Career and Technical Education

NORTHWEST ISD
Career & Technical Education

CTE Career Clusters and Programs of Study

Agriculture, Food, and Natural Resources
- Animal Science
- Applied Agricultural Engineering
- Plant Science

Architecture and Construction
- Architectural Design
- **Construction Academy***

Arts, Audio/Video Technology and Communications
- **Creative Media Production Academy***
- Design and Multimedia Arts
- Digital Communications

Business, Marketing, and Finance
- **Business Management and Entrepreneurship Academy***
- Business Management

Education and Training
- Early Learning
- Teaching and Training

Engineering
- **STEM Academy***

Health Science
- **Biomedical Sciences Academy***
- Health Science

Hospitality and Tourism
- **Culinary Arts and Hospitality Academy***

Human Services
- **Cosmetology Academy***
- Family and Community Services

Information Technology
- Networking Systems (phasing out)
- Programming and Software Development

Manufacturing
- Advanced Manufacturing

Transportation, Distribution, and Logistics
- **Aviation Academy***
- **Transportation, Automation and Logistics Academy**

***Multiple Programs of Study may exist in each Career Academy**

TEA CTE Completer Guide

Program of Study Accountability
Completion of a program of study is among the indicators used for evaluating the performance of high school campuses and districts that include high school campuses.

Completer
A student served by an LEA who completes, passes, and receives credit for three or more high school CTE courses for four or more credits, including at least one level 3 or level 4 course, from within the same program of study.

A CTE completer must meet all of the criteria, from within the same program of study:

- 3 or more CTE courses for
- 4 or more credits, with at least
- One course (or more) at Level 3 or 4



CTE Level 1
Learning ABOUT Work
Build awareness of the variety of careers available and the role of postsecondary education; broaden student options.



CTE Level 2
Learning ABOUT Work
Explore career options and postsecondary
for the purpose of motivating students and to inform their decision making in high school and postsecondary education.



CTE Level 3
Learning THROUGH Work
Apply learning through practical experience that develops knowledge and skills necessary for success in careers and postsecondary education.



CTE Level 4
Learning FOR Work
Train for employment and/or postsecondary education in a specific range of occupations.

Career and Technical Education Guide

Recommended Course Sequences

Agriculture, Food, and Natural Resources

Animal Science - Business and Industry Endorsement

Principles of Agriculture, Food, and Natural Resources (1 credit)	Livestock and Poultry Production (1 credit)	Veterinary Medical Applications (1 credit)	Advanced Animal Science (1 credit) ***or*** Practicum in Agriculture (2 credits) *[NOTE: Practicum is highly recommended.]*

Applied Agricultural Engineering - Business and Industry Endorsement

Principles of Agriculture, Food, and Natural Resources (1 credit)	Agricultural Mechanics and Metal Technologies (1 credit)	Agricultural Equipment Design and Fabrication with Lab (2 credits)	Practicum in Agriculture (2 credits)

Plant Science - Business and Industry Endorsement

Principles of Agriculture, Food, and Natural Resources (1 credit)	Floral Design (1 credit) ***or*** Horticulture Science (1 credit)	•Advanced Floral Design (1 credit) ***or*** • Greenhouse Operations and Production (1 credit)	Practicum in Agriculture (2 credits)

Architecture and Construction

Architectural Design - Business and Industry Endorsement

Principles of Architecture (1 credit)	Architectural Design I (1 credit)	Architectural Design II (2 credits)	Computer Aided Drafting for Architecture (1 credit)

Construction Academy (Northwest HS) - Business and Industry Endorsement

Principles of Construction (1 credit)	Building Maintenance Technology I (2 credits)	Building Maintenance Technology II (2 credits)	Practicum in Construction Technology (2 credits) **Course Available in 2028-2029**

Arts, Audio/Video Technology and Communications

Creative Media Production Academy (Northwest HS) - Business and Industry Endorsement

Principles of Arts, Audio/ Video Technology, and Communications	Audio/Video Production I (1 credit)	Audio/Video Production II (NHSTV or Cinematic Media) (2 credits)	• Practicum in Audio/ Video Production (NHSTV) (Internship) (2 credits) ***or*** • Digital Design and Media Production (1 credit)
	Commercial Photography I (1 credit) - Discontinued within the academy	Commercial Photography II (1-2 credits) - Last year as an academy course is 27-28	• Practicum in Commercial Photography (2 credits) (Internship) - Last year as an academy course is 28-29 ***or*** • Digital Design and Media Production (1 credit)
	Graphic Design and Illustration I (1 credit)	Graphic Design and Illustration II (1-2 credits)	• Practicum in Graphic Design and Illustration (Internship) (2 credits) ***or*** • Digital Design and Media Production (1 credit)

Design and Multimedia Arts - Business and Industry Endorsement

Principles of Arts, Audio/Video Technology, and Communications (1 credit)	Commercial Photography I (Yearbook I) (1 credit)	Commercial Photography II (Yearbook II) (1 credit)	• Practicum in Commercial Photography (Yearbook III) (2 credits) ***or*** • Digital Design and Media Production (1 credit)

Digital Communications - Business and Industry Endorsement

Principles of Arts, Audio/Video Technology, and Communications (1 credit)	Audio/Video Production I (1-2 credits)	Audio/Video Production II (1-2 credits)	• Practicum in Audio/ Video Production (2 credits) ***or*** • Design and Media Production (1 credit)

Business, Marketing and Finance

Business Management and Entrepreneurship Academy (Eaton HS) - Business and Industry Endorsement

BME Fundamentals Principles in Business, Marketing, and Finance (1 credit)	**BME Operations** Entrepreneurship I (1 credit)	**BME Innovation** Entrepreneurship II (1 credit)	**BME Capstone** Practicum in Business Management/VEI (2 credits) ***or*** Business Management Project-Based Capstone (1 credit)

Business Management - Business and Industry Endorsement

Principles of Business, Marketing and Finance (1 credit)	Business Management (1 credit)	Foundations of Business Communications and Technology (1 credit)	Business Law (1 credit)

Education and Training

Early Learning - Public Service Endorsement

Route 1: Recommended Course Sequence	
9th Grade	Principles of Education and Training (1 credit)
10th Grade	Child Development (1 credit)
11th Grade	Child Guidance (2 credits)
12th Grade	Practicum in Early Learning (2 credits)

Route 2: Recommended Course Sequence	
8th Grade	Principles of Human Services (1 credit)
9th Grade	Principles of Education and Training (1 credit)
10th Grade	Child Development (1 credit)
11th Grade	Child Guidance (2 credits)
12th Grade	Practicum in Early Learning (2 credits)

Teaching and Training - Public Service Endorsement

Route 1: Recommended Course Sequence	
9th Grade	Principles of Education and Training (1 credit)
10th Grade	Child Development (1 credit)
11th Grade	DC Introduction to the Teaching Profession (EDUC 1301) for Instructional Practices (2 credits)
12th Grade	Practicum in Education and Training-A/ DC introduction to Special Populations (EDUC 2301) for Practicum in Education and Training-B (2 credits)
Route 2: Recommended Course Sequence	
8th Grade	Principles of Human Services (1 credit)
9th Grade	Principles of Education and Training (1 credit)
10th Grade	Child Development (1 credit)
11th Grade	DC Introduction to the Teaching Profession (EDUC 1301) for Instructional Practices (2 credits)
12th Grade	Practicum in Education and Training-A/ DC introduction to Special Populations (EDUC 2301) for Practicum in Education and Training-B (2 credits)

Engineering

STEM Academy (Northwest HS) - STEM Endorsement

Recommended Course Sequences				
	9th Grade	**10th Grade**	**11th Grade**	**12th Grade**
Science	STEM Honors Biology (SC.25H/AC)	STEM Honors Chemistry (SC.27H/AC)	STEM OnRamps Physics (D92OR/AC)	Advanced Science
Math	STEM Honors Geometry (M.112H/AC)	STEM OnRamps Algebra II (D94OR/AC)	Honors/AP Precalculus ***or*** OnRamps Precalculus	AP Calculus AB or BC
English	STEM Honors English I (ELA.1H/AC)	STEM Honors English II (ELA.2H/AC)	STEM OnRamps English III (D91OR/AC)	STEM English IV (0024/AC) ***or*** STEM English IV AP (ELA.2A/AC) ***or*** DC Technical & Business Writing (CT.D90025)
PLTW Academy Courses	Engineering Design Process (1 credit)	Engineering Design & Presentation (1 credit)	• Aerospace Design I ***or*** • Civil Engineering I ***or*** • Digital Electronics ***or*** • Advanced Eng Des Presentation (2 credits)	Engineering Design and Problem Solving (1 credit)
Optional STEM Courses	Honors Computer Science I (LOTE) (CT.849/AC) (1 credit)	Honors Computer Science II (LOTE) ***or*** Foundations of Cybersecurity	Honors Computer Science III ***or*** Foundations of Cybersecurity ***or*** Scientific Research and Design STEM	Practicum in Engineering ***or*** CTE Project Based Capstone STEM

Health Science

Biomedical Sciences Academy (Byron Nelson HS) - Public Service or STEM Endorsement

	9th Grade	**10th Grade**	**11th Grade**	**12th Grade**
PLTW Academy Courses	PLTW Principles of Biomedical Sciences (PBS) (1 credit)	PLTW Human Body Systems (HBS) (1 credit)	PLTW Medical Interventions (1 credit)	PLTW Biomedical Innovation (1 credit)
Suggested Courses	Honors Biology	Honors Chemistry	DC Anatomy & Physiology, AP Biology, or AP Chemistry	Advanced Animal Science, Forensic Science, or Statistics

Health Sciences - Public Service Endorsement

Principles of Health Science (1 credit)	Health Science Theory (1 credit)	Anatomy and Physiology (1 credit)	Practicum in Health Science (CCMA or EMT) (2 credits) EMT only available through 27-28.

Hospitality and Tourism

Culinary Arts and Hospitality Academy (Byron Nelson HS) - Business and Industry Endorsement

Principles of Hospitality & Tourism (1 credit)	Intro to Culinary Arts (1 credit)	Culinary Arts (2 credits)	Practicum in Culinary Arts/Extended Practicum in Culinary Arts (3 credits)

Human Services

Cosmetology Academy (Northwest HS) - Business and Industry Endorsement

No 9th Grade course offered.	**No 10th Grade course offered.**	• Cosmetology I with Lab (3 credits) **and** • Intro to Cosmetology (1 credit)	Cosmetology II with Lab (3 credits)

Family and Community Services - Public Service Endorsement

Route 1: Recommended Course Sequence	
9th Grade	Principles of Human Services (1 credit)
10th Grade	Family and Community Services (1 credit)
11th Grade	Counseling and Mental Health (1 credit)
12th Grade	Practicum in Human Services (2 credits)

Route 2: Recommended Course Sequence	
7th Grade	Lifetime Nutrition and Wellness (.5 credit) / Interpersonal Studies (.5 credit)
8th Grade	Principles of Human Services (1 credit)
9th Grade	Family and Community Services (1 credit)
10th Grade	Counseling and Mental Health (1 credit)
11th Grade	Practicum in Human Services (2 credits)
12th Grade	Extended Practicum in Human Services (3 credits)

Information Technology

Networking Systems - Business and Industry or STEM Endorsement

Discontinued - No 9th Grade course offered.	**Discontinued - No 10th Grade course offered.**	**Discontinued - No 11th Grade course offered.**	Practicum in Information Technology (2 credits) **or** Independent Study in Technology Applications (1 credit)

Programming and Software Development - Business and Industry or STEM Endorsement

Honors Computer Science I (1 credit)	Honors Computer Science II (1 credit)	Honors Computer Science III (1 credit)	Practicum in Information Technology (2-3 credits) **or** Independent Study in Technology Applications (1 credit)

Manufacturing

Advanced Manufacturing - Business and Industry or STEM Endorsement

Principles of Manufacturing (1 credit)	Manufacturing Engineering Technology I (1 credit)	Manufacturing Engineering Technology II (1 credit)	Practicum in Manufacturing (2 credits)

Transportation, Distribution, and Logistics

Aviation Academy (Eaton HS) - Business and Industry

	1st Year	2nd Year	3rd Year	4th Year
Aviation Maintenance* (TCCD)	Introduction to Aerospace and Aviation / DC Intro to Aviation (AIRP 1313) (1 Credit)	Introduction to Aircraft Technology/ DC Intro to Aviation (AERM 1101) (1 Credit)	DC Aircraft Airframe Technology/Advanced Transportation Systems Laboratory (Dual Credit) (3 Credits)	DC Aircraft Powerplant Technology/Advanced Transportation Systems Laboratory (Dual Credit) (3 Credits)
Drone (Unmanned Flight)	Introduction to Aerospace and Aviation / DC Intro to Aviation (AIRP 1313) (1 Credit)	Introduction to Aircraft Technology/ DC Intro to Aviation (AERM 1101) (1 Credit)	Introduction to Unmanned Aerial Vehicles (1 Credit)	Practicum in Transportation Systems First Time Taken (2 Credits)
Aviation (Flight) (EHS/TCCD)**	Introduction to Aerospace and Aviation / DC Intro to Aviation (AIRP 1313) (1 Credit)	Introduction to Aircraft Technology/ DC Intro to Aviation (AERM 1101) (1 Credit)	Aviation Ground School (1 Credit) (EHS)	**Private Pilot (TCCD)** Practicum in Transportation Systems/Extended Practicum in Transportation Systems First Time Taken (Dual Credit) (3 Credits) **Private Pilot (Simulator)** Practicum in Transportation Systems First Time Taken (2 Credits) (EHS)

Military Readiness

JROTC (Davis HS) - Public Service Endorsement

JROTC I (1 credit) ***or*** JROTC PE Substitution (1 Credit) - if need PE credit	JROTC II (1 credit) **Available in 2028-2029**	JROTC III (1 credit) **Available in 2029-2030**	JROTC IV (1 credit) **Available in 2030-2031**