

























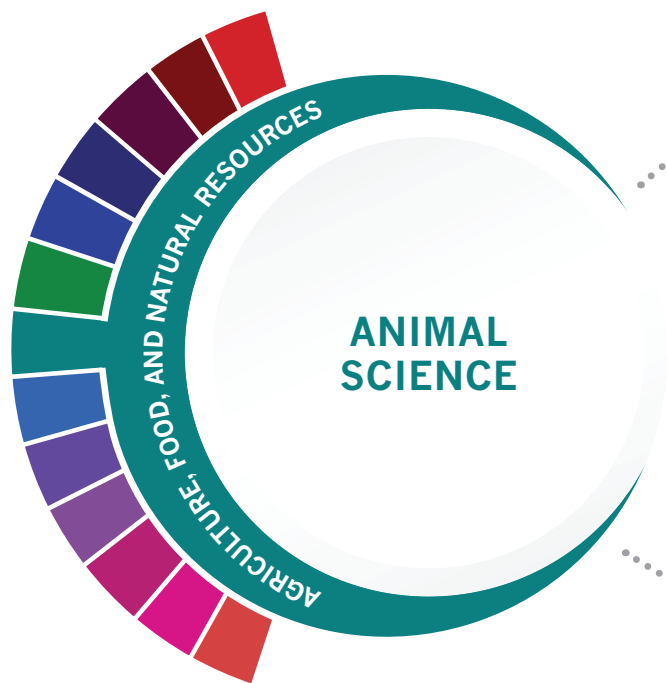
 Agricultural Science & Technology Academy	 Communications Arts High School	 Construction Careers Academy	 Health Careers High School	 Jay Science & Engineering	 Marshall Law & Medical Services Magnet School	 Northside School of Innovation, Technology, & Entrepreneurship
Agricultural Science							
Animation							
Architecture							
Audio/Video							
Entrepreneurship							
Computer Science							
Construction							
Cybersecurity							
Engineering							
Health Science							
Law Enforcement							
Emergency Services							
Government & Public Administration							
Robotics							
Biomedical Science							



Agricultural Science & Technology Academy

Business & Industry Endorsement

- **Animal Science**
- **Plant Science**
- **Applied Agricultural Engineering**
- **Agribusiness**
- **Environmental and Natural Resources**



COURSES

LEVEL 1

Principles of Agriculture, Food, and Natural Resources #8050

LEVEL 2

Livestock Production #8051 OR

Small Animal Management (.5CR) # AND
Equine Science (.5CR) #8052

LEVEL 3

Veterinary Medical Applications #8048

LEVEL 4

Advanced Animal Science #8060 AND/OR
Practicum in Agriculture, Food, and Natural
Resources-Animal Science (2CR) #8064

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Licensed Veterinary Technician	Pet Groomer	Food Science and Technology	Animal Sciences	Genetics
Feedyard Technician in Cattle Care and Handling	Veterinary Technician	Veterinary Studies	Agriculture	Veterinary Medicine
Certified Veterinary Assistant	Licensed Breeder	Biotechnology Laboratory Technician	Biology	Biological and Physical Sciences
		Biology Technician	Zoology/ Animal Biology	Biological and Biomedical Sciences

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options
for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Animal Breeders	\$39,135	28	9%
Animal Scientists	\$57,533	22	12%
Medical Scientists	\$63,898	435	27%
Veterinarians	\$93,496	294	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Texas FFA

**Work Based Learning
Activities:**
Agri-Science Fair
4H
Volunteer at a local farm
or veterinary office

The Animal Science program of study focuses on the science, research, and business of animals and other living organisms. It teaches students how to apply 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 may also research and analyze the growth and destruction of species and research or diagnose diseases and injuries of animals.

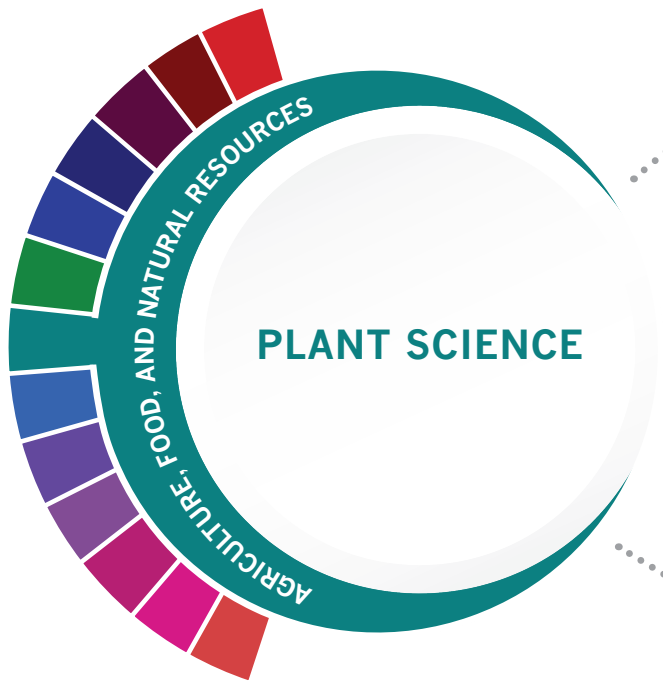


The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist.

Successful completion of the Animal Science program of study will fulfill requirements of a **Business and Industry endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



LEVEL 1

Principles of Agriculture, Food, and Natural Resources #8050

LEVEL 2

Greenhouse Operation and Production #8049

LEVEL 3

Floral Design #8057 AND/OR

Horticultural Science #8059

LEVEL 4

Practicum in Agriculture, Food, and Natural Resources - Plant Science (2CR) #8068 AND/OR

Advanced Plant and Soil Science #8060

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Landscape Irrigation Technician License	Pesticide Applicator	Applied Horticulture/ Horticulture Operations, General		
Commercial/ Noncommercial Pesticide Applicator	Certified Floral Designer	Ornamental Horticulture	Agronomy and Crop Science	
Texas State Floral Association Level One Floral Certification	Accredited Member of AIFD	Agricultural Business and Management, General		
Texas State Floral Association Level Two Floral Certification	Landscape Industry Certified Technician	Turf and Turfgrass Management		Farm/Farm and Ranch Management

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Soil and Plant Scientists	\$54,662	116	21%
Tree Trimmers and Pruners	\$32,240	589	14%
Pesticide Handlers, Sprayers, and Applicators	\$36,733	196	22%
Landscaping Supervisors	\$44,408	807	19%
Biological Technicians	\$42,931	452	17%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Texas FFA

Work Based Learning Activities:
Work part-time at a florist;
start or work for a local landscaping business

The Plant Science program of study focuses on the science, research, and business of plants and other living organisms. It teaches students how to apply biology and life science to real-world life processes of plants and vegetation, either in laboratories or in the field.



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 a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Successful completion of the Plant Science program of study will fulfill requirements of a **Business and Industry endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



LEVEL 1

Principles of Agriculture, Food, and Natural Resources #8050

LEVEL 2

Agricultural Mechanics and Metal Technologies #8061

LEVEL 3

Agricultural Structures Design and Fabrications #8062

LEVEL 4

Agricultural Equipment Design and Fabrication #8042 AND/OR

Practicum in Agriculture, Food, and Natural Resources-Ag Engineering (2CR) #8070

POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
OSHA 30 Hour General Industry	Certified Professional Agronomist	Heavy Equipment Maintenance Technology/Technician	Agricultural Engineering	
Feedyard Technician in Machinery, Operation, Repair and Maintenance	Certified Reliability Engineer	Agricultural Mechanization, General	Agricultural Mechanization, General	
AWS SENSE Welding Level 1	Certified Irrigation Designer	Small Engine Mechanics and Repair Technology/Technician		
AWS D1.1 or D9.1 Certification	Fluid Power Mobile Hydraulic Mechanic	Welding Technology/Welder		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Outdoor Power Equipment and Other Small Engine Mechanics	\$32,406	366	16%
Welders	\$41,350	6,171	9%
Farm Equipment Mechanics and Service Technicians	\$39,915	304	17%
Mobile Heavy Equipment Mechanics	\$47,299	1,627	16%
Agricultural Engineers	\$64,792	9	13%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Tour a farm products or machinery plant
Texas FFA

Work Based Learning Activities:
Earn a welding certification;
intern at a farm products or machinery plant

The Applied Agricultural Engineering program of study explores the occupations and educational opportunities associated with applying knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation, and processing agricultural products. This program of study may also include exploration into diagnosing, repairing, or overhauling farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.



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 a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Successful completion of the Applied Agricultural Engineering program of study will fulfill requirements of a **Business and Industry endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



LEVEL 1

Principles of Agriculture, Food, and Natural Resources #8050

LEVEL 2

Professional Standards in Agribusiness (.5CR) #8054

Professional Communications (.5CR) #8164

LEVEL 3

Agribusiness Management and Marketing #8055

LEVEL 4

Agricultural Leadership, Research, and Communications #8072 AND/OR
Practicum in Agriculture, Food, and Natural Resources-Agribusiness (2CR) #8071 AND/OR
Career Preparation I - Ag (3CR) #8000

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Certified Professional Public Buyer	Agricultural Business and Management, General		
		Banking and Financial Support Services	Finance, General	
		Advertising	Financial Mathematics	
		Marketing/ Marketing Management, General		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Farmers, Ranchers, and Other Agricultural Managers	\$59,134	405	9%
Farm and Ranch Loan Officers	\$45,594	268	25%
Agricultural Advertising and Promotions Managers	\$94,515	164	20%
Buyers and Purchasing Agents, Farm Products	\$46,488	102	20%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Tour a farm machinery products company
Texas FFA

Work Based Learning Activities:
Internship with a farm machinery products company;
Work on a farm or ranch

The Agribusiness program of study explores the occupations and educational opportunities associated with the business of farming and agriculturally-related business that supplies farm inputs, such as machinery and seeds. This program of study may also include exploration into the marketing of farm products, the purchase of farm products either for further processing or resale, and grading or classifying unprocessed food or other agricultural products.

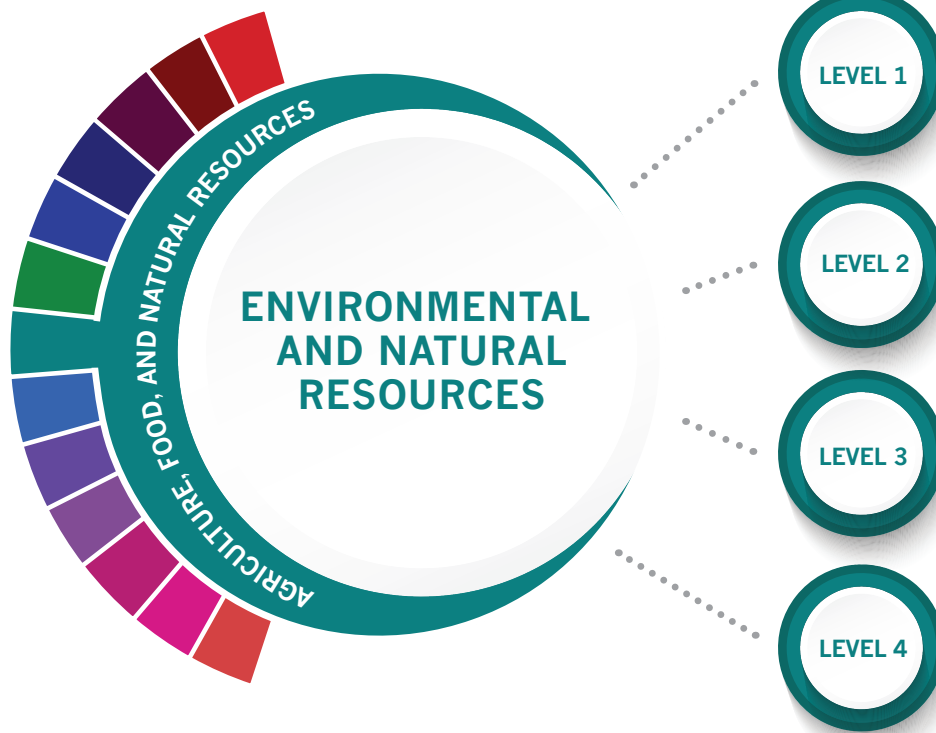


The Agriculture, Food, and Natural Resources (AFNR) Career Cluster® focuses on the essential elements of life—food, water, land, and air. This career cluster includes a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Successful completion of the Agribusiness program of study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



Principles of Agriculture, Food, and Natural Resources #8050

Wildlife, Fisheries, and Ecology Management #8056

Range Ecology Management #8073

Practicum in Agriculture, Food, and Natural Resources - Environmental Resources (2CR) #8074

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Wastewater Collections, Class 1	Board Certified Environmental Engineer - Hazardous Waste Management	Environmental Science		
Water Operators, Class D	Certified Water Technologist	Environmental Studies	Environmental/Environmental Health Engineering	
OSHA Hazardous Waste Operations and Emergency Response	Certified Environmental Scientist	Wildlife, Fish, and Woodlands Science and Management		
	Certified in Public Health	Environmental Engineering Technology/ Environmental Technology	Natural Resources Law Enforcement and Protective Services	Fishing and Fisheries Science and Management
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Environmental Engineering Technicians	\$53,352	101	32%
Environmental Engineers	\$86,757	288	25%
Environmental Science and Protection Technicians, Including Health	\$40,268	508	17%
Environmental Scientists and Specialists, Including Health	\$77,896	644	24%
Zoologists and Wildlife Biologists	\$67,309	45	32%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Attend summer leadership events
Texas FFA

Work Based Learning Activities:
Intern at a waste treatment plant

The Environmental and Natural Resources program of study explores the occupations and educational opportunities associated with the research, design, and planning of engineering or technical duties in the prevention and control of environmental hazards. This program of study may also include exploration into conducting research for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population.



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 a diverse spectrum of occupations, ranging from farmer, rancher, and veterinarian to geologist, land conservationist, and florist. It also includes non-traditional agricultural occupations like wind energy, solar energy, and oil and gas production.

Successful completion of the Environmental and Natural Resources program of study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019





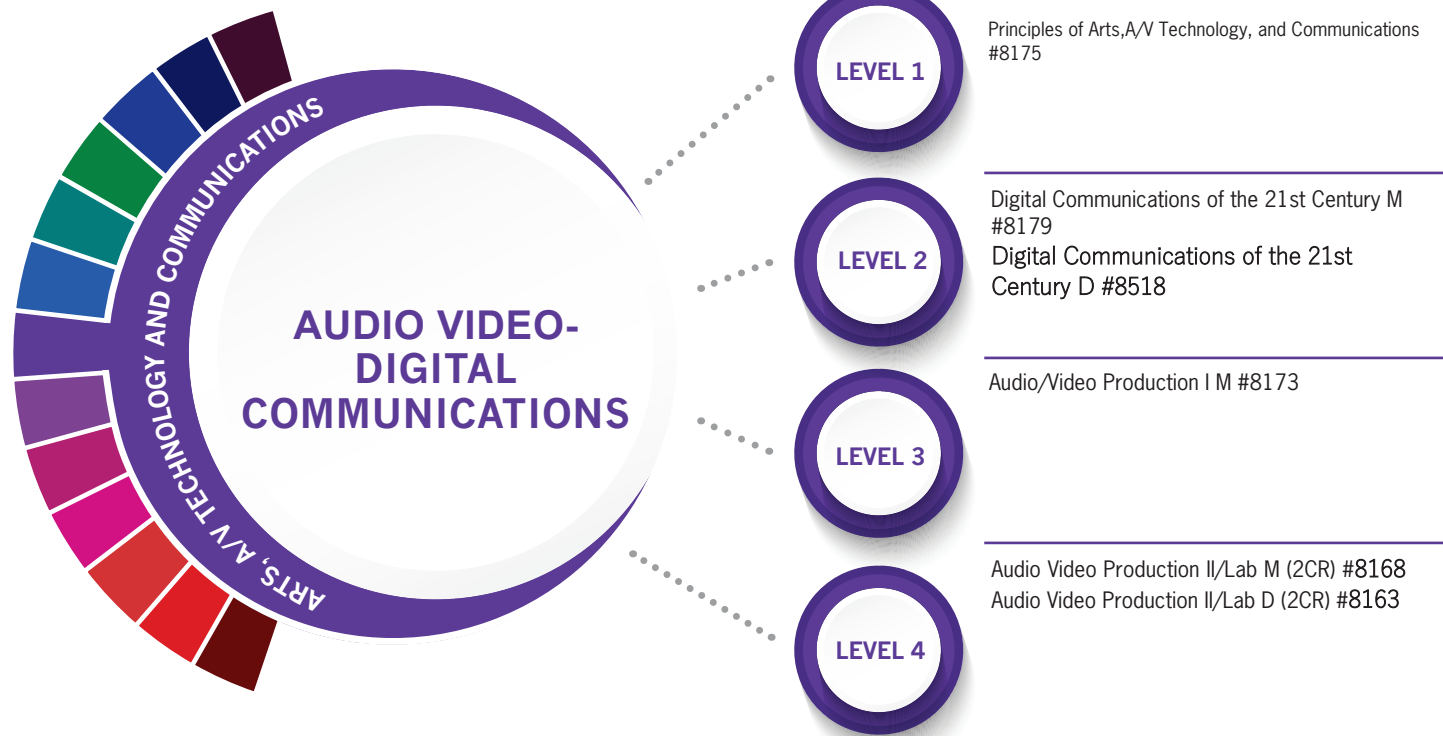
Arts, A/V
Technology &
Communications

Communications Arts High School

Business & Industry Endorsement

- **Audio/Video Digital Communications**
- **Animation Design & Multimedia Arts**

COURSES



HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Apple Final Cut Pro X	Certified Video Engineer	Recording Arts Technology/Technician		Communications Technology/ Technician
Apple Logic Pro X	Commercial Audio Technician	Cinematography and Film/ Video Production		
Adobe Certified Associate Premiere Pro	Certified AM Directional Specialist	Radio and Television Broadcasting Technology/ Technician	Radio and Television	
Adobe Certified Associate Certifications	Certified Broadcast Radio Engineer	Music Technology	Agricultural Communication/ Journalism	
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Sound Engineering Technicians	\$39,562	79	27%
Camera Operators, Television, Video and Motion Picture	\$50,024	129	9%
Audio and Video Equipment Technicians	\$40,581	757	29%
Film and Video Editors	\$47,382	118	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Shadow a production team
SkillsUSA, TSA

Work Based Learning Activities:
Intern at a local television station or video production company

The Digital Communications program of study explores the occupations 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. This program of study may also include exploration into operating machines and equipment to record sound and images, such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment.

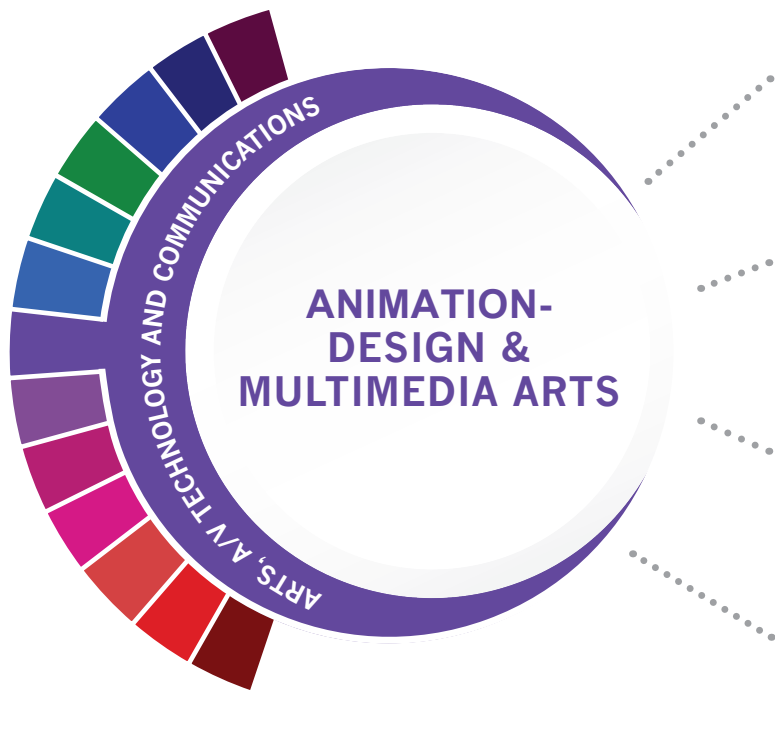


The Arts, A/V Technology and Communications (AAVTC) Career Cluster® focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC career cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

Successful completion of the Digital Communications program of study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



LEVEL 1

Principles of Arts, Audio/Visual Technology & Communication #8175

LEVEL 2

Digital Media M #8522
Digital Media D #8521

LEVEL 3

Animation I M #8171

LEVEL 4

Animation II/Lab M (2CR) #8172
Or
3-D Modeling and Animation I M #8178

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Adobe Certified Associate Certifications	Certified Digital Designer	Animation, Interactive Technology, Video Graphics and Special Effects		
Adobe Certified Expert Certifications	WOW Certified Web Designer Apprentice	Graphic Design		
Apple Logic Pro X	Adobe Suite Certifications	Game and Interactive Media Design	Intermedia/ Multimedia	
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Graphic Designers	\$44,824	1,433	15%
Multimedia Artists and Animators	\$67,392	186	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Join a website development or coding club.
SkillsUSA, TSA

Work Based Learning Activities:
Intern with a multimedia or animation studio.
Obtain a certificate in graphic design.

The Graphic Design and Multimedia Arts program of study explores the occupations and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. This program of study may also include exploration into designing clothing and accessories, and creating special effects, animation, or other visual images using film, video, computers, or other electronic tools and media, for use in computer games, movies, music videos, and commercials.



The Arts, A/V Technology and Communications (AAVTC) Career Cluster® focuses on careers in designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. Careers in the AAVTC Career Cluster require a creative aptitude, a strong background in computer and technology applications, a strong academic foundation, and a proficiency in oral and written communication.

Successful completion of the Graphic Design & Multimedia Arts program of study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



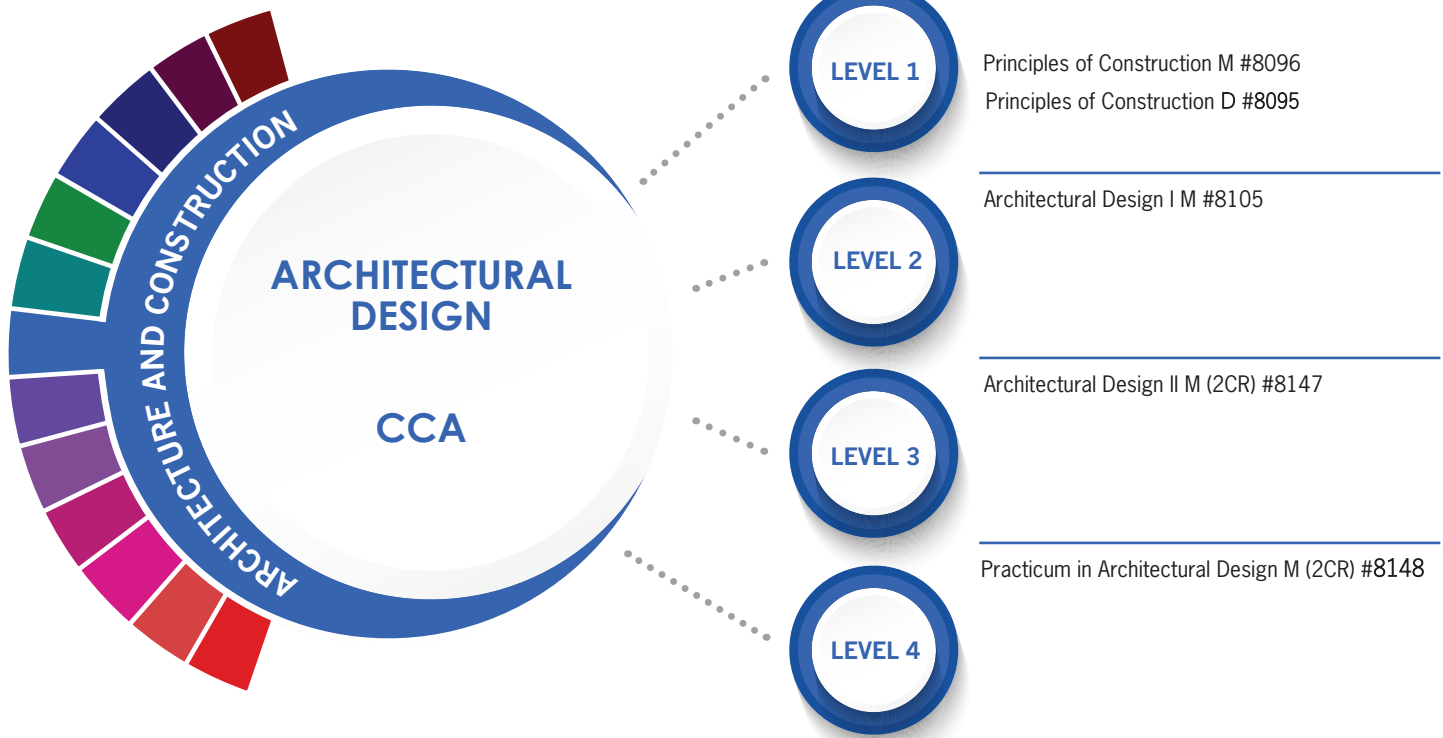


Construction Careers Academy

Business & Industry Endorsement

- **Architectural Design**
- **Construction Science-Carpentry**
- **Construction Design and Inspection**
- **Electrical**
- **Plumbing and Pipefitting**
- **Engineering**

COURSES



HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User in AutoCAD	Certified Photogrammetric Technologist	Architecture		
Autodesk Certified Professional or User in AutoCAD Civil 3D	Certified Development, Design & Construction Professional	Interior Design		Interior Architecture
Autodesk Certified Professional or User in Autodesk Revit Architecture	National Council Certified Interior Designer	Civil Engineering, General		
Autodesk Certified Professional or User in Autodesk Revit MEP Electrical	LEED AP Building Design & Construction	Geographic Information Science and Cartography		
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/Civil Drafters	\$50,170	1,068	9%
Civil Engineers	\$89,960	2,394	12%
Construction Managers	\$87,402	2,401	14%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Shadow an architect, interior designer, or civil engineer.
SkillsUSA

Work Based Learning Activities:
Intern at an architecture firm.

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

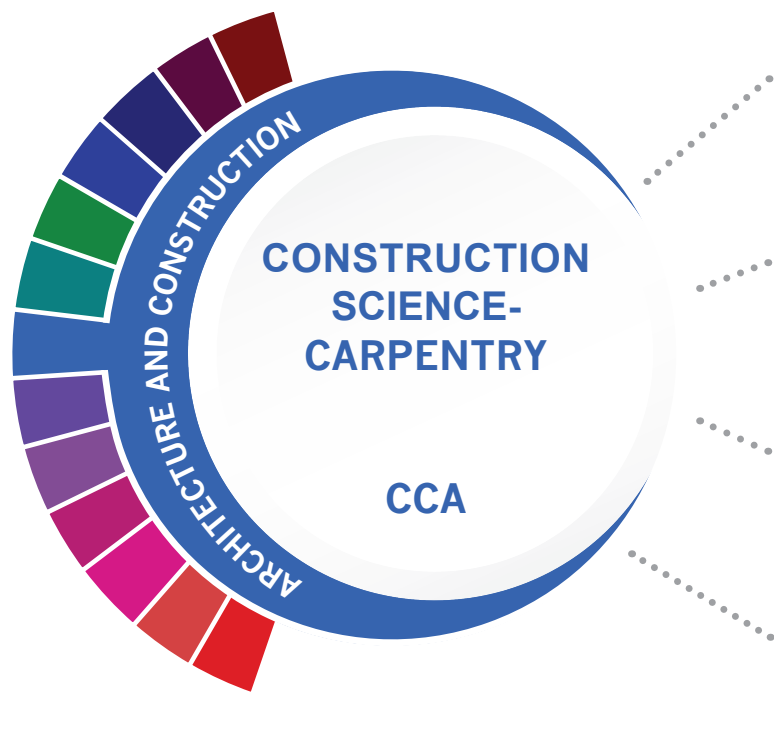


The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Successful completion of the Architectural Design program of study will fulfill requirements of the **Business and Industry endorsement or STEM endorsement if the math and science requirements are met.** Revised - July 2020



COURSES



LEVEL 1

Principles of Construction M #8096
Principles of Construction D #8095

LEVEL 2

Principles of Architecture M #8097
Principles of Architecture D #8612

LEVEL 3

Construction Technology I M (2CR) #8107
Construction Technology I D (2CR) #8141

LEVEL 4

Construction Technology II M (2CR) #8129
Construction Technology II D (2CR) #8142

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Carpentry, Level 1 & 2	Certified Lead Carpenter	Carpentry/ Carpenter	Construction Science	Construction Management
NCCER Commercial Carpenter	Certified Installer	Industrial Mechanics and Maintenance Technology		
NCCER Core Curriculum	Certified Door Consultant			
NCCER Construction Technology	Fluid Power Connector and Conductor			

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Carpenters	\$35,922	5,031	26%
Cost Estimators	\$63,939	2,239	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Shadow a carpenter or millwright.
SkillUSA

Work Based Learning Activities:

Obtain an NCCER certification in Millwright Level 1 or Carpentry Level 1.

The Carpentry program of study explores the occupations and educational opportunities related to constructing, installing, or repairing structures and fixtures made of wood, such as concrete forms (including frameworks, partitions, joists, studding, rafters, and stairways). This program of study may also include exploration into installing, dismantling, or moving machinery and heavy equipment according to layout plans, blueprints, or other drawings.

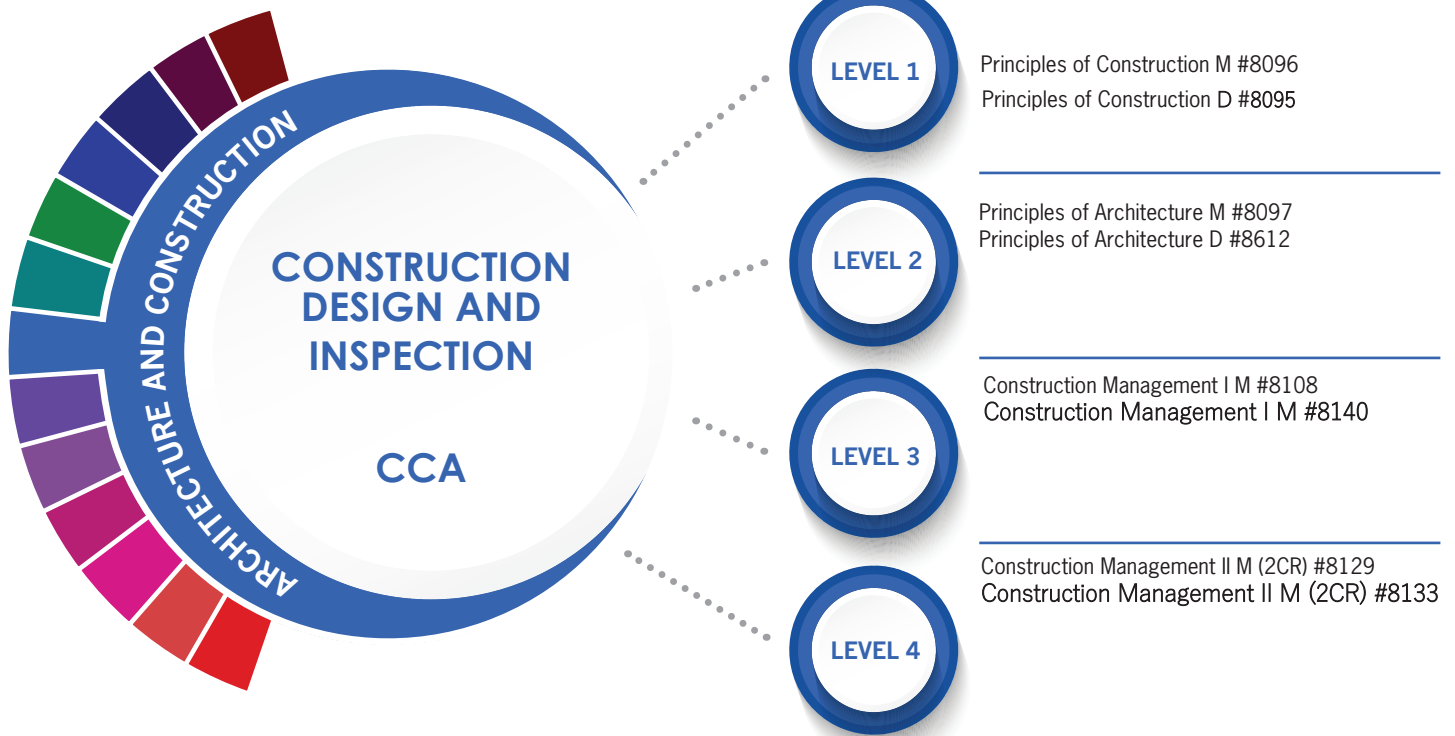


The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Successful completion of the Carpentry program of study will fulfill requirements of the **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User in AutoCAD	Certified Photogrammetric Technologist	Architecture		
Autodesk Certified Professional or User in AutoCAD Civil 3D	Certified Development, Design & Construction Professional	Interior Design		Interior Architecture
Autodesk Certified Professional or User in Autodesk Revit Architecture	National Council Certified Interior Designer	Civil Engineering, General		
Autodesk Certified Professional or User in Autodesk Revit MEP Electrical	LEED AP Building Design & Construction	Geographic Information Science and Cartography		
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Architects	\$77,043	808	16%
Geographic Information Analysts and Surveyors	\$58,926	162	27%
Architectural/Civil Drafters	\$50,170	1,068	9%
Civil Engineers	\$89,960	2,394	12%
Construction Managers	\$87,402	2,401	14%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Shadow an architect, interior designer, or civil engineer.
SkillsUSA

Work Based Learning Activities:
Intern at an architecture firm.

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



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

Successful completion of the Construction Design program of study will fulfill requirements of the **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



LEVEL 1

Principles of Construction I M #8096
Principles of Construction D #8095

LEVEL 2

Electrical Technology I M #8115
Electrical Technology I D #8145

LEVEL 3

Electrical Technology II M (2CR) #8116
Electrical Technology II D (2CR) #8146

LEVEL 4

Practicum in Construction Technology -
Electrical M (2CR) #8166

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Electrical, Level 1 & 2	Electrical Plans Examiner	Electrician	Construction Science	Construction Management
NCCER Electronic Systems Technician, Level 1 & 2	Certified Electrical Inspector - Master	Communications Systems Installation and Repair Technology		
Electrical Apprenticeship Certificate, Level 1	Fiber Optics Technician - Outside Plant			
NCCER Commercial Electrician	Certification in Fire Alarm Systems - Level 1			

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit
TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Electrical Linemen	\$64,937	309	9%
Electricians	\$44,013	8,460	21%
Electrical and Electronics Installers	\$58,178	195	14%
Security and Fire Alarm Installers	\$43,638	1,112	22%
Telecommunication Line Installers and Repairers	\$49,150	1,228	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Shadow an electrician or
fiber optics line installer
SkillsUSA

**Work Based Learning
Activities:**
Intern or shadow an
electrician

The Electrical program of study explores the occupations and educational opportunities associated with installing, maintaining, and repairing electrical wiring, equipment, and fixtures. This program of study may also include exploration into installing and repairing telecommunications cable including fiber optics.

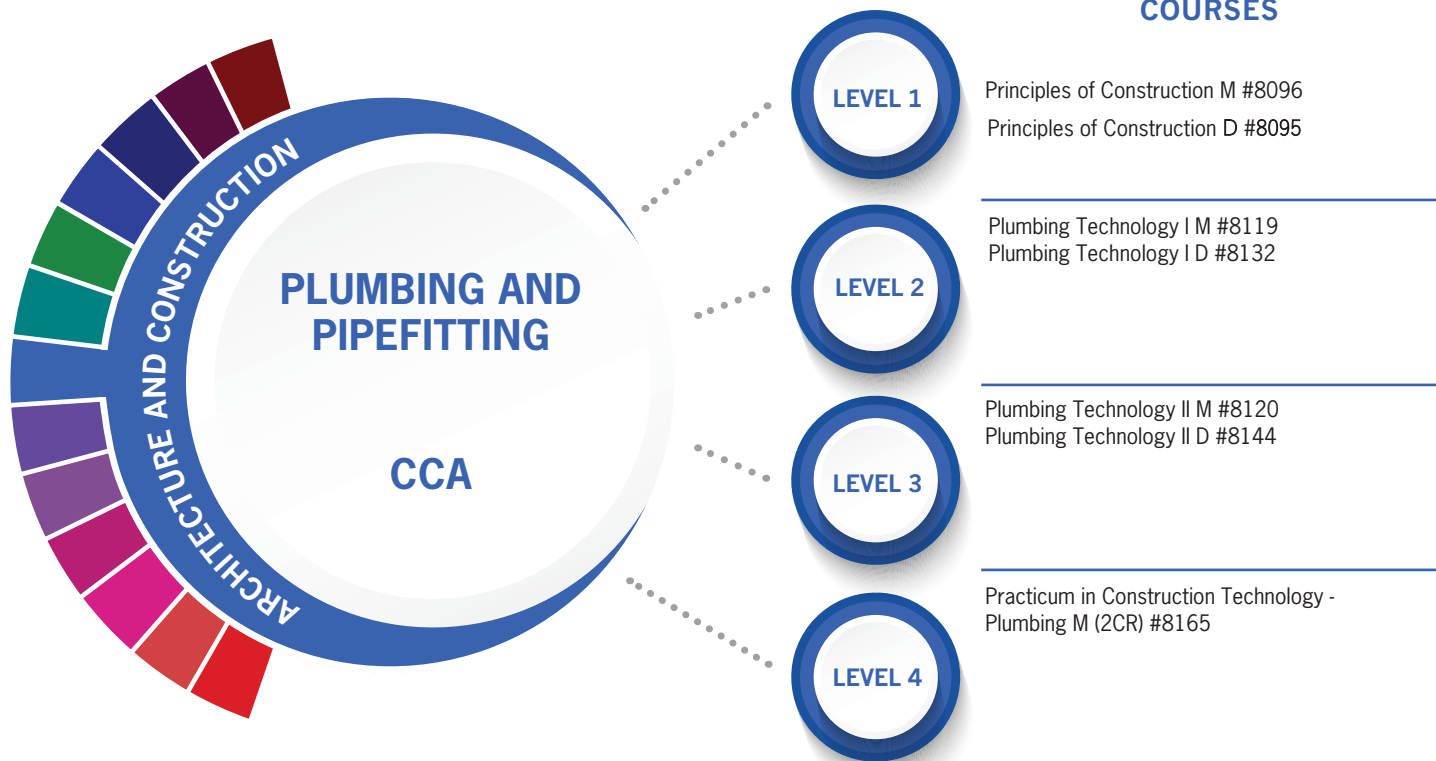


The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Successful completion of the Electrical Program of Study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
NCCER Pipefitting, Level 1	Commercial Plumbing Inspector	Plumbing Technology/ Plumber	Construction Science	Construction Management
NCCER Plumbing, Level 1 & 2	Journey Level Pipefitter- Steamfitter	Electrical and Power Transmission Installation/ Installer, General	Operations Management and Supervision	
NCCER Construction Technology	Plumbing Plans Inspector	Pipefitting/ Pipefitter and Sprinkler Fitter		
Tradesman Plumber - Limited License	Certified Service Manager	High Performance and Custom Engine Technician/ Mechanic		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Mechanics, Installers, and Repairers	\$63,710	4,243	17%
Plumbers	\$44,928	5,765	23%
Pipefitters	\$44,928	5,765	23%
Steamfitters	\$44,928	5,765	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Job shadow a plumber,
pipefitter, or steamfitter
SkillsUSA

**Work Based Learning
Activities:**
Obtain a Core Curriculum
NCCER certification in
Pipefitting Level 1 or
Plumbing Level 1

The Plumbing and Pipefitting program of study explores the occupations and educational opportunities related to assembling, installing, or repairing pipes, fittings, or fixtures of heating, water, or drainage systems. This program of study may also include exploration into maintaining pipe supports or related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, or industrial production or processing systems.

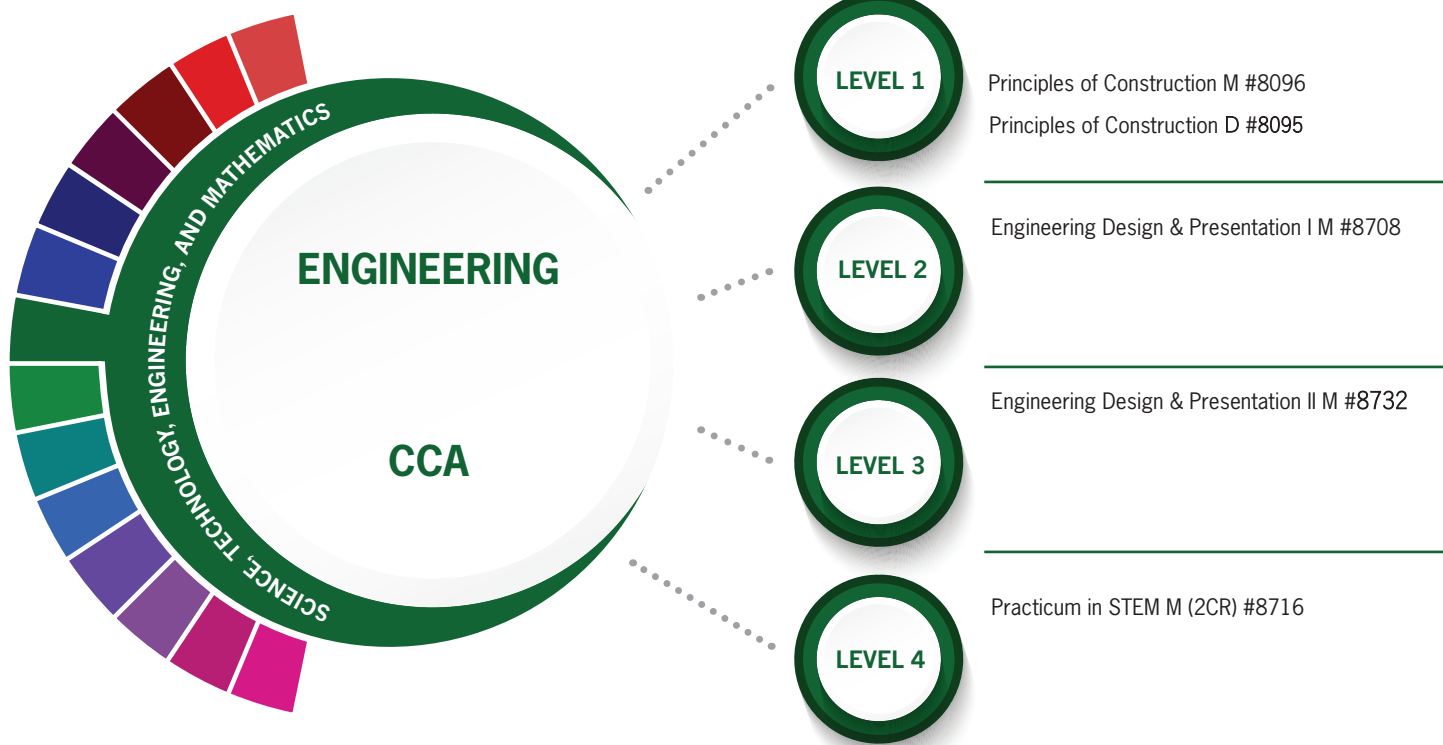


The Architecture and Construction Career Cluster® focuses on designing, planning, managing, building, and maintaining the built environment. Principles of Architecture provides an overview to the various fields of architecture, interior design, and construction management.

Successful completion of the Plumbing and Pipefitting Program of Study will fulfill requirements of a **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU) - Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CADD Drafting and/or Design Technology/ Technician	Mechanical Engineering
Certified Engineering Technician - Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/ Analyst		Construction Engineering Technology/ Technician	

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,707	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Participate in competitions like Skills USA

Career Preparation Activities:
Engineering internship
Job shadow a machinist

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. Students will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster® focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Engineering program of study will fulfill requirements of the **Business and Industry or STEM endorsement if the math and science requirements are met.** Revised - July 2020



Health Science

Health Careers High School

Public Services Endorsement

- **Healthcare Therapeutic—Dental**
- **Healthcare Therapeutic— Medical Assistant**
- **Healthcare Therapeutic— Pharmacy Technician**
- **Healthcare Therapeutic— Sterile Processing**
- **Healthcare Diagnostics—Clinical Lab**
- **Healthcare Diagnostics—Medical Research**
- **Biomedical Engineering**
- **Computer Science—Programming and Software Development**

COURSES



LEVEL 1

Principles of Health Science M #8533

LEVEL 2

Health Science Theory M #8536

AND

Anatomy & Physiology #8377

LEVEL 3

Practicum in Health Science - Dental M #8374

LEVEL 4

Practicum in Health Science - Dental M #8365

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist		Dentist
Certified Patient Care Technician	Surgical Technologist			Physician Assistant
Certified Nurse Aide/Assistant	Medical Assistant	Medical/ Clinical Assistant		Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical Assistants	\$29,598	8,862	30%
Surgical Technologists	\$46,310	1,150	21%
Dental Hygienists	\$73,507	1,353	38%
Physicians and Surgeons	\$213,071	1,151	30%
Dental Assistants	\$34,840	4,422	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
SkillsUSA
Health Occupation
Students of America
(HOSA)

Work Based Learning Activities:
Volunteer at a community wellness center, hospital, assisted living, or nursing home.

The Healthcare Therapeutic program of study introduces students to occupations and educational opportunities related to diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study also includes an introduction to the opportunities associated with providing treatment and counsel to patients as well as rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.



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

Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a **Public Service endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



LEVEL 1

Principles of Health Science M #8533

LEVEL 2

Health Science Theory M #8536

AND

Anatomy & Physiology #8377

LEVEL 3

Practicum in Health Science - Off Campus Clinical M (2CR) #8391

LEVEL 4

Practicum in Health Science - Medical Assistant M (2CR) #8390

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist		Dentist
Certified Patient Care Technician	Surgical Technologist			Physician Assistant
Certified Nurse Aide/Assistant	Medical Assistant	Medical/ Clinical Assistant		Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
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Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a **Public Service endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



LEVEL 1

Principles of Health Science M #8533

LEVEL 2

Health Science Theory M #8536

AND

Anatomy & Physiology #8377

LEVEL 3

Practicum in Health Science - Off Campus Clinical M (2CR) #8391

LEVEL 4

Practicum in Health Science - Sterile Processing M (2CR) #8392

POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Registered Dental Assistant	Dental Assistant	Dental Hygienist		Dentist
Certified Patient Care Technician	Surgical Technologist			Physician Assistant
Certified Nurse Aide/Assistant	Medical Assistant	Medical/Clinical Assistant		Family and General Practitioners
Pharmacy Technician	Pharmacy Aides			Pharmacist

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COURSES



POSTSECONDARY OPTIONS

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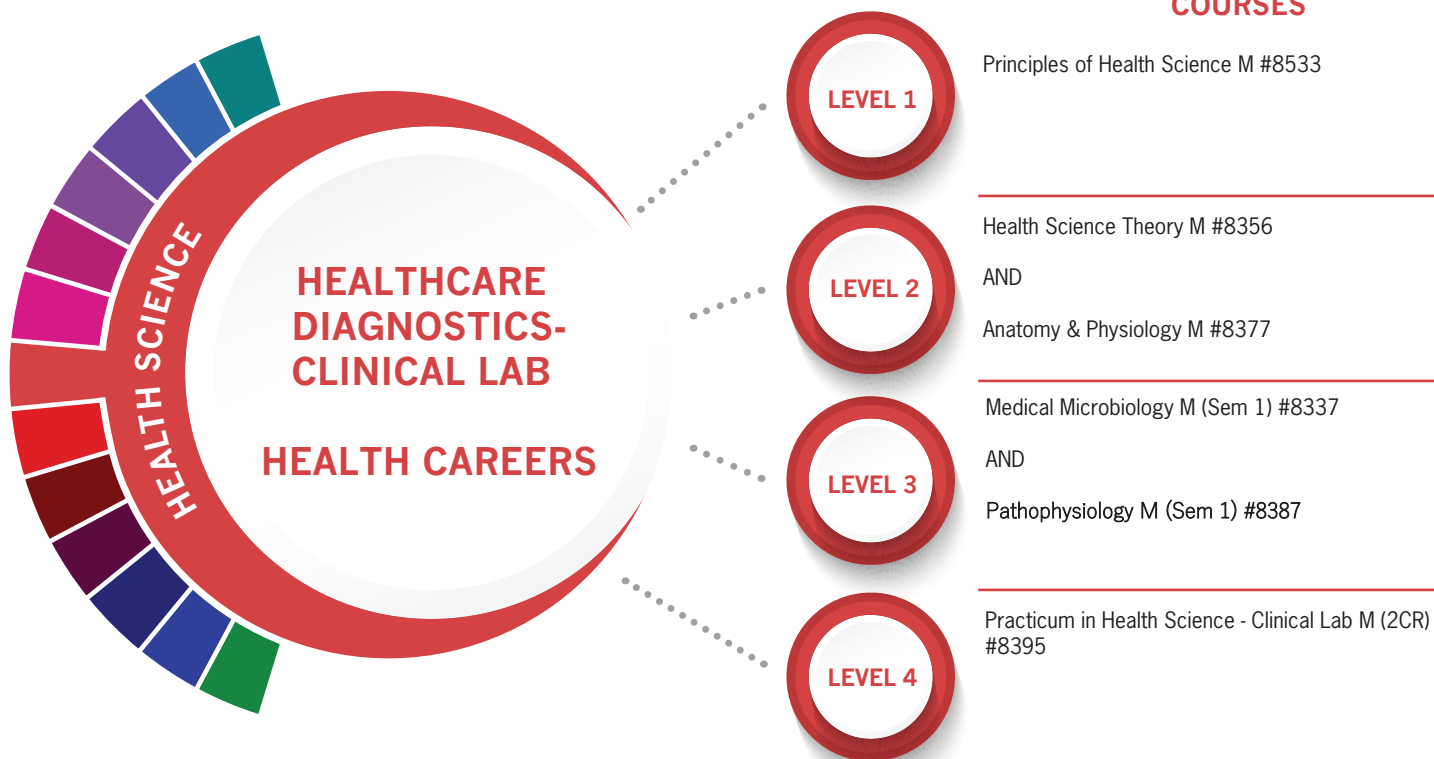


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Successful completion of the Healthcare Therapeutic program of study will fulfill requirements of a **Public Service endorsement or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES



POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE S DEGREE	BACHELOR S DEGREE	MASTER S/ DOCTORAL PROFESSIONAL DEGREE
Limited Licensed Radiology Technologist	Medical Sonographer	Nuclear Medical Technology/ Technologist		Radiologist
EKG/ ECG Technician	Radiologic Technologist	Magnetic Resonance Imaging (MRI) Technology/ Technician	Medical Radiologic Technology/ Science Radiation Therapist	Radiologic Technology/ Science - Radiographer
Medical Laboratory Technician				
Phlebotomy Technician				

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Diagnostic Medical Sonographers	\$69,909	495	35%
Phlebotomists	\$30,597	1,442	36%
Nuclear Medicine Technologists	\$75,962	91	13%
Radiologic Technologists	\$55,494	1,196	19%
Magnetic Resonance Imaging Technologists	\$68,661	217	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupation
Students of America
(HOSA)

**Work Based Learning
Activities:**
Clinical rotations at a
community wellness
center, hospital, assisted
living, nursing home

The Healthcare Diagnostics program of study introduces students to occupations and educational opportunities related to performing complex medical laboratory tests for the diagnosis, treatment, and prevention of disease. This program of study may also include exploration into the opportunities associated with blood laboratories as well as radiologic technology, and ultrasonic technology.

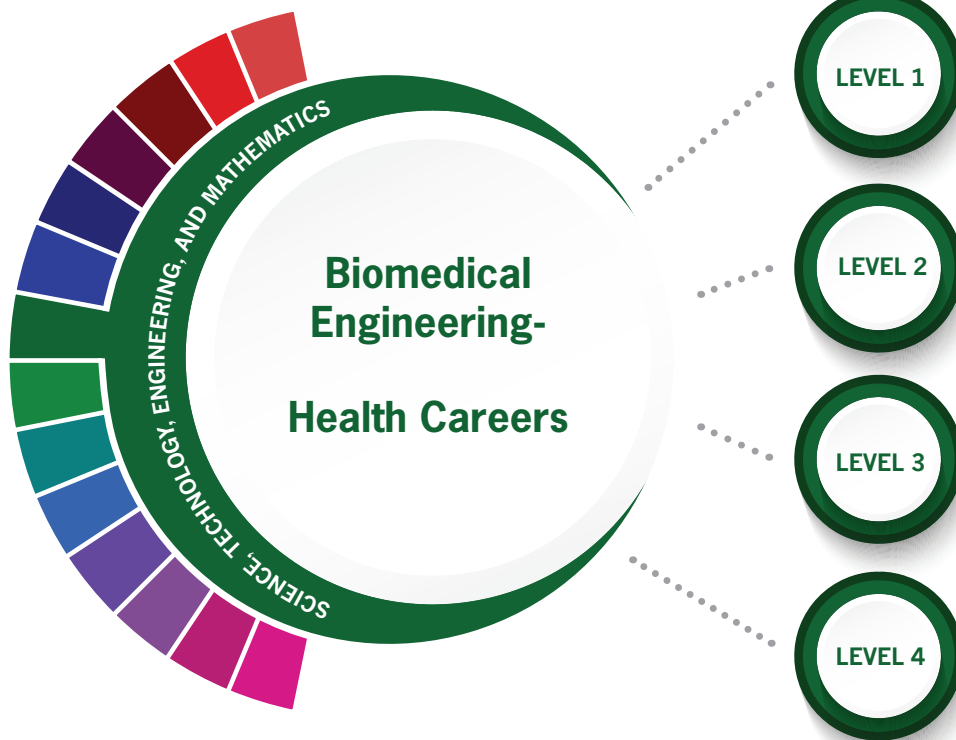


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Successful completion of the Healthcare Diagnostics program of study will fulfill requirements of the **Public Service or STEM Endorsement** if the math and science requirements are met. Revised- July 2020



COURSES



Principles of Health Science M (Elective only) #8533

LEVEL 1

Engineering Design and Presentation I M #8708

LEVEL 2

Engineering Design and Presentation II M (2CR) #8702

LEVEL 3

Practicum in STEM - Biomedical Engineering M (2CR) #8716

LEVEL 4

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU) - Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CADD Drafting and/or Design Technology/ Technician	Mechanical Engineering
Certified Engineering Technician - Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/ Analyst		Construction Engineering Technology/ Technician	

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,707	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Participate in competitions like Skills USA

Career Preparation Activities:
Engineering internship
Job shadow a machinist

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. Students will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster® focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Engineering program of study will fulfill requirements of the **Business and Industry or STEM endorsement if the math and science requirements are met.** Revised - July 2020



COURSES



POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE S DEGREE	BACHELOR S DEGREE	MASTER S/ DOCTORAL PROFESSIONAL DEGREE
Limited Licensed Radiology Technologist	Medical Sonographer	Nuclear Medical Technology/ Technologist		Radiologist
EKG/ ECG Technician	Radiologic Technologist	Magnetic Resonance Imaging (MRI) Technology/ Technician	Medical Radiologic Technology/ Science Radiation Therapist	Radiologic Technology/ Science - Radiographer
Medical Laboratory Technician				
Phlebotomy Technician				

Additional industry based certification information is available from the TEA CTE website.

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Magnetic Resonance Imaging Technologists	\$68,661	217	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupation Students of America (HOSA)

Work Based Learning Activities:
Clinical rotations at a community wellness center, hospital, assisted living, nursing home

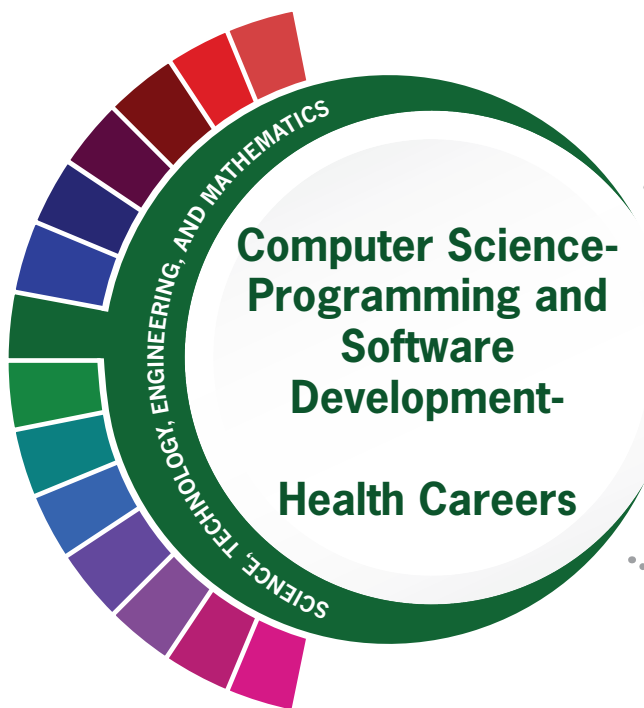
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The Health Science Career Cluster® focuses on planning, managing, and providing therapeutic services, diagnostics services, health informatics, support services, and biotechnology research and development. To pursue a career in the health science industry,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

Successful completion of the Healthcare Diagnostics program of study will fulfill requirements of the **Public Service or STEM Endorsement** if the math and science requirements are met. Revised- July 2020





COURSES

LEVEL 1

AP Computer Science Principles #7104

LEVEL 2

Advanced Computer Science I M #7111

LEVEL 3

Computer Science 2 H M #7212

LEVEL 4

Computer Science 3 H/DC M #7311

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Association JAVA SE 8 Programmer	Certified Computing Professional	Computer Programming/Pro grammer General	Mangement Information Systems, General	
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer		
	AEM 6 Developer	Computer Science		
	Certified Software Analyst	Information Science/Studies		
*Includes Level I and Level II Certificates				
For more information on postsecondary options for this programs of study, visit TXCTE.org				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architect	\$111, 633	1,454	9%
Software Developer, Systems Software	\$103, 334	2985	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Join TSA
Participate in a coding club
at school.

Work Based Learning Activities:

Obtain an industry based
certification.

The programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing 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 may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the **Business and Industry and STEM endorsement if the math and science requirements are met.** Revised - July 2020



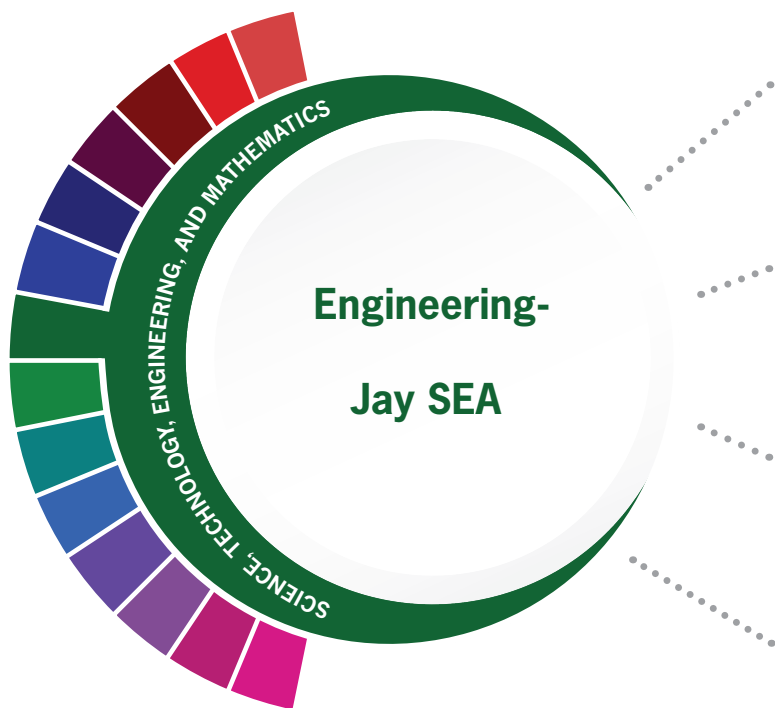
Science,
Technology,
Engineering &
Mathematics

Jay Science & Engineering Academy

Science, Technology, Engineering & Mathematics (STEM) Endorsement

- **Engineering**
- **Biomedical Science**
- **Computer Science—Programming and Software Development**
- **Robotics—Advanced Manufacturing and Machinery Mechanics**

COURSES



LEVEL 1

Principles of Applied Engineering M #8703

LEVEL 2

Manufacturing Engineering Technology M #8722

LEVEL 3

Engineering Design and Presentation I M #8708

LEVEL 4

Engineering Design and Presentation II (2CR) M #8732

OR

*Practicum in STEM - Engineering Science M (2CR) #8716

*Only for students who completed Principles of Applied Engineering in middle school

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU) - Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/ Technician, General	CAD/CADD Drafting and/or Design Technology/ Technician	Mechanical Engineering
Certified Engineering Technician - Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/ Analyst		Construction Engineering Technology/ Technician	

Additional industry based certification information is available from the TEA CTE website.

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OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Aerospace Engineers	\$110,843	481	9%
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WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Participate in competitions like Skills USA

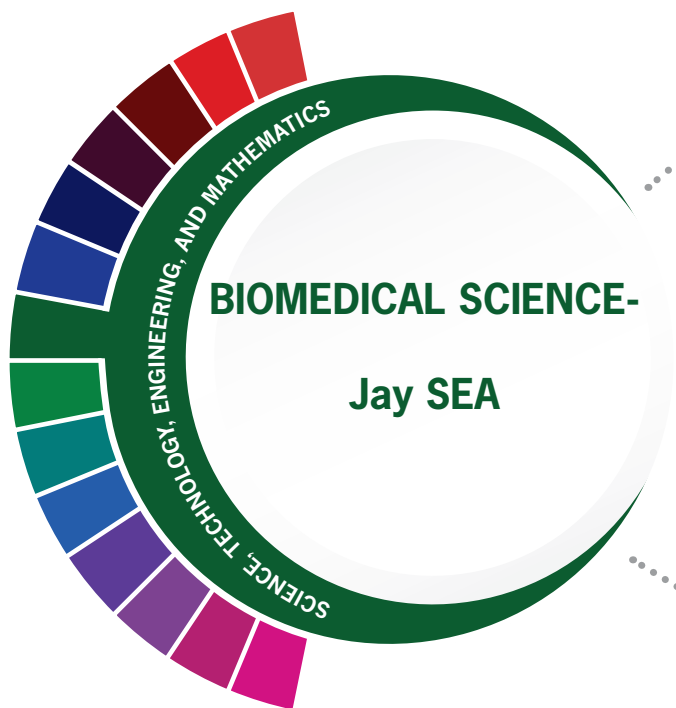
Career Preparation Activities:
Engineering internship
Job shadow a machinist

The Engineering program of study focuses on the design, development, and use of engines, machines, and structures. Students will learn how to apply science, mathematical methods, and empirical evidence to the innovation, design, construction, operation, and maintenance of different manufacturing systems.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster® focuses on planning, managing, and providing scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Engineering program of study will fulfill requirements of the **Business and Industry or STEM endorsement if the math and science requirements are met.** Revised - July 2020



COURSES

Principles of Biosciences M #8717

LEVEL 1

Biotechnology I M #8719
Biotechnology I D #8739

LEVEL 2

Biotechnology II M #8720 Medical

LEVEL 3

Microbiology M #8337

LEVEL 4

Practicum in STEM - Bio Science M (2CR) #8724

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Medical Laboratory Assistant	Medical and Clinical Laboratory Technologists	Histologic Technician	Molecular Biology	Genetic Counseling
Medical Laboratory Technician			Biomedical Engineers	Medical Scientist
		Clinical Laboratory Science/ Medical Technology/ Technologist	Clinical Laboratory Science/ Medical Technology/ Technologist	Epidemiology

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Medical and Laboratory Technicians	\$37,981	1,159	28%
Biological Technicians	\$42,931	452	17%
Forensic Science Technicians	\$48,152	171	35%
Chemical Technicians	\$49,733	672	10%
Medical and Clinical Laboratory Technologists	\$58,760	1,166	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Health Occupations
Students of America (HOSA)

Work Based Learning Activities:

Lab internship or
shadow a healthcare or
medical professional

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options
for this program of study, visit TXCTE.org.

The Biomedical Science program of study focuses on the study of biology and medicine in order to introduce students to the knowledge and skills necessary to be successful in the healthcare field, such as researching and diagnosing diseases, pre-existing conditions, or other determinants of health.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Biomedical Science program of study will fulfill requirements of the **Public Service or STEM endorsement** if the math and science requirements are met. Revised - July 2020



COURSES

Principles of Applied Engineering M #8703

LEVEL 1

Manufacturing Engineering Technology I M #8722

LEVEL 2

Robotics I M #8733

LEVEL 3

Robotics II M #8734

LEVEL 4

AND

Manufacturing Engineering Technology II M #8735

ROBOTICS- ADVANCED MANUFACTURING AND MACHINERY MECHANICS -

Jay SEA

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
FANUC Robot Operator 1	Engineer, Professional	Electro- mechanical Engineering/ Technology	Electrical Engineering	
Mastercam Associate Level Certification	PMMI Mechatronics: Programmable Logic Controllers 1	Robotics Technology/ Technician	Engineering, General	
NCCER Industrial Maintenance Mechanic	Certified Quality Technician	Instrumentation Technology/ Technician	Industrial Engineering	
NIMS Industrial Technology Maintenance - Maintenance Operations	Plant Maintenance Technologist	Industrial Mechanics and Maintenance Technology	Mechanical Engineering	

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Electro- Mechanical Assemblers	\$30,160	951	9%
Electro- Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Participate in SkillsUSA
and local STEM events

**Work Based Learning
Activities:**
Apprenticeship at a local
business or industry
American Welding
Society

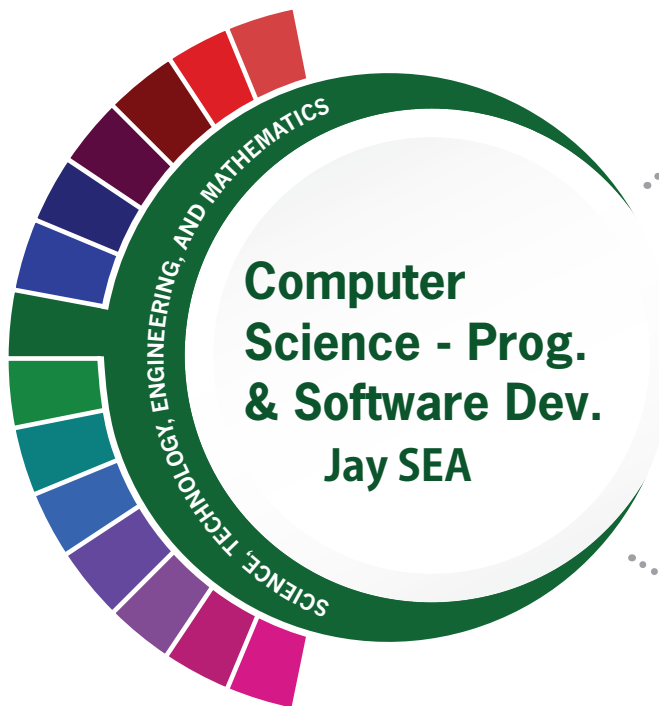
The Advanced Manufacturing and Machinery Mechanics program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. Students may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.



The Manufacturing Career Cluster® focuses on planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.

Successful completion of the Advanced Manufacturing and Machinery program of study will fulfill requirements of the **Business and Industry or STEM endorsement if the math and science requirements are met.** Revised - July 2020





COURSES

LEVEL 1

AP Computer Science Principles #7104
OR
Onramps Computer Science #7320

LEVEL 2

Advanced Computer Science I #7111

LEVEL 3

AP Computer Science A 1 M (2CR) #7215 & #5971
OR
Computer Science 2 H #7213

LEVEL 4

Computer Science 3 H/DC M #7311

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Association JAVA SE 8 Programmer	Certified Computing Professional	Computer Programming/Pro grammer General	Mangement Information Systems, General	
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer		
	AEM 6 Developer	Computer Science		
	Certified Software Analyst	Information Science/Studies		
* Includes Level I and Level II Certificates				
For more information on postsecondary options for this programs of study, visit TXCTE.org				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architect	\$111, 633	1,454	9%
Software Developer, Systems Software	\$103, 334	2985	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Join TSA
Participate in a coding club
at school.

Work Based Learning Activities:

Obtain an industry based
certification.

The programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing 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 may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the **Business and Industry and STEM endorsement if the math and science requirements are met.** Revised - July 2020



Law,
Public Safety,
Corrections
& Security



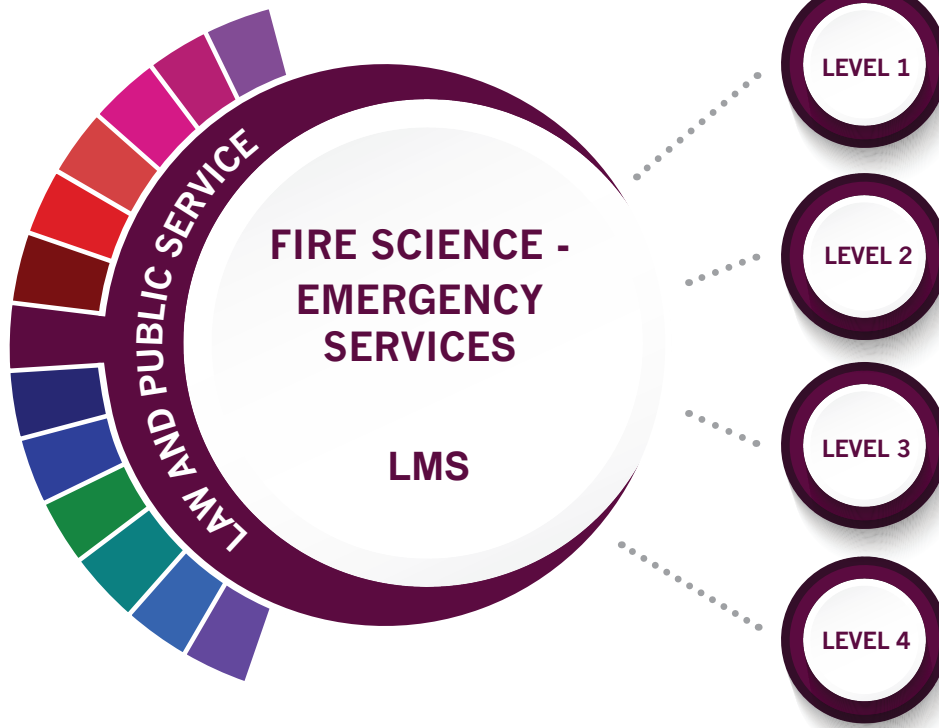
Health Science

Marshall Law & Medical Services High School

Public Services Endorsement

- **Fire Science—Emergency Services**
- **EMT—Emergency Services**
- **Behavioral Health—Emergency Services**
- **Law Enforcement**
- **Legal Studies**
- **Government & Public Administration**
- **Physical Therapy—Medical Therapy**
- **Speech Therapy—Medical Therapy**
- **Nursing Science**

COURSES



LEVEL 1
Principles of Law, Public Safety, Corrections, and Security M #8570

LEVEL 2
Disaster Response M #8592

LEVEL 3
Firefighter I M (2CR) #8560

LEVEL 4
Firefighter II M (2CR) #8561

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Emergency Medical Technician - Basic		Emergency Medical Technology/Technician (EMT Paramedic)		
Emergency Telecommunicator	Fire Protection Personnel/Firefighter	Fire Prevention and Safety Technology/Technician	Natural Resources Law Enforcement and Protective Services	
Basic Structure Fire Protection Certification	Fire Protection System Contractor	Fire Science/Fire-fighting		
	Fire Inspector			

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Firefighters	\$50,149	2,309	13%
Fire Inspectors and Investigators	\$54,787	161	14%
Emergency Medical Technicians	\$34,091	1,880	31%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Attend local emergency awareness events; Texas Public Service Association

Work Based Learning Activities:

Volunteer at a hospital or a fire station

The Emergency Services program of study focuses on training students to respond to emergency situations, namely medical emergencies and fire-based emergencies. Students may learn how to prevent emergencies, respond appropriately and in accordance with rules and regulations during crises, and investigate and delineate the source of the emergency.

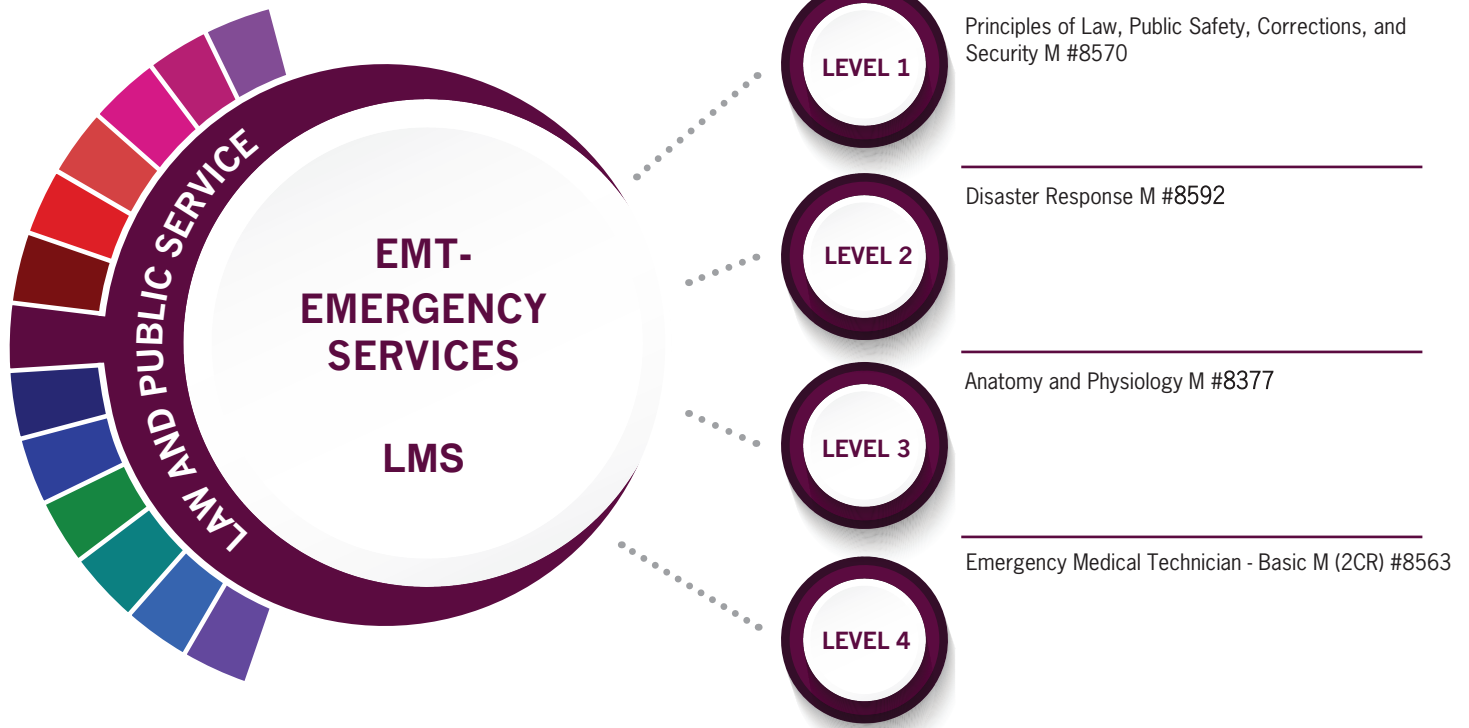


The Law and Public Service Career Cluster® focuses on planning, managing, and providing legal services, public safety, protective services, and homeland security, including professional and technical support services. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

Successful completion of the Emergency Services program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Emergency Medical Technician - Basic		Emergency Medical Technology/Technician (EMT Paramedic)		
Emergency Telecommunicator	Fire Protection Personnel/ Firefighter	Fire Prevention and Safety Technology/ Technician	Natural Resources Law Enforcement and Protective Services	
Basic Structure Fire Protection Certification	Fire Protection System Contractor	Fire Science/ Fire-fighting		
	Fire Inspector			

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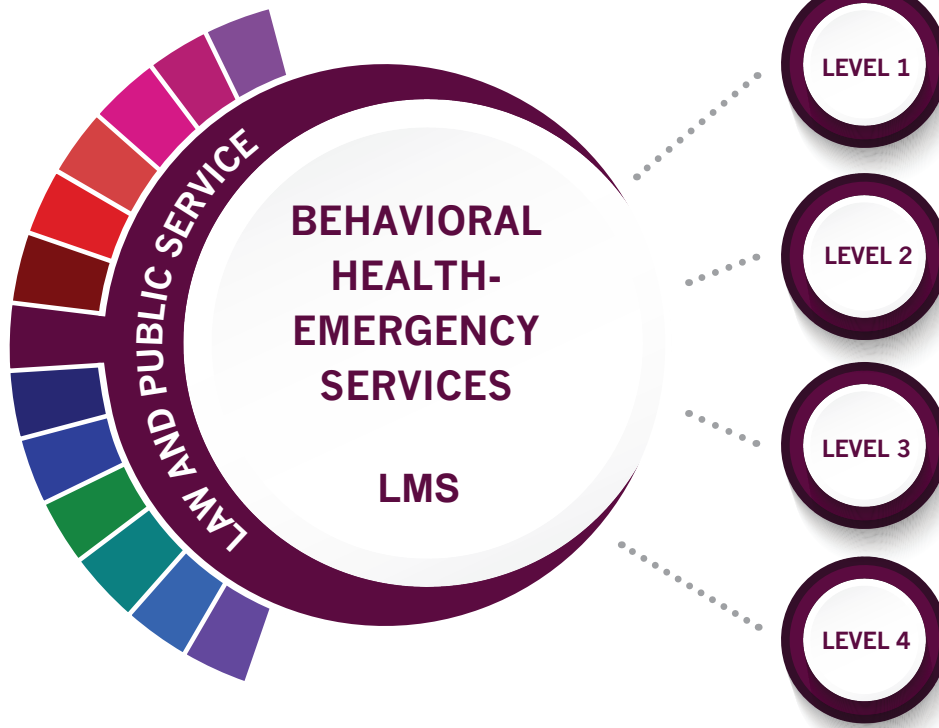


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Approved Statewide Program of Study - September 2019



COURSES



Principles of Law, Public Safety, Corrections, and Security M #8570

Disaster Response M #8592

Counseling & Mental Health M #8537

Practicum in Law, Public Safety, Corrections and Security M (2CR) #8577

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Emergency Medical Technician - Basic		Emergency Medical Technology/Technician (EMT Paramedic)		
Emergency Telecommunicator	Fire Protection Personnel/ Firefighter	Fire Prevention and Safety Technology/ Technician	Natural Resources Law Enforcement and Protective Services	
Basic Structure Fire Protection Certification	Fire Protection System Contractor	Fire Science/ Fire-fighting		
	Fire Inspector			

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Successful completion of the Emergency Services program of study will fulfill requirements of the **Public Service Endorsement**. Approved Statewide Program of Study - September 2019



COURSES



LEVEL 1

Principles of Law, Public Safety, Corrections, and Security M #8570

LEVEL 2

Law Enforcement I M #8573

LEVEL 3

Law Enforcement II M (Sem 1) #8574

AND

Criminal Investigations M (Sem 2) #8576

LEVEL 4

Practicum in Law, Public Safety, Corrections and Security M (2CR) #8577

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Non-Commissioned Security Officer Level II	Law Enforcement Officer	Criminal Justice/Safety Studies/Law Enforcement Administration		
	Private Investigator/ Security Guard	Criminal Justice/ Police Science		
	Code Enforcement Officer	Corrections	Juvenile Corrections	
	Certified Law Enforcement Planner	Criminalistics and Criminal Science	Cyber/ Computer Forensics and Counterterrorism	Natural Resources Law Enforcement and Protective Services

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
Probation Officers and Correctional Treatment Officers	\$44,054	793	9%
Correctional Officers and Jailers	\$40,186	4,683	9%
Immigration and Customs Inspectors	\$78,104	1,236	9%
First-Line Supervisors of Police and Detectives	\$91,312	253	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Texas Public Service
Association;
criminal justice clubs

**Work Based Learning
Activities:**
Attend court hearings and
other legal procedures.

The Law Enforcement program of study teaches students about the development of, adherence to, and protection of various branches of law. Students may learn how to appropriately and legally respond to breaches in the law according to statutory rules and regulations as well as investigate how and why the breaches occurred.



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. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

Successful completion of the Law Enforcement, Investigations, Security, and Corrections program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



LEVEL 1

Principles of Law, Public Safety, Corrections, and Security M #8570

LEVEL 2

Court Systems & Practices M #8572
Court Systems & Practices D #8558

LEVEL 3

Legal Research and Writing M (Sem 1) #8575
AND
Criminal Investigations M (Sem 2) #8576 (Elective only)

LEVEL 4

Practicum in Law, Public Safety, Corrections and Security M (2CR) #8577

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Non-Commissioned Security Officer Level II	Law Enforcement Officer	Criminal Justice/Safety Studies/Law Enforcement Administration		
	Private Investigator/ Security Guard	Criminal Justice/ Police Science		
	Code Enforcement Officer	Corrections	Juvenile Corrections	
	Certified Law Enforcement Planner	Criminalistics and Criminal Science	Cyber/ Computer Forensics and Counterterrorism	Natural Resources Law Enforcement and Protective Services
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Police and Sheriff's Patrol Officers	\$60,112	5,241	13%
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Texas Public Service Association;
criminal justice clubs

Work Based Learning Activities:
Attend court hearings and other legal procedures.

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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. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

Successful completion of the Law Enforcement, Investigations, Security, and Corrections program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019



COURSES



LEVEL 1

Principles of Government & Public Administration #8580

LEVEL 2

Political Science I M #8581

LEVEL 3

Political Science II M #8582

AND

Dimensions of Diplomacy M #8588

- OR -

Planning and Governance M #8583

AND

Public Management and Administration M #8584

LEVEL 4

Practicum in Local, State, and Federal Government M (2CR) #8587

POSTSECONDARY OPTIONS

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
	Accountant, Certified Public	Accounting and Business/Management	Accounting and Finance	Accounting
	Tax Professional/ Appraiser/ Assessor- Collector	Financial Mathematics		Taxation
	Real Estate Broker/Sales Agent	Finance, General		
	Real Estate Inspector	Real Estate		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Tax Examiners and Collectors, Revenue Agents	\$47,445	307	9%
Financial Examiners	\$76,731	412	27%
Appraisers and Assessors of Real Estate	\$54,496	529	21%
Financial Analysts	\$79,414	2,798	24%
Financial Specialists	\$67,995	997	17%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Attend local council and board meetings; Texas Public Service Association

Work Based Learning Activities:

Intern with a legislator or city official; develop and present a solution for an identified problem

The Government and Public Administration program of study explores the occupations and educational opportunities associated with examining, evaluating, and investigating conformity with laws and regulations. This program of study may also explore the opportunities related to developing comprehensive plans and programs for use of land and physical facilities of jurisdictions, such as towns, cities, counties, and metropolitan areas.



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. Students will examine the roles and responsibilities of police, courts, corrections, private security, and protective agencies of fire and emergency services.

Successful completion of the Government and Public Administration program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019





COURSES

Principles of Health Science M #8533

LEVEL 1

Health Science Theory/Physical Therapy M #8349

LEVEL 2

Practicum in Health Science - Physical Therapy M (2CR) #8364

LEVEL 3

Practicum in Health Science - Physical Therapy M (2CR) #8397

LEVEL 4

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certification in Orthopedic Manual Therapy	Certified Respiratory Therapist	Occupational Therapy Assistant	Respiratory Therapists	Occupational Therapists
Limited Licensed Radiology Technologist	Certified Physical Therapy Assistant	Radiation Therapists		Speech Language Pathologist
		Respiratory Therapists		Physical Therapists
		Physical Therapy Assistant		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options
for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Speech Language Pathologists	\$73,070	1,068	25%
Respiratory Therapists	\$57,429	17,493	20%
Occupational Therapists	\$92,227	84	34%
Physical Therapy Assistants	\$70,200	1,268	44%
Radiation Therapists	\$70,658	101	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Health Occupation
Students of America
(HOSA)

Work Based Learning Activities:

Lab internship
Job shadow
Clinical rotations

The Medical Therapist program of study focuses on the study of biology and medicine in order to introduce students to the knowledge and skills necessary to be successful in the healthcare field in occupations such as, Respiratory, Occupational, Physical, or Speech Therapist. Students may also practice patient care and communication.



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

Successful completion of the Medical Therapist program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019





COURSES

Principles of Health Science M #8533

LEVEL 1

Introduction to Speech Pathology and Audiology M #8411

LEVEL 2

Speech and Language Development M (Sem 1) #8412
AND

LEVEL 3

Speech Communication Disorder M (Sem 2) #8413

LEVEL 4

Practicum in Health Science - Speech Therapy M (2CR) #8414

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certification in Orthopedic Manual Therapy	Certified Respiratory Therapist	Occupational Therapy Assistant	Respiratory Therapists	Occupational Therapists
Limited Licensed Radiology Technologist	Certified Physical Therapy Assistant	Radiation Therapists		Speech Language Pathologist
		Respiratory Therapists		Physical Therapists
		Physical Therapy Assistant		

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options
for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Speech Language Pathologists	\$73,070	1,068	25%
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WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupation
Students of America
(HOSA)

**Work Based Learning
Activities:**
Lab internship
Job shadow
Clinical rotations

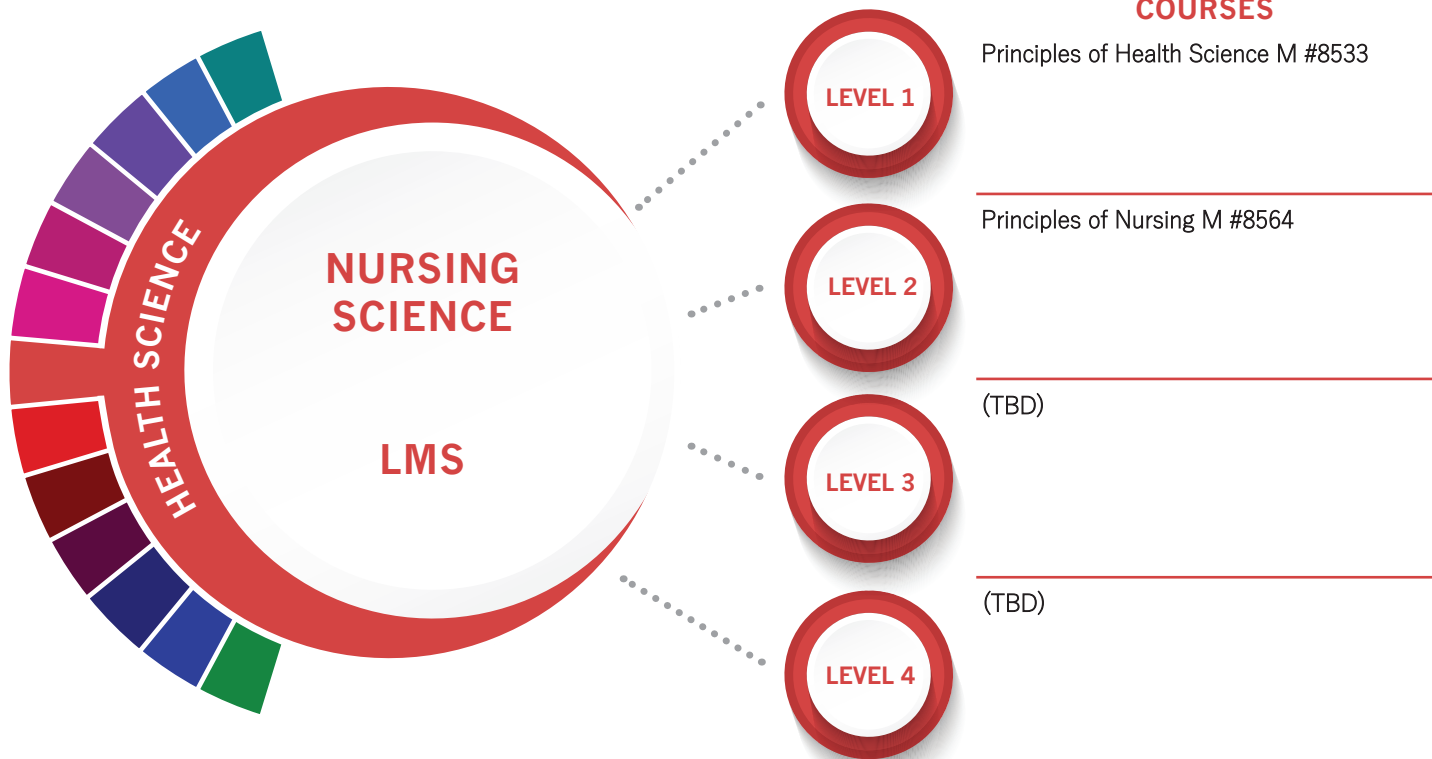
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Successful completion of the Medical Therapist program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019





POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Medical Assistant	Licensed Vocational Nurse	Registered Nursing/ Registered Nurse	Informatics Nurse Specialists	Nurse Practitioner
Certified Nurse Aide/Assistant				Nursing Administration
Certified Patient Care Technician				Nurse Anesthetist

Additional industry based certification information is available from the TEA CTE website.

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Licensed Vocational Nurses	\$45,178	7,186	21%
Registered Nurses	\$68,682	17,493	26%
Nurse Practitioners	\$107,827	977	50%
Informatics Nurse Specialists	\$88,270	4,610	15%
Nurse Anesthetists	\$154,856	357	23%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupation Students of America (HOSA)

Work Based Learning Activities:
Volunteer at a community wellness center, hospital, assisted living center, or nursing home.

The Nursing Program of Study introduces students to knowledge and skills related to patient care. CTE concentrators may learn about or practice caring for patients, routine procedures such as monitoring vital signs, development and implementation of care plans, maintenance of medical records, and disease or pain management. Students may focus on the healthcare system and research system designs and make recommended modifications.



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

Successful completion of the Nursing program of study will fulfill requirements of the **Public Service Endorsement**.
Approved Statewide Program of Study - September 2019





Information
Technology



Marketing



Business
Management &
Administration

NSITE-Northside School of Innovation Technology and Entrepreneurship

Business & Industry Endorsement

- **Entrepreneurship**
- **Cybersecurity**
- **Programming and Software Development**



COURSES

LEVEL 1

Principles of Business, Marketing, and Finance M #8203

AND

Principles of Information Technology M #8502 (Elective only)

LEVEL 2

Social Media Marketing M (.5CR) #8224 (Elective only)

AND

Virtual Business M (.5CR) M #8225 (Elective only)

LEVEL 3

Entrepreneurship I M #8653

LEVEL 4

Practicum in Entrepreneurship (TBD) - VEI M (2CR) #8658

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Office Expert - Excel	Certified Facility Manager	Business Administration and Management		
Microsoft Office Expert - Word	Certified Management Accountant	Business/ Commerce		
Entrepreneurship and Small Business	Certified Project Consultant	Public Administration		
	Accredited Management Consultant	Business Management	Management Science	
Additional industry based certification information is available from the TEA CTE website.				
For more information on postsecondary options for this program of study, visit TXCTE.org.				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
General and Operations Managers	\$107,640	18,679	20%
Management Analysts	\$87,651	4,706	32%
Managers, All Others	\$113,110	1,794	26%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Business Professionals of
America (BPA), Future
Business Leaders of
America (FBLA), and
DECA

**Work Based Learning
Activities:**
Internship with local
management consulting
firm

The Entrepreneurship program of study teaches CTE concentrators how to plan, direct, and coordinate the management and operations of public or private sector organizations. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, analyze management structures, and plan for the use of materials and human resources.



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.

Successful completion of the Entrepreneurship program of study will fulfill requirements of the **Business and Industry Endorsement**.
Approved Statewide Program of Study - September 2019





COURSES

Principles of Business Marketing and Finance M
(Elective only) #8203

AND

Principles of Information Technology M #8502

Internetworking Technologies I M #8544

Internetworking Technologies II M #8548

Practicum in Information Technology Cyber - VEI M
(2CR) #8549

LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Associate Java SE 8	GIAC Reverse Engineering Malware	System Networking, and LAN/WAN Management	Computer Systems Networking and Telecommunications	Computer Systems Analysis/Analyst
Oracle Certified Database Associate	Certified Advanced Windows Forensic Examiner	Information Technology	Computer Systems Networking and Telecommunications	Information Technology
Cisco Certified Entry Networking Technician (CCENT)	SAP Certified Technology Professional System Security Architect	Computer and Information Sciences, General		
Associate of (ISC)2	Cisco Certified Network Professional Security Certification	Computer Science		

Additional industry based certification information is available from the TEA CTE Website

For more information on postsecondary options for this program of study, visit TXCTE.org.

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Information Security Analysts	\$91,915	814	29%
Network and Computer System Administrators	\$82,597	2,814	19%
Computer Systems Analyst	\$87,568	5,937	29%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Join TSA
Job shadow a computer system analyst or information security analyst.

Work Based Learning Activities:

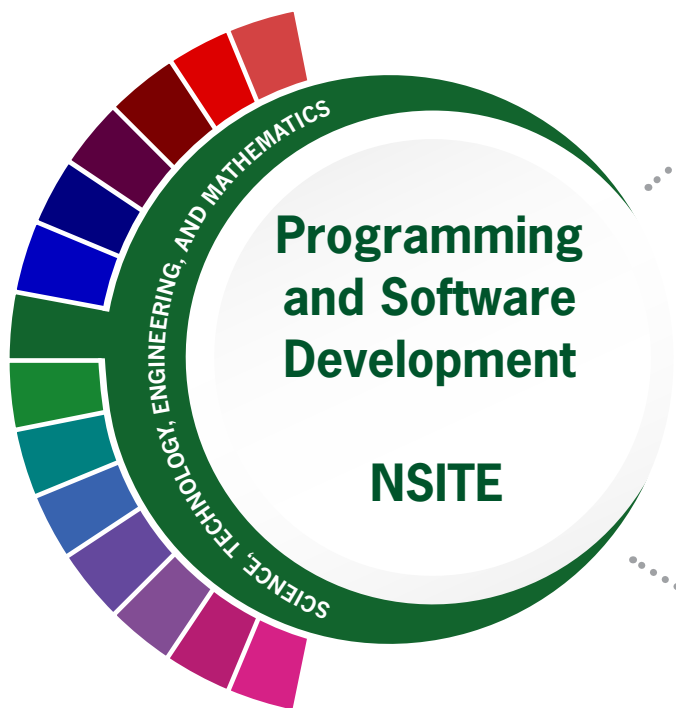
Obtain an industry based certification.

The Cybersecurity program of study includes the occupations and educational opportunities related to planning, implementing, upgrading, or monitoring security measure for the protection of computer networks and information. This program of study may also include exploration into responding to computer security breaches and virus and administering network security measures.



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Cybersecurity program of study will fulfill requirements of the **Business and Industry or STEM endorsement if the math and science requirements are met.** Revised - July 2020



COURSES

LEVEL 1

Principles of Business Marketing and Finance M (Elective only) #8203

AND

Principles of Information Technology M #8502

AP Computer Science Principles M #7104

LEVEL 2

Mobile App Dev M #8590

LEVEL 3

Practicum in Information Technology Programming - VEI M (2CR) #8510

LEVEL 4

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Oracle Certified Association JAVA SE 8 Programmer	Certified Computing Professional	Computer Programming/Pro grammer General	Mangement Information Systems, General	
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer		
	AEM 6 Developer	Computer Science		
	Certified Software Analyst	Information Science/Studies		
* Includes Level I and Level II Certificates				
For more information on postsecondary options for this programs of study, visit TXCTE.org				

OCCUPATIONS	MEDIAN WAGE	ANNUAL OPENINGS	% GROWTH
Computer Network Architect	\$111, 633	1,454	9%
Software Developer, Systems Software	\$103, 334	2985	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:

Join TSA
Participate in a coding club at school.

Work Based Learning Activities:

Obtain an industry based certification.

The programming and Software Development program of study explores the occupations and education opportunities associated with researching, designing, developing, and testing 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 may also include exploration into creating, modifying, and testing the codes, forms, and script that allow computer applications to run



The Science, Technology, Engineering, and Mathematics (STEM) Career Cluster focuses on planning, managing, and providing, scientific research and professional and technical services, including laboratory and testing services, and research and development services.

Successful completion of the Programming and Software Development program of study will fulfill requirements of the **Business and Industry and STEM endorsement if the math and science requirements are met.** Revised - July 2020