasWages, Texas Workforce Commission. Retrived 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>



Education and Training Career Cluster

Early Learning

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Education and Training 7161 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Child Development Associate (CDA) Foundations 7168 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Education and Training Principles of Human Services Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Child Guidance 7163 (2 credits)	Prerequisites: Child Development or Child Development Associate Foundations Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Early Learning 7176 (2 credits)	Prerequisites: Child Guidance Corequisites: None Recommended Prerequisites: Child Development or Child Development Associate Foundations Recommended Corequisites: None	



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.

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.



Secondary Courses for High School Credit

- | | |
|----------------|--|
| Level 1 | • Principles of Education and Training |
| Level 2 | • Communication and Technology in Education |
| Level 3 | • Teacher Prep 1 (Instructional Practices) |
| Level 4 | • Teacher Prep 2 (Practicum in Education and Training) |

Aligned Advanced Academic Courses

Dual Credit	Dual credit offerings will vary.
-------------	----------------------------------

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 FCCLA • Participate in TAFE

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: 2676
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>



Education and Training Career Cluster

Teaching and Training

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Education and Training 7161 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Communication and Technology in Education 6680 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Education and Training Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Instructional Practices 7174 (2 credits)	Prerequisites: One credit from Education and Training career cluster Corequisites: None Recommended Prerequisites: Principles of Education and Training, Human Growth and Development, or Child Development Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Education and Training 7175 (2 credits)	Prerequisites: Instructional Practices Corequisites: None Recommended Prerequisites: Principles of Education and Training, Human Growth and Development, and Child Development Recommended Corequisites: None	

Health Science Career Cluster

Revised – May 2025



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

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

Level 2 • Sports Med I (Kinesiology I)

Level 3 • Health Science Theory
• Sports Med II (Kinesiology II)

Level 4 • Practicum in Health Science- Kinesiology

Aligned Advanced Academic Courses

AP or IB	AP Biology
Dual Credit	Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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	- Participate in an internship with a physical therapist, occupational therapist, or speech therapist - Shadow an athletic trainer from a local sports team
Expanded Learning Opportunities	- Participate in the Texas State Athletic Trainers Association - Participate in HOSA or SkillsUSA - Volunteer at a hospital or rehabilitation center

Aligned Industry-Based Certifications

- Certified Personal Trainer



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>



Health Science Career Cluster

Exercise Science, Wellness, and Restoration

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7141 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Kinesiology I 7093 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory* 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	
Kinesiology II 7092 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Kinesiology I Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science-Kinesiology 7413 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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- Certified Medical Assistant

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

Level 2 • Medical Terminology

Level 3 • Health Science Theory

Level 4 • Practicum in Health Science- CMA

Aligned Advanced Academic Courses

AP	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 medical assistant at a community clinic, hospital, assisted living or long-term care facility - Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along, hospital/clinic job shadow
Expanded Learning Opportunities	- Participate in Health Occupation Students of America (HOSA) or SkillsUSA - Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

Aligned Industry-Based Certifications

- Certified Clinical Medical Assistant



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%

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

Diagnostic and Therapeutic Services- Certified Medical Assistant

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7401 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Medical Terminology 7421 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- CMA 7505 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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

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

Level 2 • Medical Terminology

Level 3 • Health Science Theory

Level 4 • Practicum in Health Science- CNA

Aligned Advanced Academic Courses

AP	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary.	

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 medical assistant at a community clinic, hospital, or assisted living facility - Conduct informational interviews with nurses in different departments and healthcare settings
Expanded Learning Opportunities	- Volunteer at community clinics, hospitals, assisted living and long-term care facilities - Participate in HOSA or SkillsUSA

Aligned Industry-Based Certifications

- Certified Nurse Aide (CNA)



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%

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

Nursing Science

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7401 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Medical Terminology 7421 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- CNA 7411 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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- Pharmacy Technician

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

Level 2 • Pharmacy I

Level 3 • Health Science Theory

Level 4 • Practicum in Health Science- Pharmacy

Aligned Advanced Academic Courses

AP	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 medical assistant at a community clinic, hospital, assisted living or long-term care facility - Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along, hospital/clinical job shadow
Expanded Learning Opportunities	- Participate in Health Occupation Students of America (HOSA) or SkillsUSA - Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

Aligned Industry-Based Certifications

- Pharmacy 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%

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

Diagnostic and Therapeutic Services- Pharmacy Technician

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7401 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Pharmacy I 7434 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Biology, Introduction to Pharmacy Science, or Principles of Health Science Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- Pharmacy 7407 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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.

Fire Science

The Fire Science program of study focuses on occupational and educational opportunities associated with fire prevention, protection, and firefighting. This program of study includes firefighter safety, building codes, and the necessary physical skills to perform rescues. Students will learn about preparedness, basic fire suppression techniques, basic arson investigation, hazardous material management, and educating the public about fire safety.



Secondary Courses for High School Credit

Level 1 • Principles of Law, Public Safety, Corrections, and Security

Level 2 • Disaster Response

Level 3 • Firefighter I

Level 4 • Firefighter II
• EMT Basic

Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 fire chief to learn about fire department operations and skills needed to be a firefighter
- Intern with a fire inspection company to learn about building safety, fire prevention, and fire protection

Expanded Learning Opportunities

- Tour a local fire department
- Participate in SkillsUSA

Aligned Industry-Based Certifications

- Emergency Medical Technician – Basic
 - Basic Structure Fire Protection



Example Postsecondary Opportunities

Apprenticeships

- Fire Apprentice

Associate Degrees

- Emergency Medical Technology
- Fire Protection Technology

Bachelor's Degrees

- Fire Science
- Emergency Health Services

Additional Stackable IBCs/Licensures

- Hazardous Materials Awareness
- Fire Plan Examiner



Example Aligned Occupations

Emergency Medical Technicians

Median Wage: \$34,169
Annual Openings: 1,590
10-Year Growth: 19%

Firefighters

Median Wage: \$52,353
Annual Openings: 2,294
10-Year Growth: 14%

Fire Inspectors and Investigators

Median Wage: \$67,014
Annual Openings: 203
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>



Law and Public Service Career Cluster

Fire Science

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Law, Public Safety, Corrections, and Security* 7555 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Disaster Response 7539 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Law, Public Safety, Corrections, and Security Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Firefighter I 7540 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Law, Public Safety, Corrections, and Security Recommended Corequisites: None	
Emergency Medical Technician—Basic 7408 (2 credits)	Prerequisites: Biology Corequisites: None Recommended Prerequisites: Principles of Law, Public Safety, Corrections, and Security; and Anatomy and Physiology Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Firefighter II 7541 (3 credits)	Prerequisites: Firefighter I Corequisites: None Recommended Prerequisites: Principles of Law, Public Safety, Corrections, and Security Recommended Corequisites: None	

Law and Public Service Career Cluster

Revised –May 2025



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

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

Level 2 • Law Enforcement I

Level 3 • Law Enforcement II
• Correctional Services

Level 4 • Forensic Science
• Practicum in Law, Public Safety, Corrections, and Security



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



Aligned Advanced Academic Courses

Dual Credit Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 TSA or SkillsUSA

Aligned Industry-Based Certifications

- Non-Commissioned Security Officer Level II License



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

Law Enforcement

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Law, Public Safety, Corrections, and Security 7555 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Law Enforcement I 7557 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Law Enforcement II 7559 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Law Enforcement I Recommended Corequisites: None	
Correctional Services 7560 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisite: Principles of Law, Public Safety, Corrections, and Security Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Forensic Science 3612 (1 credit)	Prerequisites: one credit in Biology, one credit in Chemistry, Integrated Physics and Chemistry, or Physics Corequisites: None Recommended Prerequisite: None Recommended Corequisites: None	
Practicum in Law, Public Safety, Corrections, and Security 7552 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	



P-TECH

PROGRAMS OF STUDY

- STUDENTS MUST ENTER THEIR FRESHMAN YEAR THROUGH THE APPLICATION PROCESS.

CCMR

College, Career, and Military Readiness
Laying the foundation of Postsecondary Readiness for ALL



Presented July 2025



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.

CNA/Phlebotomy

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 | <ul style="list-style-type: none"> Principles of Health Science Medical Terminology |
| Level 2 | <ul style="list-style-type: none"> Health Science Theory |
| Level 3 | <ul style="list-style-type: none"> Anatomy and Physiology |
| Level 4 | <ul style="list-style-type: none"> Practicum in Health Science- CNA |

Aligned Advanced Academic Courses

AP or IB	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary.	

Students should be advised to consider these course opportunities to enrich their preparation. AP or Dual Credit 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 medical assistant at a community clinic, hospital, or assisted living facility - Conduct informational interviews with nurses in different departments and healthcare settings
Expanded Learning Opportunities	- Volunteer at community clinics, hospitals, assisted living and long-term care facilities - Participate in HOSA or SkillsUSA

Aligned Industry-Based Certifications

- Certified Nurse Aide (CNA)
- 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%

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



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Health Science Career Cluster

CNA/ Phlebotomy

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7426 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
Medical Terminology 7425 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Anatomy and Physiology 3518(1 credit)	Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics Corequisites: None Recommended prerequisites: None Recommended corequisites: A course from the Health Science career cluster	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- CNA 7411 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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.

PCT/Phlebotomy

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
 - Medical Terminology

- Level 2**
- Health Science Theory

- Level 3**
- Anatomy and Physiology

- Level 4**
- Practicum in Health Science PCT



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



Aligned Advanced Academic Courses

AP or IB	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary based on 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 medical assistant at a community clinic, hospital, assisted living or long-term care facility - Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along, hospital/clinical job shadow
Expanded Learning Opportunities	- Participate in Health Occupation Students of America (HOSA) or SkillsUSA - Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

Aligned Industry-Based Certifications

- Patient Care Technician
- Phlebotomy Technician



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%

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

PCT/Phlebotomy

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7426 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
Medical Terminology 7425 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Anatomy and Physiology 3518 (1 credit)	Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics Corequisites: None Recommended prerequisites: None Recommended corequisites: A course from the Health Science career cluster	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- PCT 7430 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Health Science Career Cluster

Revised – May 2025



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.

Certified Personal Trainer

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
 - Medical Terminology

- Level 2**
- Kinesiology I

- Level 3**
- Anatomy and Physiology
 - Kinesiology II
 - Health Science Theory

- Level 4**
- Practicum in Health Science- Kinesiology

Aligned Advanced Academic Courses

AP or IB	AP Biology
Dual Credit	Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or Dual Credit 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	- Participate in an internship with a physical therapist, occupational therapist, or speech therapist - Shadow an athletic trainer from a local sports team
Expanded Learning Opportunities	- Participate in the Texas State Athletic Trainers Association - Participate in HOSA or SkillsUSA - Volunteer at a hospital or rehabilitation center

Aligned Industry-Based Certifications

- Certified Personal Trainer



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>



Health Science Career Cluster

Certified Personal Trainer

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7426 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
Medical Terminology 7425 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Kinesiology I 7093 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Kinesiology II 7092 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Kinesiology I Recommended corequisites: None	
Anatomy and Physiology 3518 (1 credit)	Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics Corequisites: None Recommended prerequisites: None Recommended corequisites: A course from the Health Science career cluster	
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science-Kinesiology 7413 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	



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.

Pharmacy Technician

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
 - Medical Terminology

- Level 2**
- Health Science Theory

- Level 3**
- Anatomy and Physiology
 - Pharmacy I

- Level 4**
- Practicum in Health Science- Pharmacy



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

Aligned Advanced Academic Courses

AP or IB	AP Biology	AP Chemistry
Dual Credit	Dual credit offerings will vary based on 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 medical assistant at a community clinic, hospital, assisted living or long-term care facility - Participate in job shadowing experiences such as Emergency Medical Services (EMS) ride along, hospital/clinical job shadow
Expanded Learning Opportunities	- Participate in Health Occupation Students of America (HOSA) or SkillsUSA - Participate in Advanced Medical Ambulance Bus (AMBUS) event or Community Emergency Response Team (CERT) event

Aligned Industry-Based Certifications

- Pharmacy Technician



Example Aligned Occupations

Medical Assistants

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

Dental Hygienists

Median Wage: \$79,663
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Physician Assistants

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

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

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<https://tea.texas.gov/academics/college-career-and-military-prep/career-and-technical-education/programs-of-study-additional-resources>





Health Science Career Cluster

Pharmacy Technician

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Health Science 7426 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	
Medical Terminology 7425 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Health Science Theory 7402 (1 credit)	Prerequisites: One credit in Biology and at least one credit in a course from the Health Science career cluster. Corequisites: None Recommended prerequisites: Medical Terminology Recommended corequisites: Health Science Clinical	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Anatomy and Physiology 3518 (1 credit)	Prerequisites: One credit in Biology and one credit in Chemistry, Integrated Physics and Chemistry, or Physics Corequisites: None Recommended prerequisites: None Recommended corequisites: A course from the Health Science career cluster	
Pharmacy I 7434 (1 credit)	Prerequisites: None Corequisites: None Recommended prerequisites: Biology, Introduction to Pharmacy Science, or Principles of Health Science Recommended corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Health Science- Pharmacy 7407 (2 credits)	Prerequisites: Health Science Theory and Biology Corequisites: None Recommended prerequisites: None Recommended corequisites: None	

ROADMAP TO R.T.(R) (ARRT)

RADIOLOGY TECHNOLOGIST

Earn an Industry Based Certification
in Nursing Aide, Medical Assisting, or
Patient Care Technician to gain
valuable Work Based Learning
Experiences



Enroll in the East Central
High School Health
Science P-TECH
Program going into your
8th grade year.

APPLY TO ST.
PHILLIPS
COLLEGE

DUAL CREDIT
COURSES

WORK BASED
LEARNING

During your Senior Year, apply to
the St. Phillips College
Radiography Technologist,
A.A.S. and complete the
program with Alamo Promise!

P-TECH
ACCEPTANCE

Enroll in and complete Dual Credit
courses, specifically:

MATH1314
BIOL 2401 &2402
ENGL 1301 and
ARTS 1301



 [St. Phillips Program Website](#)

 [CTE Programs of Study](#)

Sample 4 Year Plan



Freshman

- 1) PRINCIPLES OF HEALTH SCIENCE
- 2) MEDICAL TERMINOLOGY
- 3) GEOMETRY
- 4) CHEMISTRY
- 5) SOCIAL STUDIES
- 6) ENGLISH 1
- 7) LANGUAGE OR PE

Sophomore

- 1) HEALTH SCIENCE THEORY
- 2) ENGLISH 2
- 3) ALGEBRA 2
- 4) PHYSICS
- 5) US HISTORY
- 6) DUAL CREDIT ART (ARTS 1301)
- 7) LANGUAGE

Junior

- 1) ANATOMY AND PHYSIOLOGY
- 2) ENGLISH 3 DUAL CREDIT (ENGL 1301, 1302)
- 3) PRE-CAL DUAL CREDIT (MATH 1314)
- 4) BIOLOGY DUAL CREDIT (BIOL 2401 AND 2402)
- 5) SOCIAL STUDIES
- 6) LANGUAGE OR PE
- 7) ELECTIVE

Senior

- 1/2) PRACTICUM IN HEALTH SCIENCE
- 3) ENGLISH
- 4) SCIENCE
- 5) GOVERNMENT / ECONOMICS
- 6) ELECTIVE
- 7) ELECTIVE
- OPTION TO TAKE DUAL CREDIT COURSES AT COLLEGE ALIGNED TO A.A.S.





CAST LEAD

PROGRAMS OF STUDY

- SERVES GRADES 8TH-12TH.
- STUDENTS MAY ENTER BEFORE 10TH GRADE

CCMR

College, Career, and Military Readiness
Laying the foundation of Postsecondary Readiness for ALL



Presented July 2025



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.

E-Commerce

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

Odd Years

- Principles of Information Technology

Even Years

- Entrepreneurship I
- Web Design

Every Year

- AP Computer Science Principles
- Foundations of User Experience (UX)
- Advanced User Experience Design
- Practicum in Entrepreneurship
- Independent Study in Technology Applications

Aligned Advanced Academic Courses

AP	AP Computer Science A AP Computer Science Principles
Dual Credit	Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or Dual Credit 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 nonprofit or small business to support developing or updating their website and digital media - Interview a web designer to learn about how they developed their digital design skills and what factors they consider when developing a website.
Expanded Learning Opportunities	- Create a website - Participate in TSA or SkillsUSA

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



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

E-Commerce

Course Information

Odd Years

Course	Prerequisites Corequisites	Career Clusters
Principles of Information Technology 7670 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Even Years

Course	Prerequisites Corequisites	Career Clusters
Web Design 7985 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Entrepreneurship I 7110 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites: None	

Every Year

Course	Prerequisites Corequisites	Career Clusters
Foundations of User Experience (UX) 7364 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Advanced User Experience Design 7112 (1 credit)	Prerequisites: Foundations of User Experience Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
AP Computer Science Principles 6900 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Algebra I Recommended Corequisites: None	
Practicum in Entrepreneurship 7119 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a career and technical education (CTE) program of study. Recommended Corequisites: None	

Web Development



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.

Retail Leadership

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

- Odd Year**
- Principles of Business, Marketing, and Finance
 - Human Resource Management

- Even Years**
- Marketing
 - Retail Management
 - Entrepreneurship I

- Level 4**
- Practicum in Entrepreneurship



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%

Aligned Advanced Academic Courses

AP or IB AP Statistics

Dual Credit Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 marketing and advertising company
- Job shadow a pharmaceutical sales representative
- Intern at a local retail company

Expanded Learning Opportunities

- Job shadow an account representative at a marketing firm
- Participate in BPA, DECA, FBLA, or related UIL events

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



Business, Marketing, and Finance Career Cluster

Retail Leadership

Course Information

Odd Years

Course	Prerequisites Corequisites	Career Clusters
Principles of Business, Marketing, and Finance 6612 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites : None	 
Human Resources Management 7314 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites : None	

Even Years

Course	Prerequisites Corequisites	Career Clusters
Marketing 7114 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: : Principles of Business, Marketing and Finance Recommended Corequisites : None	
Retail Management 7383 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing, and Finance Recommended Corequisites : None	
Entrepreneurship I 7110 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites : None	 

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Entrepreneurship 7119 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a career and technical education (CTE) program of study Recommended Corequisites : None	         



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.

Travel, Tourism, and Resort Management

The Lodging and Resort Management program of study focuses on occupational and educational opportunities associated with the logistical and operational management of lodging and resorts. This program of study addresses human resources, financial analysis, and marketing.



Secondary Courses for High School Credit

Odd Years

- Principles of Hospitality and Tourism
- Principles of Business, Marketing, and Finance
- Tourism Marketing Concepts and Applications
- Sports and Entertainment Marketing

Even Years

- Global/Virtual Business
- Introduction to Event and Meeting Planning
- Travel and Tourism Management
- Entrepreneurship

Level 4

- Practicum in Entrepreneurship

Aligned Advanced Academic Courses

Dual Credit

Dual credit offerings will vary

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 resort to learn about customer service and lodging management
- Work part-time at a theme park or hotel
- Shadow an event planner at a local convention center

Expanded Learning Opportunities

- Participate in FCCLA
- Participate in SkillsUSA
- Participate in DECA

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



Example Postsecondary Opportunities

Associate Degrees

- Culinary Arts
- Tourism and Travel Services Management

Bachelor's Degrees

- Hospitality Administration/Management
- Parks, Recreation, and Leisure Facilities Management

Master's, Doctoral, and Professional Degrees

- Organizational Leadership
- Tourism and Travel Services Management

Additional Stackable IBCs/Licensures

- Hospitality and Food Service Management



Example Aligned Occupations

Reservation and Transportation Ticket Agents and Travel Clerks

Median Wage: \$48,000
Annual Openings: 2,031
10-Year Growth: 17%

Meeting, Convention, and Event Planners

Median Wage: \$49,428
Annual Openings: 1,070
10-Year Growth: 25%

General 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>



Hospitality and Tourism Career Cluster

Travel, Tourism, and Resort Management

Course Information

Odd Years

Course	Prerequisites Corequisites	Career Clusters
Principles of Business, Marketing, and Finance 6060 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 
Principles of Hospitality and Tourism 7551 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	
Tourism Marketing Concepts and Applications 7113 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Hospitality and Tourism Recommended Corequisites: None	
Sports and Entertainment Marketing 7360 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing, and Finance Recommended Corequisites: None	 

Even Years

Course	Prerequisites Corequisites	Career Clusters
Introduction to Event and Meeting Planning 7116 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Hospitality and Tourism, Hotel management and/or Travel and Tourism Management Recommended Corequisites: None	 
Travel and Tourism Management 7573 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Hospitality and Tourism Recommended Corequisites: None	
Virtual Business* 7460 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Touch System Data Entry Recommended Corequisites: None	
Global Business 7577 (0.5 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	 
Entrepreneurship I* 7110 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: Principles of Business, Marketing and Finance Recommended Corequisites: None	         

Level 4

Course	Prerequisites Corequisites	Career Clusters
Practicum in Entrepreneurship 7119 (2 credits)	Prerequisites: None Corequisites: None Recommended Prerequisites: Entrepreneurship I and Entrepreneurship II or successful completion of at least two courses in a career and technical education (CTE) program of study Recommended Corequisites: None	         



Agriculture, Food, and Natural Resources Career Cluster

The Agriculture, Food, and Natural Resources (AFNR) career cluster focuses on the essential elements of life, food, water, land, and air. This career cluster includes occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Agriculture Business, Leadership, and Communications

The Agriculture Business, Leadership, and Communications program of study focuses on occupational and educational opportunities associated with farming and agriculturally related businesses that supply farm inputs, such as machinery and seeds. This program of study includes exploration of farm product marketing, the purchase of farm products either for processing or resale, and the process of grading or classifying unprocessed food or other agricultural products.



Secondary Courses for High School Credit

Level 1 • Principles of Agriculture, Food, and Natural Resources

Level 2 • Ag Leadership and Development 1
(Professional Standards in Agribusiness & Professional Communications)

Level 3 • Ag Leadership and Development 2
(Agribusiness Management and Marketing)

Level 4 • Ag Leadership and Development 3
(Agricultural Leadership, Research, and Communications)



Example Postsecondary Opportunities

Associate Degrees

- Accounting
- Agribusiness

Bachelor's Degrees

- Agriculture Economics
- Agribusiness

Master's, Doctoral, and Professional Degrees

- Accounting
- Applied Economics

Additional Stackable IBCs/Licensures

- Accredited Farm Manager



Aligned Advanced Academic Courses

AP	AP Microeconomics AP Statistics
Dual Credit	Dual credit offerings will vary.

Students should be advised to consider these course opportunities to enrich their preparation. AP or dual credit 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 at a farm or ranch that manages livestock and crops to learn about processing and sales - Intern at an agrochemical manufacturer to learn about new technologies in agribusiness
Expanded Learning Opportunities	- Participate in an FFA career, leadership, and speaking contest like an agriscience fair - Attend an agricultural industry seminar

Aligned Industry-Based Certifications

- Entrepreneurship and Small Business



Example Aligned Occupations

Loan Interviewers and Clerks

Median Wage: \$46,572
Annual Openings: 2,307
10-Year Growth: 10%

Loan Officers

Median Wage: \$66,285
Annual Openings: 2,261
10-Year Growth: 14%

Farmers, Ranchers, and Other Agricultural Managers

Median Wage: \$65,490
Annual Openings: 28,020
10-Year Growth: 4%

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>



Agriculture, Food, and Natural Resources Career Cluster

Agriculture Business, Leadership, and Communications

Course Information

Level 1

Course	Prerequisites Corequisites	Career Clusters
Principles of Agriculture, Food, and Natural Resources 7211 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 2

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership and Development 1 7251 & 7254 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 3

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership & Development 2 7253 (1 credit)	Prerequisites: None Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	

Level 4

Course	Prerequisites Corequisites	Career Clusters
Ag Leadership & Development 3 7252 (1 credit)	Prerequisites: One credit from courses in the AFNR career cluster Corequisites: None Recommended Prerequisites: None Recommended Corequisites: None	