

*Empowering Students...*  
**Career and Technical Education**



# Programs of Study - Timeline

- TEA CTE Pathways Audit
- Identified occupations/skills Cluster/Pathway Area
- Identified coursework to address the skills at four levels
- Advisory Committee Meeting for review of coursework
- Public Comment
- Revision from Public Comment
- Final Approval – Sept 2019

# Programs of Study Defined

Perkins V describes a program of study as a coordinated, nonduplicative sequence of academic and technical content at the secondary and postsecondary level that:

- Incorporates challenging state academic standards
- Addresses academic, technical, and employability skills
- Aligns with the needs of industries in the state, regional, and/or local economy
- Progresses in specificity, beginning with all aspects of industry and leading to more occupation specific instruction
- Has multiple entry and exit points that incorporate credentialing
- Culminates in the attainment of a recognized postsecondary credential

# Highlights of Programs of Study

- Driven from Perkins VI and V
- Standard Programs District to District
- Data collection and reporting
- Aligns education to regional workforce needs
- Lead to post secondary and training opportunities
- Tied to high demand occupations – Median \$35,339
- Align Program of Study to endorsements

# Programs of Study State Outcomes

- Defined Set of Coursework/POS Names
- Defined CTE Completer vs CTE Concentrator
- Overall Changes
  - Business, Marketing and Finance – Merged
  - Law, Public Safety, Corrections, & Security and Government & Public Administration.
  - New Energy Cluster
- Regional Programs of Study must be approved to use Federal Funds

# Program of Study Process

- Compare Current to Potential Programs
- Teach Input – Staff Development
- Advisory Committee
  - Parents, Students, Administration, Post Secondary, Counselor and Business & Community
- Developed Program of Study Drafts





# District Impact

- Program of Study
  - Marketing Looks Different
- Federal Accountability
- Additional Coursework
- Personnel
  - Automotive
- Regional Pathway
  - Cosmetology

EDUCATION AND TRAINING		
PROGRAMS OF STUDY		
Early Learning	Principles of Education & Training (9-12) [1] Principles of Human Services (7-12) [1]	Principles of Education & Training (9-12) [1] Principles of Human Services (7-12) [1]
	Child Development (10-12) [1]	Child Development (10-12) [1] Human Growth & Development (10-12) [1]
	Child Guidance Internship (11-12) [2] (Advanced)	Instructional Practices (11-12) [2] (Advanced)
	Practicum in Human Services – Child Guidance Internship (12) [2]	Practicum in Education & Training (12) [2] (Advanced)

# AGRICULTURE, FOOD & NATURAL RESOURCES

## PROGRAMS OF STUDY

<b>Animal Science</b>	Principles of Agriculture (9-12) [1]	<b>Applied Agricultural Engineering</b>	Principles of Agriculture (9-12) [1]	<b>Plant Science</b>	Principles of Agriculture (9-12) [1]
	Small Animal Management (10-12) [.5] Equine Science (10-12) [.5]		Agricultural Mechanics & Metal Technologies (10-12) [1]		Floral Design (10-12) Fine Arts Credit
	Vet Medical Applications (11-12) [1] or Livestock Production (10-12) [1]		Agricultural Structures Design & Fabrication (11-12) [1] (Advanced)		Advanced Floral Design (11-12) [1] (Advanced)
	Practicum in Ag - Veterinary Medical Applications (11-12) [2] or Advanced Animal Science (11-12) [1] Science Credit (Advanced)		Project Based Research in Ag (12) [1] (Advanced)		Practicum in Ag - Floral Design (12) [2] (Advanced)
<b>Post-Secondary Certifications</b>	Certified Veterinary Assistant		OSHA 30		Texas Floral Association Level 1 and Level 2
	Texas A & M University – College Station Tarleton State University Texas State University		Texas A & M University – College Station Tarleton State University Texas State University		On the Job Training Texas A & M – College Station

## TEXAS AGRICULTURE BY THE NUMBERS

**ECONOMIC IMPACT @25.3 B YR**

**AVERAGE SALARY FOR VET TECHS \$34,710**

**AGRICULTURE IS THE SINGLE LARGEST EMPLOYER**

**TEXAS HAS 43 COLLEGES WITH AG PROGRAMS**





# ARCHITECTURE AND CONSTRUCTION

## PROGRAMS OF STUDY

Architecture Design	Principles of Architecture (7-12) [1]	Construction Management and Inspection	Principles of Construction (7-12) [1]	HVAC and Sheet Metal	Principles of Architecture (7-12) [1]
	Architecture Design I (10-12) [1] Interior Design (10-12) [1]		Construction Management I (10-12) [2]		Principles of Construction (7-12) [1]
	Architectural Design II (11-12) [2] (Advanced) Interior Design II (11-12) [2]		Construction Management II (11-12) [2]		HVAC and Refrigeration Technology (11-12) [2] Dual Credit
	Practicum in Architecture Design (12) [2] (Advanced)		Career Preparation I (11-12) [2]		HVAC and Refrigeration Technology II (12) [2]
Post-Secondary Certifications	AutoCAD Certification or Revit Certification		OSHA 30		EPA HVAC Level 1 Certification
	University of Texas - Arlington		Texas A & M University – College Station Tarleton State University Texas State University		North Central Texas College

## OCCUPATIONS

**15 PERCENT INCREASE IN OPENINGS FOR HVAC MECHANICS**

**HOURLY MEAN WAGE IS \$22.15 IN TEXAS**

Student Organization



# ARTS/AUDIO VIDEO TECH & COMMUNICATIONS

## Programs of Study

Digital Communications	Professional Communications (9-12) [.5]	Graphic Design and Multimedia Arts	Professional Communications (9-12) [.5]
	Principles of Arts, Auto/Video Tech & Communications (9-12) [1]		Principles of Arts, Auto/Video Tech & Communications (9-12) [1]
	Audio/Video Production I & Lab (11-12) [2] (Advanced)		Graphic Design & Illustration I & Lab or Animation I & Lab or Commercial Photography I & Lab (11-12) [2] (Advanced)
	Audio/Video Production II & Lab (12) [2] (Advanced)		Graphic Design & Illustration I & Lab or Animation I & Lab or Commercial Photography I & Lab (11-12) [2] (Advanced) Career Preparation 1 (12) [2]
Post-Secondary Certifications	Adobe Premiere	Adobe Certified Associate	
	University of North Texas Art Institute of Dallas	University of North Texas Art Institute of Dallas	

## ART & AUDIO VISUAL BY NUMBERS

MULTIMEDIA ARTIST & ANIMATORS ARE PROJECT TO GROW BY 6% BY 2024

GRAPHIC DESIGNER AVERAGE MEDIAN SALARY IS \$50,370

VIDEO EDITOR EXPECTED TO GROW 11% BY 2028

Student Organization



# BUSINESS, MARKETING & FINANCE

## Programs of Study

Accounting and Financial Services	Principles of Business, Marketing, & Finance (9-12) [1]	Business Management	Business Information Management I (9-12) [1]	Entrepreneurship	Principles of Business, Marketing, & Finance (9-12) [1]	Marketing and Sales	Principles of Business, Marketing, & Finance (9-12) [1]
	Accounting I (10-12) [1]		Business Information Management II (10-12) [1]		Business Information Management I (9-12) [1]		Sports & Entertainment Marketing (10-12) [.5]
	Accounting II (11-12) [1] Math Credit (Advanced)		Human Resources Management (11-12) [.5] / Global Business (11-12) [.5]		Entrepreneurship (10-12) [1]		Advertising (10-12) [.5]
	Career Preparation I (11-12) [2]		Business Management (10-12) [1] Career Preparation I (11-12) [2]		Career Preparation I (11-12) [2] Practicum in Business Management (12) [2]		Career Preparation I (11-12) [2]
Post Secondary Certifications	QuickBooks		Microsoft Word		Entrepreneurship and Small Business		Microsoft Word
	North Central Texas College University of North Texas Texas Women University		North Central Texas College		North Central Texas College University of North Texas		North Central Texas College

## TEXAS BUSINESS BY THE NUMBERS

ENTRY LEVEL BUSINESS MANAGER \$50,213

ACCOUNTANT MEDIAN SALARY IS \$70,500  
AND IS PROJECTED TO GROW BY 6% OVER  
THE NEXT 5 YEARS



# HOSPITALITY AND TOURISM

## PROGRAMS OF STUDY

Culinary Arts	None	Lodging and Resort Management	None
	Intro to Culinary Arts (10-12) [1]		Principles of Hospitality Services (7-12) [1]
	Culinary Arts (11-12) [2] (Advanced)		Hospitality Services (11-12) [2] (Advanced)
	Advanced Culinary Arts (12) [2] (Advanced) Food Science (12) [1] Science Credit (Advanced)		Practicum in Hospitality Services (12) [2] (Advanced)
Post-Secondary Certifications	Serv Safe Food Handler & Manager		Certified Hospitality and Tourism Management Professional
	Collin County Community College Culinary Institute Art Institute Tarrant County Community College		University of North Texas Texas Tech

## TEXAS HOSPITALITY BY THE NUMBERS

1.2 MILLION TEXAS JOBS SUPPORTED BY TRAVEL  
 TRAVEL SUPPORTS ONE OUT OF EVERY TEN TEXAS JOBS  
 \$80.3 BILLION DIRECT TRAVEL SPENDING IN TEXAS IN  
 2018



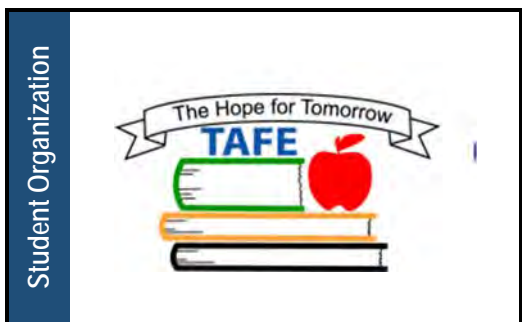
# EDUCATION AND TRAINING

## PROGRAMS OF STUDY

Early Learning	Principles of Education & Training (9-12) [1]	Principles of Education & Training (9-12) [1]
	Principles of Human Services (7-12) [1]	Principles of Human Services (7-12) [1]
	Child Development (10-12) [1]	Child Development (10-12) [1] Human Growth & Development (10-12) [1]
	Child Guidance Internship (11-12) [2] (Advanced)	Instructional Practices (11-12) [2] (Advanced)
	Practicum in Human Services – Child Guidance Internship (12) [2]	Practicum in Education & Training (12) [2] (Advanced)
Post-Secondary Certifications	Child Development Associate	Educational Aide I
	Texas Women's University University of North Texas	Texas Women's University University of North Texas

### TEXAS EDUCATION BY THE NUMBERS

THE AVERAGE TEACHER SALARY IS \$53,885  
IN NORTH CENTRAL REGION - ELEMENTARY  
TEACHERS ARE NEEDED THE MOST WITH  
PROJECTED OPENINGS OF 14,049.



Student Organization



# HEALTH SCIENCE

## PROGRAMS OF STUDY

<b>Healthcare Therapeutic - Medical Assisting</b>	None	<b>Healthcare Therapeutic - Certified Nursing Aide</b>	None	<b>Healthcare Therapeutic - EMT</b>	None	<b>Healthcare Therapeutic - Pharmacology</b>	None
	Principles of Health Science (10-12) [1]		Principles of Health Science (10-12) [1]		Principles of Health Science (10-12) [1]		Principles of Health Science (10-12) [1]
	Health Science Theory & Clinical (11-12) [2] (Advanced)		Health Science Theory & Clinical (11-12) [2] (Advanced)		Health Science Theory & Clinical (11-12) [2] (Advanced)		Health Science Theory & Clinical (11-12) [2] (Advanced)
	Practicum in Health Science – Medical Assisting (CCMA) (12) [2] (Advanced)		Practicum in Health Science – CNA (12) [2] (Advanced)		Practicum in Health Science - EMT (12) [2] (Dual Credit) (Advanced)		Practicum in Health Science - Pharmacology (12) [2] (Advanced)
<b>Post Secondary Certifications</b>	Certified Medical Assistant		Certified Nursing Assistant		Emergency Medical Technician		Pharmacology Test
	North Central Texas College		North Central Texas College		North Central Texas College Tarrant County Community College		North Central Texas College

### TEXAS HEALTH SCIENCE BY THE NUMBERS

REGISTERED NURSES MEDIAN SALARY IS \$72,890 AND IS PROJECTED TO GROW BY 15% OVER THE NEXT 5 YEARS





# HUMAN SERVICES

## PROGRAMS OF STUDY

Family and Community Services	Lifetime Food and Nutrition (7-8) [1]	Cosmetology	Principles of Cosmetology Design and Color Theory (10) [1]
	Principal of Human Services (7-12) [1]		Introduction to Cosmetology (10) [1]
	Human Growth and Development (10-12) [1] Counseling and Mental Health (10-12) [1]		Cosmetology I/Lab Practicum (11-12) [4]
	Career Prep I (11-12) [3]		Cosmetology II/Lab Practicum (12) [4]
Post-Secondary Certifications	None		Cosmetology License
	University of North Texas Texas Women University		North Central Texas College

### TEXAS HUMAN SERVICE BY THE NUMBERS

DALLAS AVERAGE SALARY IS \$39,178

REVENUE GROWTH FOR BEAUTY CAREERS WILL RISE TO OVER \$49.3 BILLION

TEXAS IS ONE OF THE TOP 5 WITH HIGHEST EMPLOYMENT RATES IN THE BEAUTY INDUSTRY



# INFORMATION TECHNOLOGY

## PROGRAMS OF STUDY

<b>Information Technology &amp; Support</b>	Principles of Information Technology (7-8) [1]	<b>Networking Systems</b>	Principles of Information Technology (7-8) [1]
	Computer Maintenance & Lab (11-12) [2] (Advanced)		Computer Science I * (10-12) [1]
	Computer Technician Practicum (12) [2] (Advanced)		Cisco Internetworking Technologies I & II (11-12) [2]
	Practicum in Information Technology Cisco III & IV (12) [2]		Practicum in Information Technology Cisco III & IV (12) [2]
<b>Post-Secondary Certifications</b>	CompTIA A+ Certification		Cisco Certification
	North Central Texas College		North Central Texas College

\*This course is not part of the IT Cluster but will count in the Program of Study for federal accountability.

### TEXAS INFORMATION TECH BY THE NUMBERS

OVER ALL EMPLOYMENT IS PROJECTED TO GROW BY 12%

MEDIAN AVERAGE SALARY: \$86,320

84% OF JOBS IN IT REQUIRE ADDITIONAL EDUCATION



# LAW AND PUBLIC SERVICE

## PROGRAMS OF STUDY

<b>Emergency Services - Firefighter</b>	Principles of Law, Public Safety, Corrections & Security (9-12) [1]	<b>Law Enforcement</b>	Principles of Law, Public Safety, Corrections & Security (9-12) [1]	<b>Legal Studies</b>	Principles of Law, Public Safety, Corrections & Security (9-12) [1]	<b>Law Enforcement – Forensic Science</b>	Principles of Law, Public Safety, Corrections & Security (9-12) [1]
	Principles of Health Science (9-12) [1]		Law Enforcement I (11-12) [1] (Advanced)		Principles of Law, Public Safety, Corrections & Security (9-12) [1]		Law Enforcement I (11-12) [1] (Advanced)
	Fire Fighter I (11) [2] Dual Credit (Advanced)		Law Enforcement II (11-12) [1] (Advanced)		Practicum in Law - Court Systems (11-12) [2] (Advanced)		Law Enforcement II (11-12) [1] (Advanced)
	Fire Fighter II (12) [3] Dual Credit (Advanced)		Practicum in Public Safety, Corrections & Security (12) [2] (Advanced)		Pre- Law Practicum (12) [2] (Advanced)		Forensic Science (11-12) [1] Science Credit (Advanced)/Criminal Investigations (11-12) [1]
<b>Post Secondary Certifications</b>	Firefighter 1 EMT		Emergency Telecommunicator Certification		Southern Methodist University		University of North Texas
	North Central Texas College		University of North Texas Sam Houston State		University of North Texas		

## TEXAS LAW BY THE NUMBERS

**POLICE OFFICERS JOBS EXPECTED TO INCREASE BY 16.41%**

**AVERAGE MEDIAN SALARY IS \$61,866.00 FOR POLICE OFFICERS**

Student Organization



# MANUFACTURING

## PROGRAMS OF STUDY

Manufacturing Technology	None	Welding	None
	Principles of Manufacturing (9-12) [1]		Intro to Welding (9-12) [1]
	Precision Metal Manufacturing I (11-12) [2] (Advanced)		Welding I (11-12) [2] (Advanced)
	Precision Metal Manufacturing II (12) [2] (Advanced)		Welding II (12) [2] (Advanced)

Post-Secondary	Certifications	NIMS	NCCER Core NCCER Welding
		University of North Texas Southern Methodist University Texas State University	Texas State Technical College Tulsa Welding

### TEXAS MANUFACTURING BY THE NUMBERS

**AVERAGE SALARY MANUFACTURING: \$85,051**

**AVERAGE MEDIAN SALARY WELDERS: \$41,380**

**WELDERS WITH ADVANCED TRAIN: \$100,000**

**#1 EMPLOYER OF WELDERS – TEXAS**



# SCIENCE, TECHNOLOGY, ENGINEERING AND MATH

## PROGRAMS OF STUDY

### Engineering

Intro to Engineering Design (9-12) [1]

Principles of Applied Engineering - Digital Electronics  
(10-12) [1]

Engineering Science  
(11-12) [1] Science Credit  
Robotics I (11-12) [1]

Practicum in STEM  
(12) [2]

### Post-Secondary Certifications

Part 407  
Nocti Robotics

University of North Texas  
University of Texas System

### TEXAS STEM JOBS BY THE NUMBERS

TEXAS AVERAGE SALARY FOR STEM IS \$87,570

STEM OCCUPATIONS ARE EXPECTED TO GROW BY 12.4%

COMPUTER OCCUPATIONS ARE EXPECTED TO HAVE THE  
LARGEST JOB OPENINGS WITH OVER 1 MILLION JOBS

Student Organization

**BEST**  
**ROBOTICS**  
BOOSTING ENGINEERING  
SCIENCE & TECHNOLOGY



# TRANSPORTATION, DISTRIBUTION & LOGISTICS

## PROGRAMS OF STUDY

<b>Automotive</b>	None	<b>Aviation Maintenance/Pilots</b>	None
	Principles of Transportation Systems (10-12) [1] Automotive Basics (10-12) [1]		None
	Automotive Technology I: MLR (11-12) [2] (Advanced)		Introduction to Aircraft Technology (11-12) [1] Aircraft Airframe Technology (11-12) [2] LeTourneau University
	Automotive Technology II: Auto Service (12) [2] (Advanced)		Principles of Transportation Systems (11-12) [1] Aircraft Powerplant Technology (12) [2] LeTourneau University

<b>Post-Secondary Certifications</b>	OSHA 10 ASE Entry Level Certification	<b>Aviation Maintenance/Pilots</b>	UAS Part 107
	Brookhaven College Eastfield College Tyler Junior College		Tarrant County Community College LeTourneau University

### TEXAS TRANSPORTATION BY THE NUMBERS

THE FASTEST GROWING SECTOR WITH A 7% INCREASE EACH YEAR

US CURRENTLY ACCOUNTS FOR 42% OF THE GLOBAL TRANSPORTATION SERVICES

Student Organization

