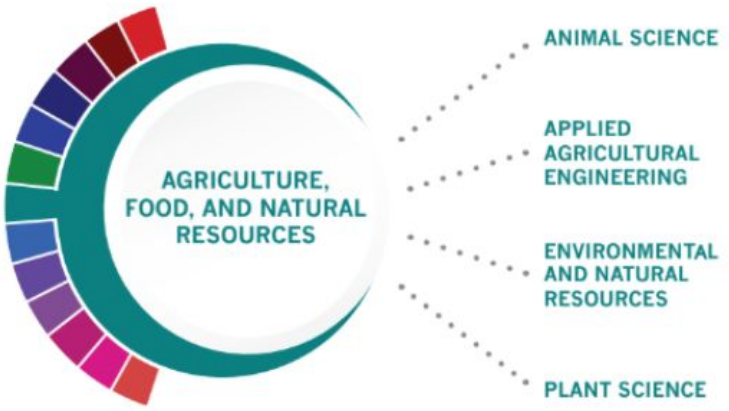
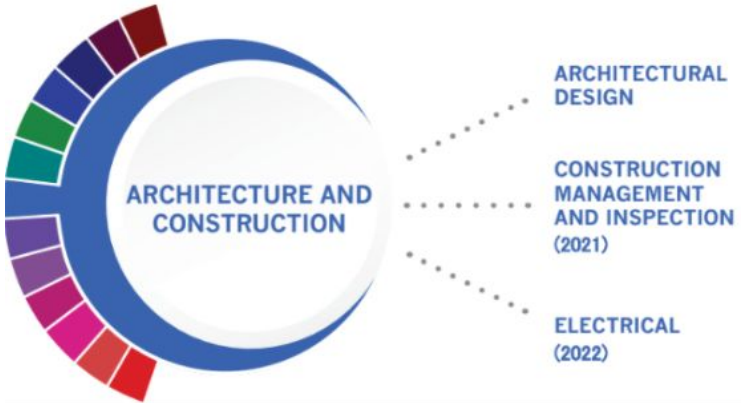
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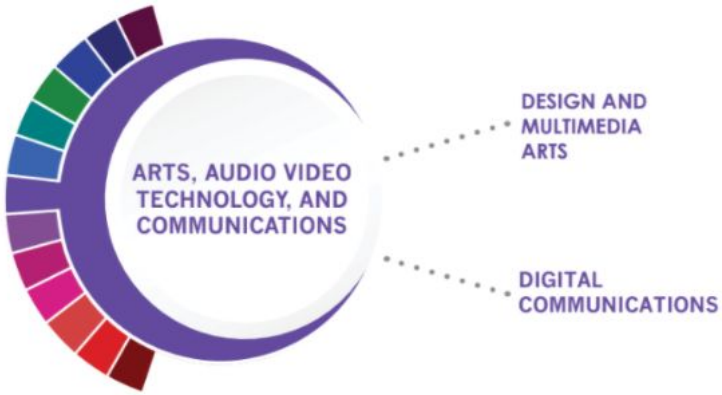
Career and Technical Education Career Clusters and Programs of Study

Click on the specific program of study to the right of the career cluster for more information

Click on the rainbow arch to come back to the main page

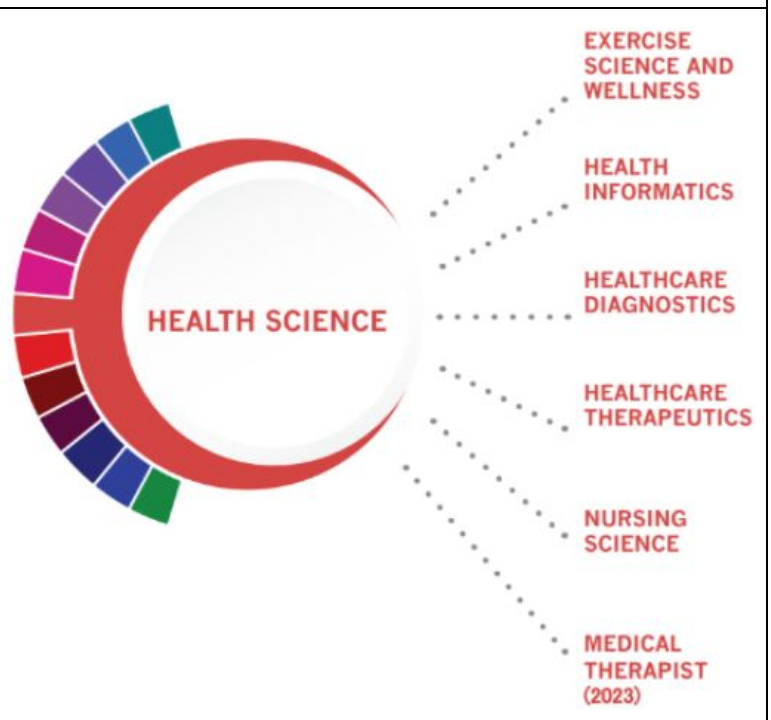


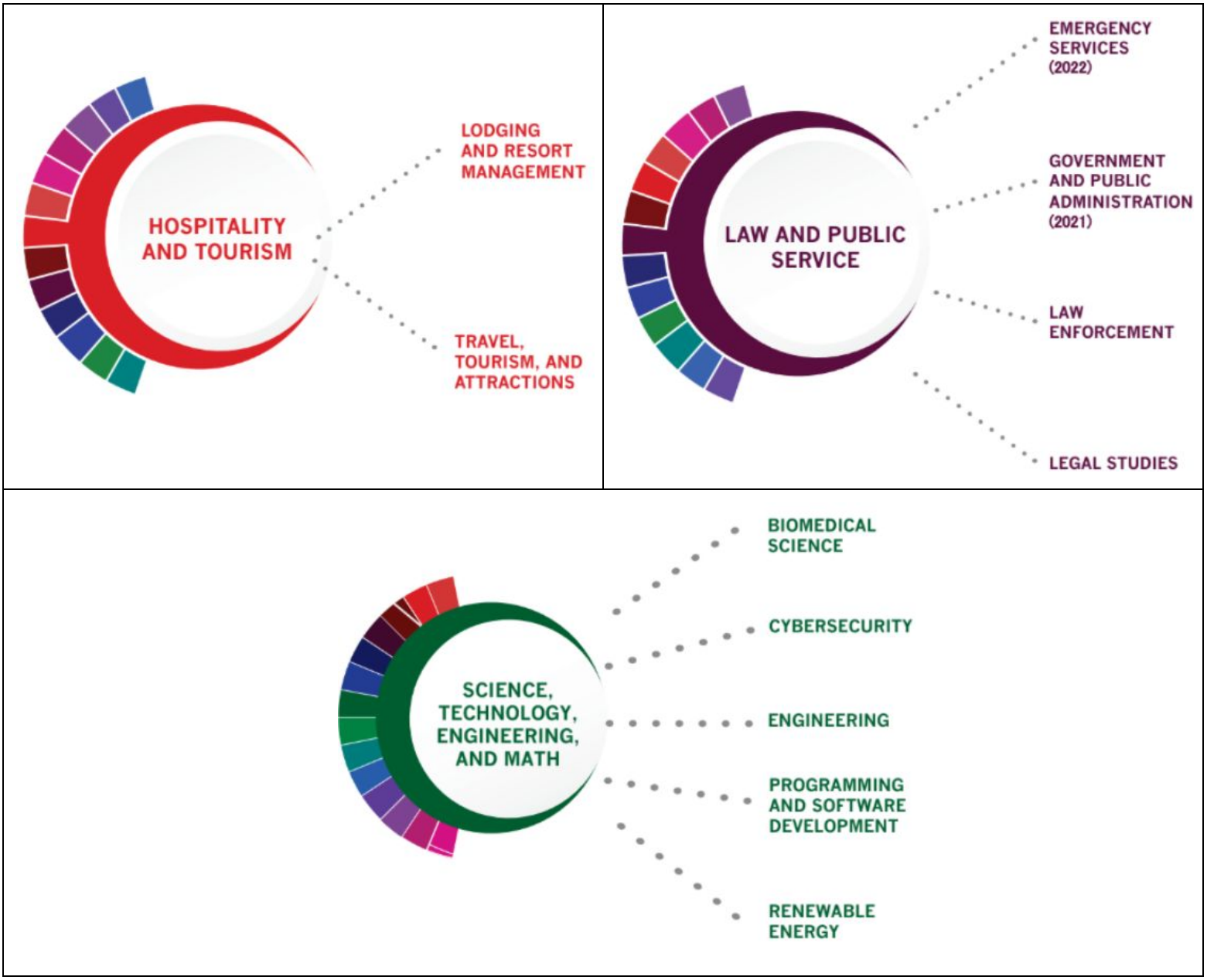


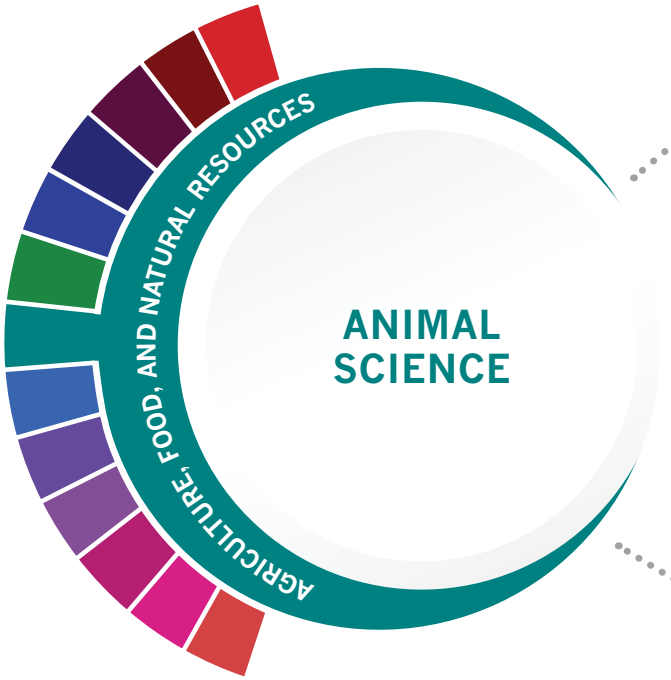









HOSPITALITY AND TOURISM
LODGING AND RESORT MANAGEMENT
TRAVEL, TOURISM, AND ATTRACTIONS
LAW AND PUBLIC SERVICE
EMERGENCY SERVICES (2022)
GOVERNMENT AND PUBLIC ADMINISTRATION (2021)
LAW ENFORCEMENT
LEGAL STUDIES
SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH
BIOMEDICAL SCIENCE
CYBERSECURITY
ENGINEERING
PROGRAMMING AND SOFTWARE DEVELOPMENT
RENEWABLE ENERGY



COURSES

LEVEL 1

Principles of Agriculture, Food, and Natural Resources / PATH

LEVEL 2

Small Animal Management
Equine Science

LEVEL 3

Livestock Production

LEVEL 4

Advanced Animal Science
Veterinary Medical Applications
Practicum in Agriculture, Food, and Natural Resources
Scientific Research and Design (S.T.E.M.) Honors

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 the Business and Industry Endorsement.
Approved Statewide Program of Study - September 2019

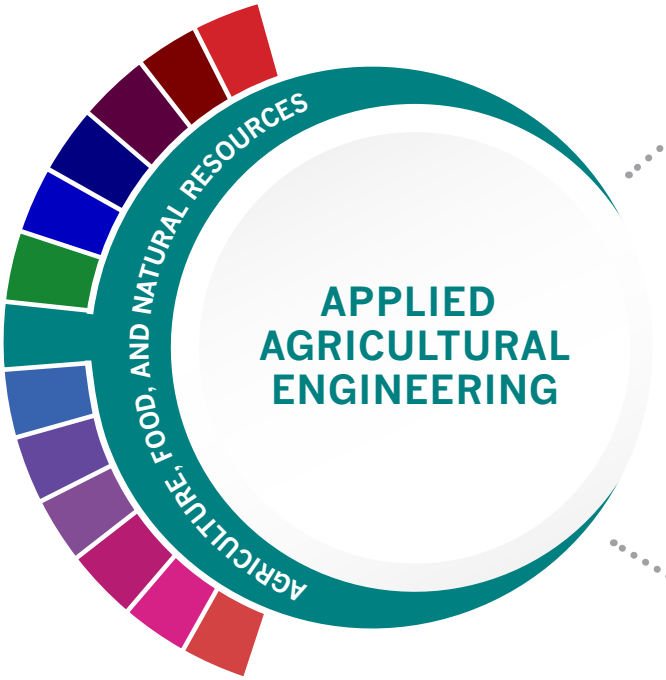
TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PRE REQS CO REQS	GRADE
Principles of Agriculture, Food, and Natural Resources / PATH	13000200 (1 credit) N1290051 (1credit)	None	9
Small Animal Management	13000400 (0.5 credit)	Recommended PREQ: Principles of Ag, Food, and Nat Resources	10-12
Equine Science	13000500 (0.5 credit)	Recommended PREQ: Principles of Ag, Food, and Nat Resources	10-12
Livestock Production	13000300 (1 credit)	PREQ: Small Animal Management & Equine Science	11-12
Advanced Animal Science	13000700 (1 credit)	PREQ: Biology and Chemistry or Integrated Physics and Chemistry (IPC); Algebra I and Geometry; and either Small Animal Management, Equine Science, or Livestock Production;	12
Veterinary Medical Applications	13000600 (1 credit)	PREQ:Livestock Production	12
Practicum in Agriculture, Food, and Natural Resources	13002500 (2 credits)	PPREQ:one or more advanced courses within Ag Career Cluster	12
Scientific Research and Design (S.T.E.M) Honors	13037200 (1 credit)	PPREQ: Pre-AP Biology and Chemistry	11-12

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Agriculture, Food, and Natural Resources / PATH

LEVEL 2

Agricultural Mechanics and Metal Technologies

LEVEL 3

Agricultural Structures Design and Fabrications
Agricultural Power Systems

LEVEL 4

Agricultural Equipment Design and Fabrication
Practicum in Agriculture, Food, and Natural Resources
Scientific Research and Design (S.T.E.M.) Honors

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 this program of study will fulfill requirements of a Business and Industry Endorsement.
Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Agriculture, Food, and Natural Resources / PATH	13000200 (1 credit) N1290051 (1credit)	None	9
Agricultural Mechanics and Metal Technologies	13002200 (1 credit)	Recommended PREQ: Principles of Ag, Food, and Nat Resources	10-12
Agricultural Structures Design and Fabrications	13002300 (1 credit)	PREQ: Agricultural Mechanics and Metal Technologies	11-12
Agricultural Power Systems	13002400 (2 credits)	PREQ: Agricultural Mechanics and Metal Technologies	11-12
Agricultural Equipment Design and Fabrication	13002350 (1 credit)	PREQ: Agricultural Mechanics and Metal Technologies	11-12
Practicum in Agriculture, Food, and Natural Resources	13002500 (2 credits)	PPREQ:one or more advanced courses within Ag Career Cluster	12
Scientific Research and Design (S.T.E.M.) Honors	13037200 (1 credit)	PREQ: Pre-AP Biology and Chemistry	11-12

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER, PLEASE CONTACT:



COURSES

LEVEL 1

Principles of Agriculture, Food, and Natural Resources / PATH

LEVEL 2

Wildlife, Fisheries, and Ecology Management

LEVEL 3

Energy and Natural Resources Technology

LEVEL 4

Advanced Energy and Natural Resource/Lab
Practicum in Agriculture, Food, and Natural Resources
Scientific Research and Design (S.T.E.M.) Honors

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.

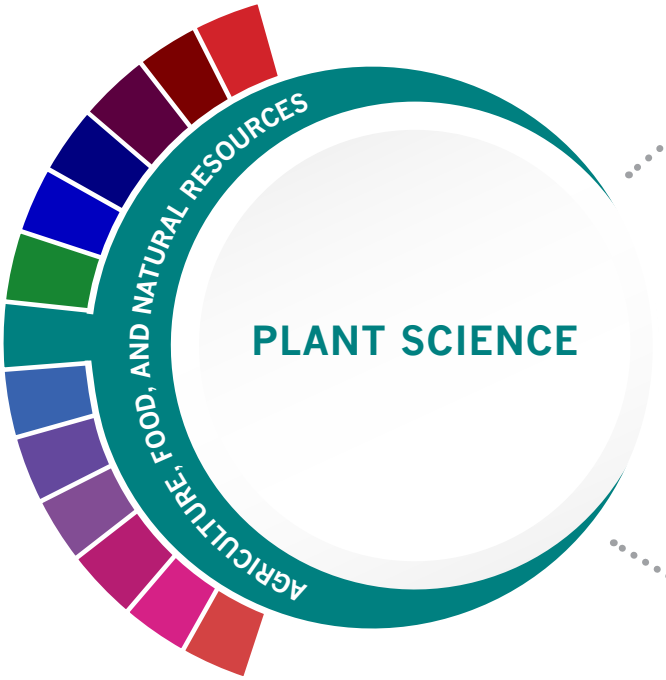
Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Agriculture, Food, and Natural Resources / PATH	13000200 (1 credit) N1290051 (1credit)	None	9
Wildlife, Fisheries, and Ecology Management	13001500 (1 credit)	Recommended PREQ: Principles of Ag, Food, and Nat Resources	10-12
Energy and Natural Resources Technology	13001100 (1 credit)	PREQ: Wildlife, Fisheries, and Ecology Management	11-12
Advanced Energy and Natural Resources	13001200 (1 credit)	PREQ: Energy and Natural Resources Technology	12
Practicum in Agriculture, Food, and Natural Resources	13002500 (2 credits)	PPREQ:one or more advanced courses within Ag Career Cluster	12
Scientific Research and Design (S.T.E.M.) Honors	13037200 (1 credit)	PREQ: Pre-AP Biology and Chemistry	11-12

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER, PLEASE CONTACT:



COURSES

LEVEL 1
Principles of Agriculture, Food, and Natural Resources / PATH

LEVEL 2
Greenhouse Operation and Production

LEVEL 3
Horticultural Science

LEVEL 4
Practicum in Agriculture, Food, and Natural Resources
Scientific Research and Design (S.T.E.M.) Honors

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.

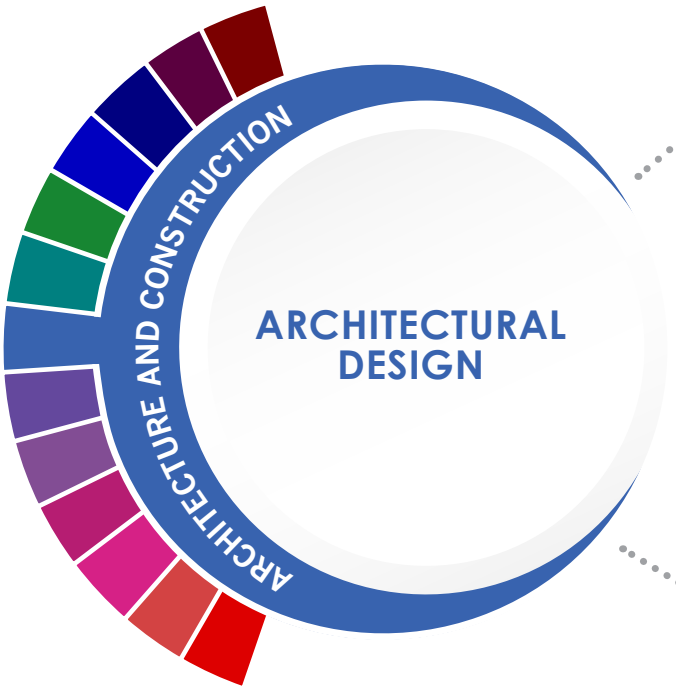
Successful completion of the Plant Science program of study will fulfill requirements of a Business and Industry Endorsement.
Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Agriculture, Food, and Natural Resources / PATH	13000200 (1 credit) N1290051 (1credit)	None	9
Greenhouse Operation and Production	13002050 (1 credit)	Recommended PREQ: Principles of Ag, Food, and Nat Resources	10-12
Horticultural Science	13002000 (1 credit)	PREQ: Greenhouse Operation and Production	11-12
Scientific Research and Design (S.T.E.M.) Honors	13037200 (1 credit)	PREQ: Pre-AP Biology and Chemistry	11-12
Practicum in Agriculture, Food, and Natural Resources	13002500 (2 credits)	PPREQ:one or more advanced courses within Ag Career Cluster	12

FOR ADDITIONAL INFORMATION ON THE AGRICULTURE, FOOD, AND NATURAL RESOURCES CAREER CLUSTER, PLEASE CONTACT:



COURSES

LEVEL 1

Principles of Architecture

LEVEL 2

Architectural Design I
Interior Design I

LEVEL 3

Architectural Design II
Interior Design II
Civil Engineering and Architecture (PLTW)

LEVEL 4

Practicum in Architectural Design
Career Preparation I
Practicum in Interior Design

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%
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.
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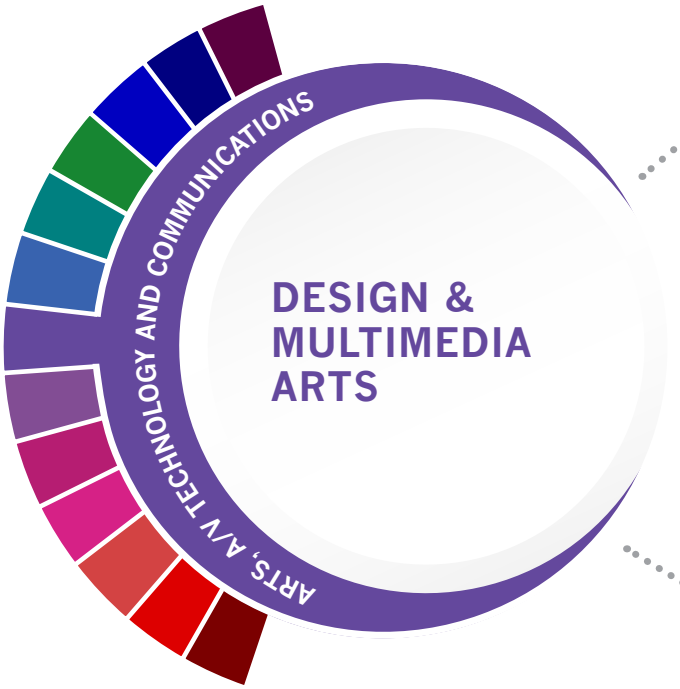
TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Architecture	13004210 (1 credit)	None	9-10
Architectural Design I	13004600 (1 credit)	PREQ: Algebra I and English I	10-12
Interior Design I	13004300 (1 credit)	PREQ: Algebra I and English I	10-12
Architectural Design II	13004700 (2 credits)	PREQ: Architectural Design I or Advanced Interior Design and Geometry	11-12
Interior Design II	13004400 (2 credits)	PREQ: English II, Geometry, and Interior Design I	11-12
Civil Engineering and Architecture (PLTW)	N1303747 (1 credit)	PREQ: Architectural Design I	11-12
Practicum in Architectural Design	13004800 (2 credits) 13004810 (2 credits)	PREQ: Architectural Design II or Civil Engineering Architecture	12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Practicum in Interior Design	TBA (2 credits)	Interior Design II	12

FOR ADDITIONAL INFORMATION ON THE ARCHITECTURE AND CONSTRUCTION CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Digital Media

LEVEL 2

Graphic Design and Illustration I
Commercial Photography I
Fashion Design I

LEVEL 3

Graphic Design and Illustration II
Commercial Photography II
Fashion Design II

LEVEL 4

Practicum in Graphic Design and Illustration
Practicum in Fashion Design
Practicum in Commercial Photography
Practicum in Entrepreneurship
Career Preparation I

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.

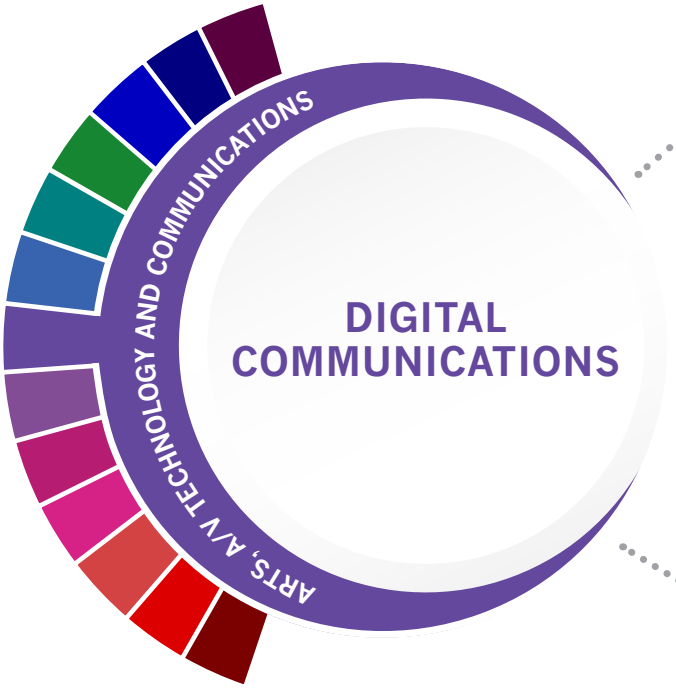
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TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Arts, A/V Technology, and Communications	13008200 (1 credit)	None	7-8
Digital Media	13027800 (1 credit)	None	7-12
Graphic Design and Illustration I	13008800 (1 credit)	PREQ: Prin Arts A/V Tech & Comm or Digital Media	9-11
Commercial Photography I	13009100 (1 credit)	PREQ: Prin Arts A/V Tech & Comm or Digital Media	9-11
Fashion Design I	13009300 (1 credit)	PREQ: Prin Arts A/V Tech & Comm or Digital Media	9-11
Graphic Design and Illustration II	13008900 (1 credit)	PREQ: Graphic Design and Illustration I	10-12
Fashion Design II	13009400 (1 credit)	PREQ: Fashion Design I	10-12
Commercial Photography II	13009200 (1 credit)	PREQ: Commercial Photography I	10-12
Practicum in Fashion Design	(2 credits)	PREQ: Fashion Design II	11-12
Practicum in Graphic Design and Illustration	13009000 (2 credits) 13009010 (2 credits)	PREQ: Graphic Design and Illustration II	11-12
Practicum in Commercial Photography	13009250 (2 credits) 13009260 (2 credits)	PREQ: Commercial Photography II	11-12
Career Preparation I	12701300 (2 credits)	None	11-12
Practicum in Entrepreneurship	(2 credits)	PREQ:one or more advanced courses within a career cluster	11-12

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



COURSES

LEVEL 1

Principles of Arts,A/V Technology, and Communications

LEVEL 2

Audio/Video Production I
Digital Audio Technology - OnRamps AET

LEVEL 3

Audio Video Production II (Television)
Audio Video Production II w/Lab (Broadcast)

LEVEL 4

Practicum of Audio/Video Production
Practicum of Entrepreneurship

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

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Arts,A/V Technology, and Communications	13008200 (1 credit)	None	7-8
Audio/Video Production I	13008500 (1 credit)	None	8-10
Digital Audio Technology I - OnRamps AET	13009950 (1 credit)	None	10-12
Audio Video Production II (Television)	13008600 (1 credit)	PREQ: Audio/Video Production I	9-12
Audio Video Production II w/Lab (Broadcasting)	TBA (2 credits)	PREQ: Audio/Video Production I	9-12
Practicum of Audio/Video Production Honors	13008700 (2 credits) 13008710 (2 credits)	PREQ: Audio/Video Production II	11-12
Practicum of Entrepreneurship	(2 credits)	PREQ:one or more advanced courses within a career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Business, Marketing, and Finance
Money Matters
Business Information Management I / PATH

LEVEL 2

Accounting I
Financial Mathematics

LEVEL 3

Accounting II
Financial Analysis

LEVEL 4

Securities and Investments
Practicum in Business Management
Practicum in Entrepreneurship
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
QuickBooks Certified User	Certified Management Accountant	Real Estate	Accounting	Financial Accounting
Microsoft Office Specialist or Expert - Excel	Certified Internal Auditor	Financial, General		Business Administration
Certified Insurance Service Representative	Certified Income Specialist	Financial Planning and Services		Financial Planning
	Certified Public Accountant	Certified Income Specialist		

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
Accountants and Auditors	$71,469	14,436	22%
Loan Officers	$68,598	2,419	19%
Personal Financial Advisors	$86,965	1,861	52%
Administrative Service Managers	$96,138	2,277	21%
Insurance Underwriters	$66,206	594	14%

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 accounting firm; Microsoft Office Specialist (MOS) certifications

The Accounting and Financial Services program of study teaches CTE concentrators how to examine, analyze, and interpret financial records. Through this program of study, students will learn the skills necessary to perform financial services, prepare financial statements, interpret accounting records, give advice, or audit and evaluate statements prepared by others. This program of study will also introduce students to mathematical modeling tools.

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 Accounting & Financial Services program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-10
Money Matters	13016200 (1 credit)	None	9-10
Business Information Management I / PATH	13011400 (1 credit) N1290051 (1 credit)	None	9
Accounting I	13016600 (1 credit)	PREQ: BIM, Money Matters, or Prin of Bus, Mkt & Finance	10-12
Financial Mathematics	13018000 (1 credit)	PREQ: Algebra I	10-12
Accounting II	13016700 (1 credit)	PREQ: Accounting I	11-12
Financial Analysis	13016800 (1 credit)	PREQ: Accounting I	11-12
Securities and Investments	13016400 (1 credit)	PREQ: Financial Analysis or Accounting II	12
Practicum in Business Management	13012200 (2 credits)	PREQ: Accounting II or Financial Analysis	12
Practicum in Entrepreneurship	(2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

FOR ADDITIONAL INFORMATION ON THE BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER, PLEASE CONTACT:



COURSES

LEVEL 1

Principles of Business, Marketing, and Finance
Business Information Management I / PATH

LEVEL 2

Business Law
Virtual Business

LEVEL 3

Business Management
Global Business
Human Resources Management

LEVEL 4

Statistics and Business Decision Making
Practicum in Business Management
Practicum in Entrepreneurship
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Office Specialist or Expert - Excel	Certified Records Manager	Business Administration		
Microsoft Office Specialist or Expert - Word	Certified Facility Manager	Business/ Commerce		Business Management
Google Cloud Certified Professional - G-Suite	Certified Commercial Contracts Manager	Public Administration		
Certified Associate in Project Management	Teradata 14 Basics/ Certified Technical Specialist	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
Administrative Service Managers	$96,138	2,277	21%
Management Analysts	$87,651	4,706	32%
General and Operations Managers	$107,640	18,679	20%
Operations Research Analysts	$78,083	1,128	38%
Supervisors of Administrative Support Workers	$57,616	14,982	20%

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 business or chamber of commerce;

The Business Management program of study teaches CTE concentrators how to plan, direct, and coordinate the administrative services and operations of an organization. Through this program of study, students will learn the skills necessary to formulate policies, manage daily operations, and allocate the use of materials and human resources. This program of study will also introduce students to mathematical modeling tools and organizational evaluation methods.

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 Business Management program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-10
Business Information Management I / PATH	13011400 (1 credit) N1290051 (1credit)	None	9
Virtual Business	13012000 (.5 credit)	PREQ: Bus Info Mgmt I, or Princ Bus Mkt & Finance	10-12
Business Law	13011700 (1 credit)	PREQ: Bus Info Mgmt I, or Princ Bus Mkt & Finance	11-12
Business Management	13012100 (1 credit)	PREQ: Bus Info Mgmt I, or Princ Bus Mkt & Finance	10-12
Global Business	13011800 (.5 credit)	PREQ: Bus Info Mgmt I, or Princ Bus Mkt & Finance	10-12
Human Resource Management	13011900 (.5 credit)	PREQ: Bus Info Mgmt I, or Princ Bus Mkt & Finance	10-12
Statistics and Business Decision Making	13016900 (1 credit)	PREQ: Algebra II	11-12
Practicum in Business Management	13012200 (2 credits) 13012210 (2 credits)	PREQ: Bus Mgmt, or Virtual Bus, Global Bus, and HR Mgmt	11-12
Practicum in Entrepreneurship	(2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

FOR ADDITIONAL INFORMATION ON THE BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Business, Marketing, and Finance
Business Information Management I / PATH

LEVEL 2

Entrepreneurship I

LEVEL 3

Entrepreneurship II

LEVEL 4

Practicum in Business Management
Practicum in Marketing
Practicum in Entrepreneurship
Career Preparation I

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

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-10
Business Information Management I/PATH	13011400 (1 credit) N1290051 (1 credit)	None	9
Entrepreneurship I	13034400 (1 credit)	PREQ Prin Bus, Mkt, Finance, or Bus Info Mgmt I	10-12
Entrepreneurship II	(1 credit)	PREQ: Entrepreneurship I	11-12
Practicum in Marketing	13034800 (2 credits)	PREQ: Advanced Marketing	12
Practicum in Entrepreneurship	(2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Practicum in Business Management	13012200 (2 credits)	PREQ: Entrepreneurship II, Bus Mgmt, or Virtual Bus, Glob Bus, and HR Mgmt	12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

FOR ADDITIONAL INFORMATION ON THE BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Business, Marketing, and Finance

LEVEL 2

Fashion Marketing
Sports and Entertainment Marketing I
Virtual Business
Marketing

LEVEL 3

Social Media Marketing
Advertising
Retail Management
Sports and Entertainment Marketing II
Statistics and Business Decision Making

LEVEL 4

Advanced Marketing
Practicum in Entrepreneurship (2021)
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Microsoft Office Specialist or Expert - Excel	Certified Product Manager	Marketing/Marketing Management, General		Marketing
Microsoft Office Specialist or Expert - Word	DMA Certified Marketing Professional	Consumer Merchandising/Retailing Management	Business Administration	
Google Analytics Individual Qualification	Certified Salesperson	International Marketing	Applied Economics	
Entrepreneurship and Small Business	Real Estate Appraiser	Business	Marketing Research	Advertising

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
Marketing Research Analysts and Marketing Specialists	$70,346	4,664	40%
Insurance Sales Agents	$43,181	5,886	30%
First-Line Supervisors of Retail Sales Workers	$72,550	2,826	15%
Wholesale and Retail Buyers	$51,106	1,299	19%

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 marketing firm; shadow a real estate agent; operate a school store on campus

The Marketing and Sales program of study teaches CTE concentrators how to collect information to determine potential sales of a product or service and/or create a marketing campaign to market or distribute goods and services. Through this program of study, students will learn the skills necessary to understand and apply data on customer demographics, preferences, needs, and buying habits.

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 Marketing and Sales program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ) RECOMMENDED REQUISITES (RPREQ or CRCEQ)	GRADE
Principles of Business, Marketing, and Finance	13011200 (1 credit)	None	9-11
Fashion Marketing	13034300 (.5 credit)	None	9-12
Sports and Entertainment Marketing I	13034600 (.5 credit)	None	9-12
Virtual Business	13012000 (.5 credit)	None	10-12
Marketing	TBD	TBD	TBD
Social Media Marketing	13034650 (.5 credit)	None	9-12
Advertising	13034200 (.5 credit)	None	9-12
Retail Management	N1303420 (1 credit)	None	10-12
Sports and Entertainment Marketing II	N1303422 (.5 credit)	PREQ: Sports and Entertainment Marketing	10-12
Statistics and Business Decision Making	13016900 (1 credit)	PREQ: Algebra II	11-12
Advanced Marketing	13034700 (1 credit)	PREQ: One credit from the courses in the Marketing Career Cluster	11-12
Practicum in Entrepreneurship	TBD	TBD	TBD
Career Preparation I	12701300 (2 credits)	None	11-12

FOR ADDITIONAL INFORMATION ON THE BUSINESS, MARKETING, AND FINANCE CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1
Principles of Education and Training / PATH

LEVEL 2
Child Development

LEVEL 3
Child Guidance

LEVEL 4
Practicum in Early Learning
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Child Development Associate		Early Childhood Education and Teaching		
Educational Aide I	Texas Educator Certification Program	Multicultural Early Childhood Development		
	County Librarian	Kindergarten/ Preschool Education and Training	Early Childhood	Educational, Instructional, and Curriculum Supervision
	Professional Counselor	Psychology/Sociology		Educational Leadership and Administration

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
Kindergarten Teachers, except Special Education	$53,310	1,848	17%
Preschool Teachers	$27,851	4,330	17%
Special Education Teachers, Preschool	$55,670	148	27%
Elementary School Teachers	$54,140	13,121	16%
Education Administrators, Elementary and Secondary School	$79,830	2,407	16%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Texas Association of Future Educators; Family, Career, & Community Leaders of America

Work Based Learning Activities:
Teach a community education class; volunteer as a teaching assistant.

The Early Learning program of study focuses on early childhood education, which consists of instructing and supporting preschool and early elementary school students in activities that promote social, physical and intellectual growth as well as in basic elements of science, art, music, and literature. This program of study introduces CTE concentrators to tasks necessary for planning, directing, and coordinating activities for young children.

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.

Successful completion of the Early Learning program of study will satisfy the requirements for the Public Service Endorsement.
Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Education and Training /PATH	13014200 (1 credit) N1290051 (1 credit)	None	9
Principles of Education and Training	13014200 (1 credit)	None	10-12
Child Development	13024700 (1 credit)	PREQ: Principles of Education and Training	10-12
Child Guidance	13024800 (2 credits)	PREQ: Child Development	11-12
Practicum in Early Learning	(2 credit)	PREQ: Child Guidance	12
Career Preparation I	12701300 (2 credits)	PREQ: completion of 1 or more advanced courses in the same career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1
Principles of Education and Training / PATH

LEVEL 2
Child Development
Communication and Technology in Education (TBD)

LEVEL 3
Instructional Practices
Special Populations (TBD)

LEVEL 4
Practicum in Education and Training
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Educational Aide I	Texas Educator Certification Program	Teacher Education	Bilingual and Multilingual Education	Instruction and Learning
	Educational Instructional Technology	Education, General (or specific subject area)		Educational Leadership and Administration, General
	Counselor, Professional	Special Education		
	Athletic Trainer	Health and Physical Education/Fitness		Social and Philosophical Foundations of Education

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
Adult Basic and Secondary Education and Literacy Teachers and Instructors	$48,069	862	17%
Middle School Teachers, Except Special and Career/ Technical Education	$54,510	6,407	15%
Career and Technical Education Teachers, Secondary School	$56,360	719	9%
Special Education Teachers, Secondary School	$56,720	980	18%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Texas Association of Future Educators, or Family, Career and Community Leaders of America

Work Based Learning Activities:
Teach a community education class; intern as a teaching assistant or tutor; serve as a camp counselor.

The Teaching and Training program of study prepares students for careers related to teaching, instruction, and creation of instructional and enrichment materials. The program of study introduces CTE concentrators to a wide variety of student groups and their corresponding needs. It familiarizes them with the processes for developing curriculum, coordinating educational content, and coaching groups and individuals.

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.

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

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Education and Training / PATH	13014200 (1 credit) N1290051(1 credit)	None	9
Principles of Education and Training	13024200 (1 credit)	None	10-12
Child Development	13024700 (1 credit)	PREQ: Principles of Education and Training	10-12
Instructional Practices	13014400 (2 credits)	PREQ: Child Development	11-12
Special Populations	(1 credit)	PREQ: Child Development	11-12
Practicum in Education and Training	13014500 (2 credits)	PREQ: Instructional Practices	12
Career Preparation I	12701300 (2 credits)	PREQ: completion of 1 or more advanced courses in the same career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1
Lifetime Nutrition and Wellness

LEVEL 2
Kinesiology I

LEVEL 3
Anatomy and Physiology
Kinesiology II

LEVEL 4
Practicum in Entrepreneurship
Science Research and Design (S.T.E.M.)
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Personal Trainer	Physical Therapist Assistant	Kinesiology and Exercise Science		Exercise Physiology
	Physical Therapy Aides	Therapeutic Recreation/ Recreational Therapy		
	Dietetic Technician	Athletic Training/ Trainer		
			Dietitians and Nutritionists	Physical Therapist

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
Athletic Trainers	$53,450	215	22%
Exercise Physiologists	$41,662	33	33%
Coaches and Scouts	$40,010	2,133	23%
Dietitians and Nutritionists	$57,762	428	24%
Recreational Therapists	$45,906	74	24%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupation Students of America (HOSA)

Work Based Learning Activities:
Volunteer at a hospital or rehabilitation center; manage a school sports team

The Exercise Science and Wellness program of study introduces students to the fields that assist patients with maintaining physical, mental, and emotional health. Students will research diet and exercise needed to maintain a healthy, balanced lifestyle and learn about and practice techniques to help patients recover from injury, illness, or disease.

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 Exercise Science and Wellness program of study will fulfill requirements of the Public Service Endorsement.

Approved Statewide Program of Study - September 2019

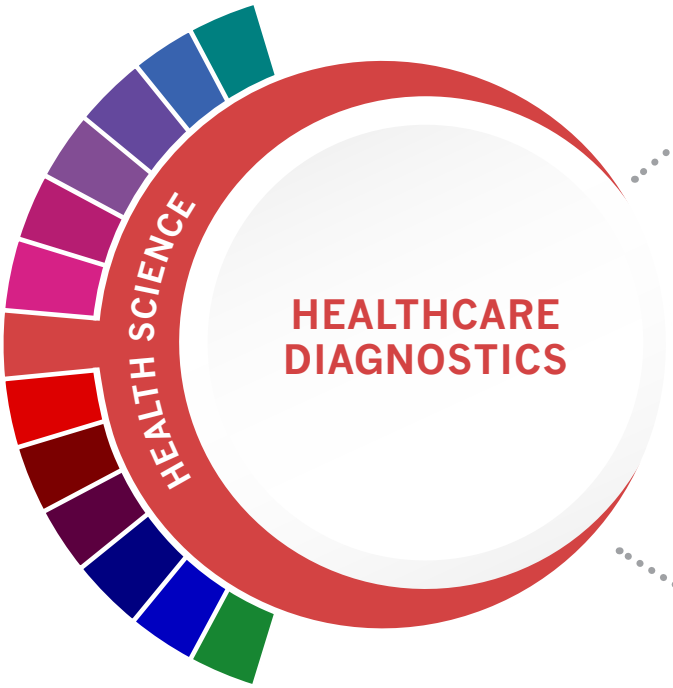
Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Lifetime Nutrition and Wellness	13024500 (.5 credit)	None	9-10
Kinesiology I	(1 credit)	PREQ: Lifetime Nutrition and Wellness	10-12
Anatomy and Physiology	13020600 (1 credit)	PREQ: Biology and a second science credit;	11-12
Kinesiology II	(1 credit)	PREQ: Kinesiology I	11-12
Practicum in Entrepreneurship	(2 credits)	PREQ: Kinesiology II	11-12
Scientific Research and Design (S.T.E.M.)	13037200 (1 credit)	PREQ: Pre-AP Biology and Chemistry	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Health Science / PATH

LEVEL 2

Medical Terminology

LEVEL 3

Health Science Theory
Medical Microbiology & Immunology

LEVEL 4

Anatomy and Physiology
Pathophysiology
Practicum in Health Science

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.

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 Endorsement.

Approved Statewide Program of Study - September 2019

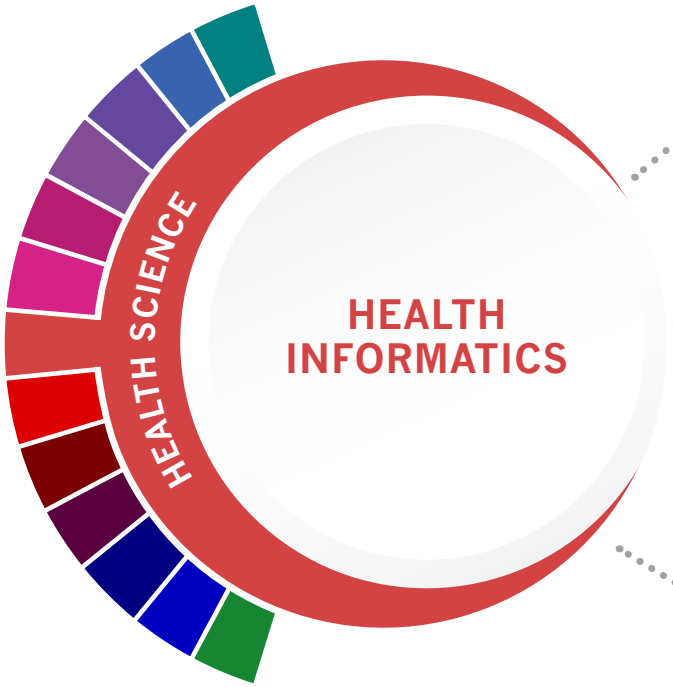
TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Health Science / PATH	13020200 (1 credit) N1290051 (1credit)	None	9
Medical Terminology	13020300 (1 credit)	None	9-10
Health Science Theory	13020400 (1 credit)	PREQ: Medical Terminology and Biology	10-12
Medical Microbiology & Immunology	13020700 (1 credit)	PREQ: Biology and Chemistry	11-12
Anatomy and Physiology	13020600 (1 credit)	PREQ: Biology and Chemistry	11-12
Pathophysiology	13020800 (1 credit)	PREQ: Biology and Chemistry	11-12
Practicum in Health Science	13020500 (2 credits) 13020510 (2 credits)	PREQ: Health Science Theory and Biology	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Health Science / PATH
Medical Terminology

LEVEL 2

Business Information Management I / PATH

LEVEL 3

Health Informatics

LEVEL 4

World Health Research

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Coding Associate	Certified Professional in Informatics	Health Information/ Medical Records Technology/ Technician	Medical and Health Service Managers	
Medical Coding and Billing Specialist	Medical Transcript-ionist			

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 Records and Health Information Technicians	$35,922	1,588	24%
Medical and Health Service Managers	$93,995	2,562	29%
Billing and Posting Clerks	$35,485	5,775	25%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Health Occupations Students of America (HOSA)

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

The Health Informatics program of study focuses on exposing students to the management and use of patient information in the healthcare field. Students may learn about and research recent modifications of computerized healthcare and the process of creating and maintaining hospital and patient records in accordance with regulatory requirements of the healthcare system. Students may also practice writing and interpreting medical reports.

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 Health Informatics program of study will fulfill requirements of the Public Service Endorsement.

Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Health Science / PATH	13020200 (1 credit) N1290051 (1credit)	None	9
Medical Terminology	13020300 (1 credit)	None	9-10
Business Information Management I / PATH	13011400 (1 credit) N12900051(1 credit)	None	9
Health Informatics	13020960 (1 credit)	PREQ: Business Information Management I and Medical Terminology	
World Health Research	13020900 (1 credit)	PREQ: Biology and Chemistry	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Health Science / PATH

LEVEL 2

Medical Terminology

LEVEL 3

Anatomy and Physiology
Health Science Theory
Medical Microbiology & Immunology

LEVEL 4

Pathophysiology
Pharmacology
Practicum in Health Science - CNA

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	$45,032	1,150	20%
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 the Public Service Endorsement.

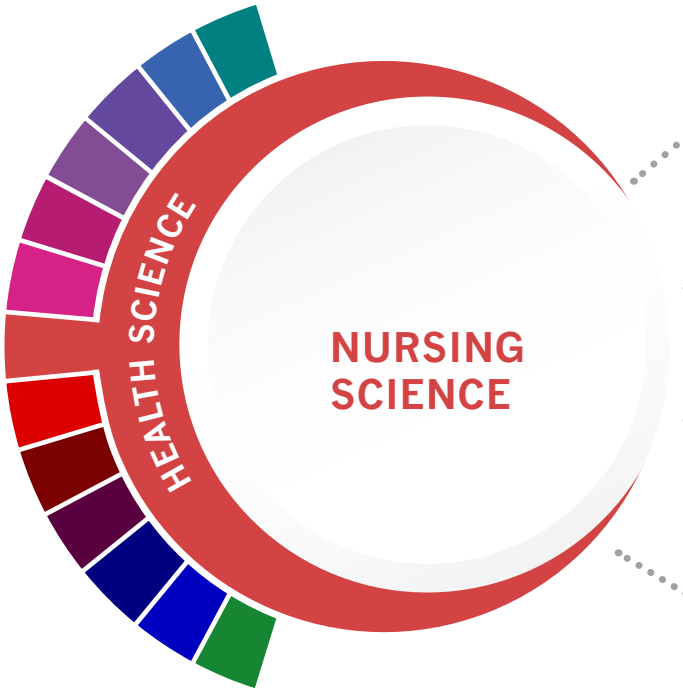
Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Health Science / PATH	13020200 (1 credit) N1290051 (1credit)	None	9
Medical Terminology	13020300 (1 credit)	None	9-10
Anatomy and Physiology	13020600 (1 credit)	PREQ: Biology and Chemistry	11-12
Health Science Theory	13020400 (1 credit)	PREQ: Biology & Medical Terminology	10-12
Medical Microbiology & Immunology	13020700 (1 credit)	PREQ: Biology and Chemistry	11-12
Pathophysiology	13020800 (1 credit)	PREQ: Biology and Chemistry	11-12
Pharmacology	13020950 (1 credit)	PREQ: Biology and Chemistry	11-12
Practicum in Health Science - CNA	13020500 (2 credits) 13020510 (2 credits)	PREQ: Health Science Theory and Biology	11-12

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



COURSES

LEVEL 1

Principles of Health Science / PATH

LEVEL 2

Medical Terminology
Science of Nursing

LEVEL 3

Medical Microbiology & Immunology
Anatomy and Physiology
Leadership and Management in Nursing

LEVEL 4

Pathophysiology
Pharmacology
Practicum in Nursing - CNA

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 Anesthesist

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%
Nurse Anethesists	$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 knowledege 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

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Health Science / PATH	13020200 (1 credit) N1290051 (1credit)	None	9
Medical Terminology	13020300 (1 credit)	None	9-10
Science of Nursing	(1 credit)	PREQ: Principles of Health Science or Medical Terminology	10-11
Medical Microbiology & Immunology	13020700 (1 credit)	PREQ: Biology and Chemistry	11-12
Anatomy and Physiology	13020600 (1 credit)	PREQ: Biology and a second science credit	11-12
Leadership and Management in Nursing	(1 credit)	PREQ: Science of Nursing	11-12
Pathophysiology	13020800 (1 credit)	PREQ: Biology and Chemistry	11-12
Pharmacology	13020950 (1 credit)	PREQ: Biology and Chemistry	11-12
Practicum in Nursing	13020500 (2 credits) 13020510 (2 credits)	PREQ: Health Science Theory and Biology	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Hospitality and Tourism / PATH

LEVEL 2

Travel and Tourism Management
Entrepreneurship I
Sports and Entertainment Marketing I

LEVEL 3

Global Business
Tourism Marketing Concepts and Applications
Hospitality Services

LEVEL 4

Practicum in Hospitality Services
Practicum in Entrepreneurship
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Hospitality and Tourism Management Professional	Travel and Tourism Professional	Tourism Management		
Entrepreneurship and Small Business	Certified Tourism Executive	Business Administration and Management, General		
Certified Associate in Project Management	Communication Management Professional	Tourism and Travel Services Management	Tourism Management	Recreation and Resources Development
	Certified Marketing Analyst	Tourism and Travel Services Marketing	Sport Event and Tourism Management	Recreation, Park, and Tourism 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
Advertising and Promotions Managers	$94,515	164	20%
Fundraisers	$54,850	875	21%
Market Research Analysts and Marketing Specialists	$70,346	4,664	40%
Marketing Managers	$144,269	1,297	32%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Family, Career, and Community Leaders of America (FCCLA), SkillsUSA, Texas Travel Industry Association

Work Based Learning Activities:
Work at a local tourist attraction, theme park, or summer camp; volunteer at a local community event (fair or rodeo)

The Travel, Tourism, and Attractions program of study introduces students to occupations and educational opportunities related to the marketing or sales of travel and tourism services. This program of study allows students to learn how to plan, direct, and coordinate marketing or business policies and programs, including identifying potential customers and determining demand and promotional strategies for products and services.

The Hospitality and Tourism Career Cluster® focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students learn knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

Successful completion of the Travel, Tourism, and Attractions program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Hospitality and Tourism / PATH	13022200 (1 credit) N1290051 (1credit)	None	9
Principles of Hospitality and Tourism	13022200 (1 credit)	None	10-12
Travel and Tourism Management	13022500 (1 credit)	PREQ: Principles of Hospitality and Tourism	10-12
Entrepreneurship I	13034400 (1 credit)	PREQ: Prin Bus, Mkt, & Finance or Bus Info Mgmt I	10-12
Sports and Entertainment Marketing I	13034600 (.5 credit)	PREQ: Principles of Hospitality and Tourism or Prin Bus, Mkt, & Finance	10-12
Global Business	13011800 (.5 credit)	PREQ: Travel & Tourism Mgmt, Entrepreneurship, or Sports Ent Marketing	10-12
Tourism Marketing Concepts and Applications	(1 Credit)	PREQ: Travel & Tourism Mgmt, Entrepreneurship, or Sports Ent Marketing	11-12
Practicum in Hospitality Services	13022900 (2 credits) 13022910 (2 credits)	PREQ:completion of one or more advanced courses within hospitality cluster	12
Practicum in Entrepreneurship	(2 Credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Hospitality and Tourism / PATH

LEVEL 2

Hotel Management
Travel and Tourism Management

LEVEL 3

Hospitality Services
Introduction to Event and Meeting Planning

LEVEL 4

Practicum in Hospitality Services
Practicum in Entrepreneurship
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
Certified Hospitality & Tourism Management Professional	Certified Hospitality Supervisor	Hotel/Motel Administration/Management	Hospitality Administration/Management, General	
Certified Associate in Project Management	Certified Hotel Administrator	Business Administration and Management, General		
Entrepreneurship and Small Business	Certification in Hotel Industry Analytics	Tourism and Travel Services Management	Hotel and Restaurant Management	Hospitality Administration
	Certified Guest Service Professional	Business Administration and Management	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
General and Operations Managers	$107,640	18,679	20%
Lodging Managers	$48,381	396	19%
Administrative Services Managers	$96,138	2,277	21%
Meeting, Convention, and Event Planners	$47,446	1,083	21%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Family, Career, and Community Leaders of America (FCCLA), American Hotel and Lodging Association

Work Based Learning Activities:
Intern at a resort or lodging property; work at a hotel, summer camp or theme park;

The Lodging and Resort Management program of study introduces students to occupations and educational opportunities related to the logistical and operational management of lodging and resorts. This program of study also explores opportunities related to human resources, financial analysis, and marketing.

The Hospitality and Tourism Career Cluster® focuses on the management, marketing, and operations of restaurants and other food/beverage services, lodging, attractions, recreation events, and travel-related services. Students learn knowledge and skills focusing on communication, time management, and customer service that meet industry standards. Students will explore the history of the hospitality and tourism industry and examine characteristics needed for success.

Successful completion of the Lodging and Resort Management program of study will fulfill requirements of the Business and Industry Endorsement.

Approved Statewide Program of Study - September 2019

TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Hospitality and Tourism / PATH	13022200 (1 credit) N1290051 (1credit)	None	9
Principles of Hospitality and Tourism	13022200 (1 credit)	None	10-12
Travel and Tourism Management	13022500 (1 credit)	PREQ: Principles of Hospitality and Tourism	10-12
Hotel Management	13022300 ((1 credit)	PREQ: Principles of Hospitality and Tourism	10-12
Hospitality Services	13022800 (2 credits)	PREQ: Hotel Management or Travel orTourism Management	11-12
Introduction to Event and Meeting Planning	(1 credit)	PREQ: Hotel Management or Travel or Tourism Management	11-12
Practicum in Hospitality Services	13022900 (2 credits)	PREQ: Hospitality Services	12
Practicum in Entrepreneurship	(2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

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

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Law, Public Safety, Corrections, and Security / PATH

LEVEL 2

Law Enforcement I
Criminal Investigations

LEVEL 3

Forensic Psychology

LEVEL 4

Forensic Science
Counseling and Mental Health
Practicum in Law, Public Safety Corrections, and Security

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 Servies

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

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Law, Public Safety, Corrections, and Security / PATH	13029200 (1 credit) N1290051 (1credit)	None	9
Law Enforcement I	13029300 (1 credit)	Recommended PREQ: Prin of Law, Public Safety, Corrections, and Security	10-11
Criminal Investigation	13029550 (1 credit)	Recommended PREQ: Prin of Law, Public Safety, Corrections, and Security	10-11
Forensic Psychology	N1303012 (1 credit)	PREQ: Law Enforcement I or Criminal Investigations	11-12
Counseling and Mental Health	13024600 (1 credit)	None	11-12
Forensic Science	13029500 (1 credit)	PREQ: Biology and Chemistry	11-12
Practicum in Law, Public Safety, Corrections, and Security	13030100 (2 credits) 13030110 (2 credits)	PREQ: Forensic Psychology and Forensic Science	11-12

FOR ADDITIONAL INFORMATION ON THE LAW AND PUBLIC SERVICE CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Law, Public Safety, Corrections, and Security / PATH

LEVEL 2

Court Systems and Practices
Business Law

LEVEL 3

Advanced Legal Skills & Professions

LEVEL 4

Practicum in Law, Public Safety, Corrections, and Security
Career Preparation I

POSTSECONDARY OPTIONS

HIGH SCHOOL/ INDUSTRY CERTIFICATION	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	Attorney	Legal Assistant/Paralegal	Legal Assistant/Paralegal	Law
	Certified Paralegal			Intellectual Property Law
	Board Certification in Types of Law			Advanced Legal Research/ Studies, General
	Certified Legal Video Specialist			International Law and Legal Studies

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
Lawyers	$126,131	2,801	19%
Paralegal and Legal Assistants	$50,544	2,837	19%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:
Attend court hearings and other legal procedures;
Texas Public Service Association

Work Based Learning Activities:
Intern with a local attorney;
script and conduct a mock trial

The Legal Studies program of study introduces students to the occupations and educational opportunities related to representing clients in criminal and civil litigation and other legal proceedings, as well as assisting lawyers and preparing legal documents. This program of study explores possible specializations in a single area of law.

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 Legal Services program of study will fulfill requirements of the Public Service Endorsement.
Approved Statewide Program of Study - September 2019

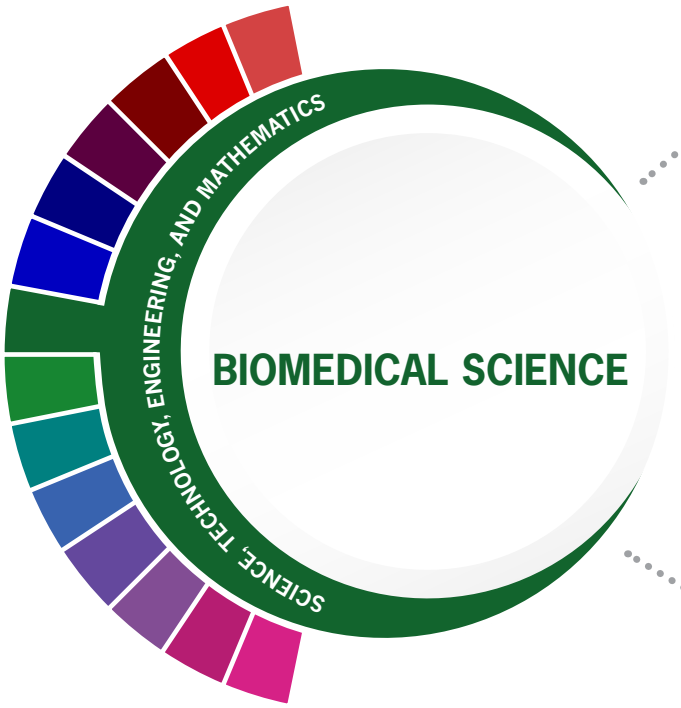
Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Law, Public Safety, Corrections, and Security / PATH	13029200 (1 credit) N1290051 (1credit)	None	9
Court Systems and Practices	13029600 (1 credit)	Recommended PREQ: Prin of Law, Public Safety, Corrections, and Security	10-12
Business Law	13011700 (1 credit)	PREQ: Bus Info Mgmt I or Prin Bus Mkt & Finance	10-11
Advanced Legal Skills & Professions	(1 Credit)	PREQ: Court Systems and Practices, or Business Law	11-12
Practicum in Law, Public Safety, Corrections, and Security	13030100 (2 credits) 13030110 (2 credits)	PREQ: Advanced Legal Skills and Professions	11-12
Career Preparation I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career cluster	11-12

FOR ADDITIONAL INFORMATION ON THE LAW AND PUBLIC SERVICE CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Principles of Biomedical Science (PLTW)

LEVEL 2

Human Body Systems (PLTW)

LEVEL 3

Medical Microbiology & Immunology
Medical Interventions (PLTW)

LEVEL 4

Pathophysiology
Biomedical Innovations (PLTW)
Scientific Research and Design (S.T.E.M)

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

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 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:	Work Based Learning Activities:
Health Occupations Students of America (HOSA)	Lab internship or shadow a healthcare or medical professional

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 dieases, pre-existing conditions, or other determinants of health. Students may also practice patient care and communication.

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 Endorsement or STEM Endorsement, dependent upon courses chosen.

Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Principles of Biomedical Science (PLTW)	N1302092 (1 credit)	CREQ/PREQ: Biology	9-10
Human Body Systems (PLTW)	N1302093 (1 credit)	PREQ: Principles of Biomedical Science & Biology	10-11
Medical Microbiology & Immunology	13020700 (1 credit)	PREQ: Biology and Chemistry	11-12
Medical Interventions (PLTW)	N1302094 (1 credit)	PREQ: Human Body Systems	11-12
Pathophysiology	13020800 (1 credit)	PREQ: Biology and Chemistry	11-12
Biomedical Innovation (PLTW)	N1302095 (1 credit)	PREQ: Medical Microbiology or Medical Interventions	12
Scientific Research and Design (S.T.E.M.)	13037200 (1 credit)	PREQ: Pre-AP Biology and Chemistry	11-12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1
Fundamentals of Computer Science
Computer Science Essentials (PLTW)

LEVEL 2
AP Computer Science Principles
Computer Science I (OnRamps)

LEVEL 3
Foundations of Cybersecurity
AP Computer Science A

LEVEL 4
Cybersecurity Capstone
Practicum in Information Technology
Career Prep I

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 a Business and Industry or STEM Endorsement.
Approved Statewide Program of Study - September 2019

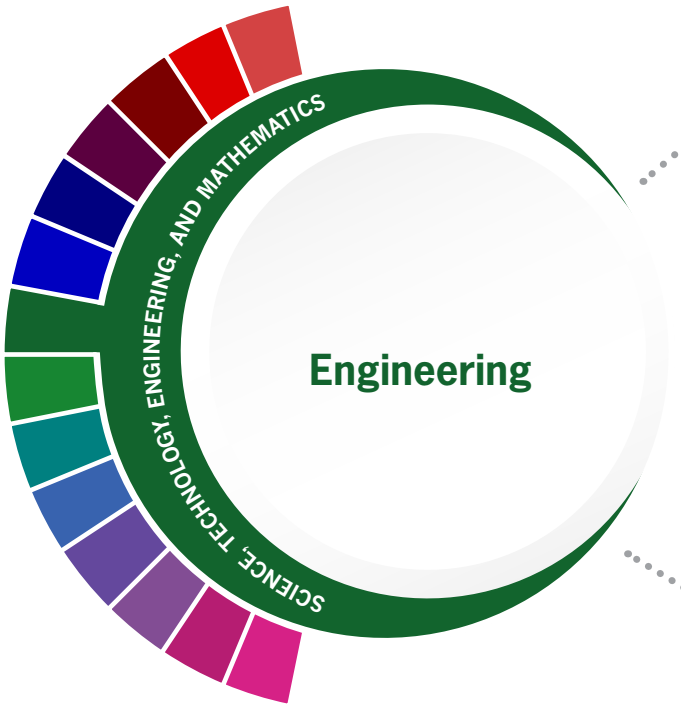
TEA Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Fundamentals of Computer Science	03580140 (1 credit)	None	7-9
Essentials in Computer Science (PLTW)	(1 credit)	None	8-9
Computer Science OnRamps	03580200 (1 credits)	PREQ: Algebra I	10-12
AP Computer Science Principles	A3580300 (1 credit)	PREQ: Algebra I	9-12
Foundations of Cybersecurity	03580850 (1 credit)	PREQ: AP Computer Science Principles or Comp Sci OnRamps	1012
AP Computer Science A	A3580110 (1 credit) A3580120 (1 credit)	PREQ: AP Computer Science Principles or Comp Sci OnRamps	10-12
Cybersecurity Capstone	03580855 (1credit)	PREQ: Found Cybersecurity	11-12
Practicum in Information Technology	13028000 (2 credit)	PREQ:Cybersecurity Capstone	12
Career Prep I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career	12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte



COURSES

LEVEL 1

Introduction to Engineering Design (PLTW)

LEVEL 2

Principles of Engineering

LEVEL 3

Engineering Design and Development (PLTW)
Digital Electronics
Civil Engineering and Architecture (PLTW)

LEVEL 4

Career Prep I

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.

Approved Statewide Program of Study - September 2019

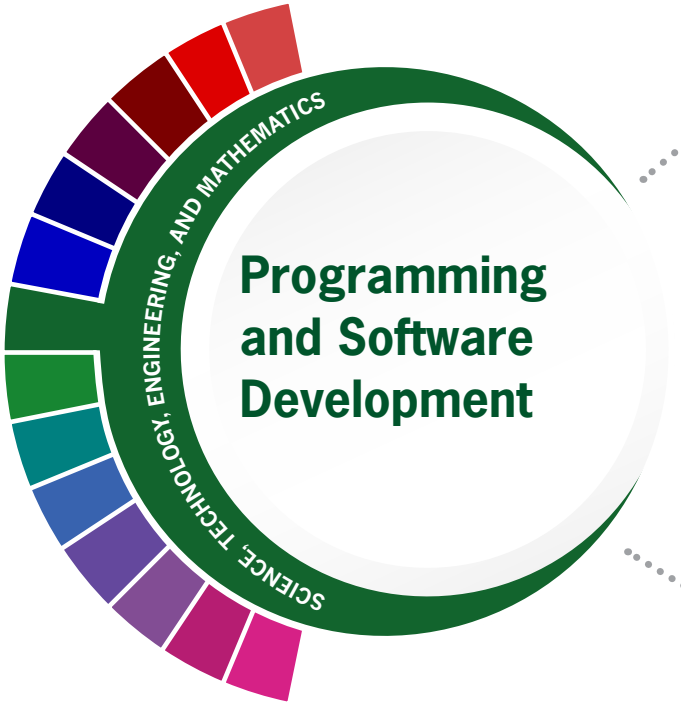
Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Introduction to Engineering Design (PLTW)	N1303742 (1 credit)	None	9-10
Principles of Engineering (PLTW)	(1 credit)	None	10-12
Engineering Design & Development (PLTW)	N1303749 (1 credit)	None	11-12
Digital Electronics	13037600 (1 credit)	PREQ: Algebra 2 and IED or POE	10-12
Civil Engineering & Architecture (PLTW)	N1303747 (1 credit)	PREQ: Algebra 2 and IED or Architectural Design	10-12
Engineering Science (POE PLTW)	13037500 (1 credit)	PREQ: Algebra I and Biology Chemistry, Integrated Physics, and Chemistry (IPC), or Physics	10-12
Career Prep I	12701300 (2 credits)	PREQ:completion of one or more advanced courses within a career	11-12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS CAREER CLUSTER, PLEASE CONTACT:

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Programming and Software Development

COURSES

LEVEL 1

Fundamentals of Computer Science
Computer Science Essentials (PLTW)

LEVEL 2

AP Computer Science Principles
Computer Science OnRamps

LEVEL 3

AP Computer Science A

LEVEL 4

Computer Science III
Practicum in Information Technology
Career Preparation I

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/Programmer General	Mangement Information Systems, General	
Oracle Certified Database Associate	Cloud Technology Associate Certification	Computer Software Engineer		
	AEM 6 Developer	Computer Science		
	Certifed 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:	Work Based Learning Activities:
Join TSA Participate in a coding club at school.	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 a Business and Industry or STEM Endorsement.

Approved Statewide Program of Study - September 2019

Texas Education Agency

COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITES (PREQ) COREQUISITES (CREQ)	GRADE
Fundamentals of Computer Science	03580140 (1 credit)	None	7-10
Computer Science Essentials	(1 credit)	CREQ:Algebra 1	8-10
AP Computer Science Principles	A3580300 (1 credit)	PREQ: Algebra I	9-12
Computer Science onRamps	03580200 (1 credit)	PREQ: Algebra I	9-12
AP Computer Science A	A3580110 (1 credit) A3580120 (1 credit)	PREQ: AP Computer Science Principles or Computer Science onRamps	10-12
Computer Science III	03580350 (1 credit)	PREQ: AP Computer Science A	11-12
Practicum in Information Technology	13028000 (2 credit) 13028010 (2 credit)	PREQ: Cybersecurity Capstone	12
Career Preparation I	12701300 (2 credit)	PREQ:completion of one or more advanced courses within a career cluster	11-12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS CAREER CLUSTER, PLEASE CONTACT:

https://tea.texas.gov/cte