COPPELL ISD
you matter

Discover Your Path

A Coppell ISD Career and Technical Education Opportunities Guide

Exploring courses, pathways, and future opportunities

Coppell Independent School District

Career & Technical Education

The CTE Opportunities Guide helps students and families explore programs that connect learning to future possibilities. Through hands-on experiences, strong teaching, and real-world applications, CTE supports students in discovering interests, building skills, and preparing for life after graduation. This guide is a starting point—explore the opportunities, ask questions, and choose the path that fits you best.

HOW TO USE THIS GUIDE

- Explore programs that match your interests
- Learn how CTE courses progress over time
- Understand graduation and readiness expectations
- Talk with counselors, teachers, and family members

PROGRAMS OF STUDY

Arts, Audio/Visual Technology, and Communications

Digital Communications
Graphic Design and Interactive Media

Business, Marketing, and Finance

Accounting and Finance
Business Management
Marketing and Sales

Education and Training

Teaching and Coaching

Health Science

Diagnostic and Therapeutic Services

Engineering

Engineering Foundations
Drone (Unmanned Vehicle)

Manufacturing

Robotics and Automation Technology

Information Technology

Programming and Software Development

Transportation, Distribution, and Logistics

Aviation Pilots

CTE COURSE PROGRESSION

Career and Technical Education courses are organized into four levels that help students move from curiosity to confidence. Students may enter at different points, but each level builds toward stronger skills, deeper understanding, and future readiness.

CTE Level 1 — Discover

Career Awareness

Students are introduced to broad career fields and the world of work. Courses focus on building curiosity, understanding how learning connects to careers, and recognizing the many pathways available after high school.

CTE Level 2 — Explore

Career Exploration

Students take a closer look at specific career pathways and programs of study. Courses help students compare options, develop foundational skills, and make more informed decisions about future coursework.

CTE Level 3 — Apply

Career Preparation

Students actively apply learning through hands-on experiences, projects, and problem-solving. Courses emphasize skill development, real-world application, and preparation for postsecondary success.

CTE Level 4 — Launch

Career Training

Students focus on advanced skill development and career readiness within a specific pathway. These courses prepare students for immediate employment, advanced training, military service, or postsecondary education.

Not every student follows the same path—and that's intentional. This progression allows flexibility while supporting growth over time. Students are encouraged to explore, ask questions, and choose programs that align with their goals, interests, and definition of success. Counselors, teachers, and families work together to help students use these levels as a guide—not a limit.

DIGITAL COMMUNICATION

PROGRAM SNAPSHOT

Arts, Audio/Visual Technology, and Communications

Business & Industry Endorsement

Campuses Offered At:

INDUSTRY-BASED CERTIFICATIONS

NOCTI Digital Video Production Foundations Certification

PROGRAM OVERVIEW

The Digital Communications program of study focuses on occupational and educational opportunities associated with the production of audio and visual media formats for various purposes, such as TV broadcasts, advertising, video production, or motion pictures. The program of study includes operating machines and equipment such as microphones, sound speakers, video screens, projectors, video monitors, sound and mixing boards, and related electronic equipment to record sound and images.

WHY CHOOSE THIS PROGRAM?

- Create videos and media for real audiences
- Gain hands-on experience with professional tools
- Build a portfolio of creative work
- Explore careers in media, film, and communications

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Arts, Audio/Video Technology, and Communications

Students explore the foundations of arts, audio/video technology, and communications systems while gaining hands-on insight into how these industries work. The course introduces a wide range of career pathways and helps students understand the skills, training, and education needed for postsecondary success.

Audio/Video Production I - Fuze or KCBY

Audio/Video Production I introduces students to careers across the audio, video, and film production industry. Students develop foundational technical skills while exploring the full production process, including pre-production, production, and post-production.

Audio/Video Production II + Lab - Fuze or KCBY

Audio/Video Production II + Lab builds on foundational production skills with advanced, hands-on experience in audio and video creation. Students deepen their technical expertise while applying industry practices across pre-production, production, and post-production workflows.

Industry-Based Certification Opportunity: NOCTI Digital Video Production Foundations Certification
Pre-Requisite: Audio/Video Production I

Practicum in Audio/Video Production - Fuze or KCBY

Practicum in Audio/Video Production provides advanced, real-world experience across the audio, video, and film production industry. Students refine professional-level skills while applying advanced pre-production, production, and post-production practices in audio, video, or combined formats.

Industry-Based Certification Opportunity: NOCTI Digital Video Production Foundations Certification
Pre-Requisite: Audio/Video Production II + Audio/Video Production II Lab

GRAPHIC DESIGN AND INTERACTIVE MEDIA

PROGRAM SNAPSHOT

Arts, Audio/Visual Technology, and Communications

Business & Industry Endorsement

Campuses Offered At:

INDUSTRY-BASED CERTIFICATIONS

Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator

PROGRAM OVERVIEW

The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes designing clothing and accessories 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.

WHY CHOOSE THIS PROGRAM?

- Build creative and professional portfolios
- Learn industry-standard design tools
- Explore careers in design and media

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Arts, Audio/Video Technology, and Communications

Students explore the foundations of arts, audio/video technology, and communications systems while gaining hands-on insight into how these industries work. The course introduces a wide range of career pathways and helps students understand the skills, training, and education needed for postsecondary success.

Graphic Design and Illustration I

Graphic Design and Illustration I introduces students to the fundamentals of visual art and design within the Arts, Audio/Video Technology, and Communications career cluster. Students use industry-standard tools, including Adobe Creative Suite and online design applications, to build creativity and problem-solving skills.

Digital Art and Animation

Digital Art and Animation consists of computer images and animations created with digital imaging software. Students in this course will produce various real-world projects and animations. The six strands include creativity and innovation; communication and collaboration; research and information fluency; critical thinking; problem solving, and decision making; digital citizenship; and technology operations and concepts. CTSO membership available: DECA

Recommended Prerequisite: Art, Level I

Graphic Design and Illustration II

Within this context, students will be expected to develop an advanced understanding of the industry with a focus on mastery of content knowledge and skills. CTSO membership available: DECA or TSA

Industry-Based Certification Opportunity: Adobe Certified Professional in Graphic Design and Illustration Using Adobe Illustrator
Pre-Requisite: Graphic Design and Illustration I

GRAPHIC DESIGN AND INTERACTIVE MEDIA

Round Up Yearbook / Sidekick Newspaper / REWIND Yearbook

PROGRAM SNAPSHOT

Arts, Audio/Visual Technology, and Communications

Business & Industry Endorsement

Campuses Offered At:

INDUSTRY-BASED CERTIFICATIONS

Adobe Certified Professional in Print and Digital Media Publication Using Adobe InDesign

PROGRAM OVERVIEW

The Graphic Design and Interactive Media program of study focuses on occupational and educational opportunities associated with designing or creating graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. The program of study includes designing clothing and accessories 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.

WHY CHOOSE THIS PROGRAM?

- Design graphics for real publications
- Build creative and professional portfolios
- Learn industry-standard design tools
- Explore careers in design and media

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Arts, Audio/Video Technology, and Communications

Students explore the foundations of arts, audio/video technology, and communications systems while gaining hands-on insight into how these industries work. The course introduces a wide range of career pathways and helps students understand the skills, training, and education needed for postsecondary success.

Graphic Design and Illustration I - Round Up / Sidekick / REWIND

Graphic Design and Illustration I (Round Up Yearbook, Sidekick Newspaper, or REWIND Yearbook) focuses on the fundamentals of visual art and design within the Arts, Audio/Video Technology, and Communications career cluster. Students use industry-standard tools such as Adobe Creative Suite and online design platforms while producing real campus publications.

Recommended Prerequisite: Principles of Arts, Audio/Video Technology, and Communications

Graphic Design and Illustration II + Lab - Round Up / Sidekick / REWIND

Graphic Design and Illustration II + Lab builds advanced design and production skills within the Arts, Audio/Video Technology, and Communications career cluster. Students apply industry workflows across planning, production, and post-production while strengthening creativity, collaboration, and problem-solving skills. Learners may work on campus publications and projects in audio or combined audio/video formats.

Pre-Requisite: Graphic Design and Illustration I

Practicum in Graphic Design and Illustration - Round Up / Sidekick / REWIND

Practicum in Graphic Design and Illustration provides advanced, real-world experience applying professional design and production workflows. Students refine technical skills through pre-production, production, and post-production work in audio, video, or combined formats, often in lab-based or career preparation settings.

Industry-Based Certification Opportunity: Adobe Certified Professional in Print or Digital Media Publication Using Adobe InDesign

Pre-Requisite: Graphic Design and Illustration II + Lab

ACCOUNTING AND FINANCE

PROGRAM SNAPSHOT

Business, Marketing, and Finance

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Accounting and Financial Services program of study focuses on occupational and educational opportunities associated with examining, analyzing, and interpreting financial records. It includes exploration of financial services, preparing financial statements, auditing financial statements prepared by others, and interpreting accounting records. This program of study also introduces students to mathematical modeling tools.

INDUSTRY-BASED CERTIFICATIONS

Intuit QuickBooks Certified User

WHY CHOOSE THIS PROGRAM?

- Learn how businesses manage money
- Build in-demand financial skills
- Work with real-world data and tools
- Prepare for business and finance careers

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Business, Marketing, and Finance

Students are introduced to careers in business, marketing, and finance while learning how economies and private enterprise systems function. The course explores global business, marketing and advertising strategies, pricing, sales processes, and basic financial management.

Foundations of Business Communication and Technologies (Formerly BIM I)

Students develop professional communication and workplace skills needed for success in business and postsecondary settings. The course builds technical proficiency through real-world use of business technologies, including word processing, spreadsheets, databases, and digital presentations.

Money Matters

Money Matters focuses on personal financial literacy and effective money management. Students use critical-thinking skills to analyze financial decisions and set short- and long-term goals, exploring topics such as investing, budgeting, risk management, and retirement planning.

Industry-Based Certification Opportunity: Intuit QuickBooks Certified User

Recommended Prerequisite: Principles of Business, Marketing, and Finance

Securities and Investments

Securities and Investments introduces students to careers and concepts related to investing and financial markets. Students develop skills in analyzing stocks, bonds, mutual funds, and other investment options while understanding risk, return, and market behavior.

Recommended Prerequisite: Principles of Business, Marketing, and Finance

or

Practicum in Entrepreneurship

Practicum in Entrepreneurship offers work-based learning experiences that combine classroom instruction with real-world business and industry employment. Students develop adaptable skills to prepare for college and career success in a changing workplace, with off-campus participation requiring personal transportation.

Recommended Prerequisites: successful completion of at least two courses in a CTE program of study

BUSINESS MANAGEMENT

PROGRAM SNAPSHOT

Business, Marketing, and Finance

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Business Management program of study focuses on occupational and educational opportunities associated with planning, directing, and coordinating the administrative services and operations of an organization. It includes formulating policies, managing daily operations, and allocating the use of materials and human resources. This program of study also introduces students to mathematical modeling tools and organizational evaluation methods.

INDUSTRY-BASED CERTIFICATIONS

Microsoft Office Specialist: Microsoft Excel/Word/Access Expert (2019+ or Microsoft 365 Apps)

WHY CHOOSE THIS PROGRAM?

- Develop leadership and management skills
- Learn how organizations operate
- Build skills useful in any career
- Prepare for business and entrepreneurship pathways

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Business, Marketing, and Finance

Students are introduced to careers in business, marketing, and finance while learning how economies and private enterprise systems function. The course explores global business, marketing and advertising strategies, pricing, sales processes, and basic financial management.

or

Foundations of Business Communication and Technologies (BIM I)

Students develop professional communication and workplace skills needed for success in business and postsecondary settings. The course builds proficiency through real-world use of Microsoft Office applications.

Business Law

Business Law is designed for students to analyze various aspects of the legal environment, including ethics, the judicial system, contracts, personal property, sales, negotiable instruments, agency and employment, business organization, risk management, and real property.

Recommended Prerequisite: Principles of Business, Marketing, and Finance

or

Business Communication and Technologies (BIM II)

Students strengthen professional communication and workplace skills for success in business and postsecondary settings. The course emphasizes advanced use of Microsoft Office applications..

Industry-Based Certification Opportunity: Microsoft Office Specialist: Microsoft Excel/Word/Access Expert

Prerequisite: Foundations of Business Communication and Technologies (BIM I)

Business Management

Business Management is designed to familiarize students with the concepts related to business management as well as the functions of management, including planning, organizing, staffing, leading, and controlling. Students will also demonstrate interpersonal and project-management skills. CTSO membership available: DECA

Recommended Prerequisite: Principles of Business, Marketing, and Finance

Statistics and Business Decision Making

This course focuses on using data and statistics to support informed business decisions. Students learn how data is collected, analyzed, and interpreted to evaluate options and reduce risk in real-world business situations.

Recommended Prerequisite: Algebra II

or

Practicum in Entrepreneurship

Students participate in work-based learning experiences that combine classroom instruction with real-world business and industry employment. Students develop adaptable skills to prepare for college and career success in a changing workplace, with off-campus participation requiring personal transportation.

Recommended Prerequisites: successful completion of at least two courses in a CTE program of study

MARKETING AND SALES

PROGRAM SNAPSHOT

Business, Marketing, and Finance

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Marketing and Sales program of study focuses on occupational and educational opportunities associated with collecting information to estimate potential sales of a product or service and create campaigns to market or distribute goods and services. It includes applying data related to customer demographics, preferences, needs, and buying habits.

INDUSTRY-BASED CERTIFICATIONS

Content Creation & Marketing Using Adobe Express Certification

WHY CHOOSE THIS PROGRAM?

- Create marketing campaigns and promotions
- Learn how businesses reach customers
- Build communication and sales skills
- Explore careers in marketing and business

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Business, Marketing, and Finance

Students are introduced to careers in business, marketing, and finance while learning how economies and private enterprise systems function. The course explores global business, marketing and advertising strategies, pricing, sales processes, and basic financial management.

Marketing

Marketing introduces students to how businesses identify customer needs and promote products and services. The course explores marketing's role in organizations and society, including market research, product development, pricing, promotion, and distribution.

Recommended Prerequisite: Principles of Business, Marketing, and Finance

or

Sports and Entertainment Marketing I

Sports and Entertainment Marketing introduces marketing concepts as they apply to the sports and entertainment industries. Students explore branding, promotions, sponsorships, endorsements, and event marketing strategies.

Recommended Prerequisite: Principles of Business, Marketing, and Finance

Advertising/Social Media Marketing

Introduces students to modern advertising strategies across print, broadcast, digital, and social media platforms. Students explore ethical, legal, and cultural considerations while learning how to plan, manage, and measure effective marketing campaigns that reach target audiences.

Industry-Based Certification Opportunity: Content Creation & Marketing Using Adobe Express Certification

Recommended Prerequisite: Principles of Business, Marketing, and Finance

or

Sports and Entertainment Marketing II

Builds on foundational knowledge with a deeper study of advanced marketing concepts in the sports and entertainment industries. Focus on branding, sponsorships, endorsements, and developing effective promotional plans.

Industry-Based Certification Opportunity: Content Creation & Marketing Using Adobe Express Certification

Prerequisite: Sports and Entertainment Marketing

Statistics and Business Decision Making

This course focuses on using data and statistics to support informed business decisions. Students learn how data is collected, analyzed, and interpreted to evaluate options and reduce risk in real-world business situations.

Recommended Prerequisite: Algebra II

or

Practicum in Entrepreneurship

Students participate in work-based learning experiences that combine classroom instruction with real-world industry employment. Students develop skills to prepare for success in a changing workplace, with off-campus participation requiring personal transportation.

Recommended Prerequisites: successful completion of at least two courses in a CTE program of study

TEACHING AND COACHING

PROGRAM SNAPSHOT

Teaching and Coaching

Public Service Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Teaching and Training program of study focuses on occupational and educational opportunities associated with careers related to teaching, instructing, and creating instructional and enrichment materials. The program of study includes recognizing a variety of student groups and their corresponding needs, identifying processes for developing curriculum and coordinating educational content, and coaching groups and individuals.

INDUSTRY-BASED CERTIFICATIONS

Educational Aide I Certification

WHY CHOOSE THIS PROGRAM?

- Work with and support others
- Develop leadership and communication skills
- Explore teaching and coaching careers
- Gain hands-on instructional experience

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Teaching and Coaching

Principles of Education and Training introduces students to careers within the Human Services career cluster. Through lab-based experiences, students explore fields such as education, counseling, early childhood development, and community services while building skills for high-demand careers.

Human Growth and Development

Human Growth and Development examines physical, cognitive, emotional, and social development across the lifespan. Students explore key theories, research, and developmental milestones typically taught in an introductory college-level course.

Recommended Prerequisites: Principles of Teaching and Coaching or Principles of Human Services

Instructional Practices

Instructional Practices is a field-based internship that introduces students to child and adolescent development and effective teaching strategies. Under the supervision of educators, students gain hands-on experience planning instruction, supporting classroom activities, and assisting with instructional responsibilities across grade levels.

Prerequisite: At least one credit in a course from the Teaching and Coaching career cluster
Recommended Prerequisites: Principles of Teaching and Coaching, Human Growth and Development, or Child Development

Practicum in Teaching and Coaching

Practicum in Education and Training is a field-based internship focused on child and adolescent development and effective teaching practices. Students work under the supervision of experienced educators while gaining hands-on experience supporting instruction, preparing materials, and assisting with classroom responsibilities across grade levels.

Industry-Based Certification Opportunity: Educational Aide I Certification
Prerequisite: Instructional Practices
Recommended Prerequisites: Principles of Teaching and CoachingEducation and Training , Human Growth and Development, and Child Development

DIAGNOSTIC AND THERAPEUTIC SERVICES

Medical Assistant / EMT

PROGRAM SNAPSHOT

Health Science

Public Service Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

INDUSTRY-BASED CERTIFICATIONS

Medical Assistant

Emergency Medical Technician (EMT)

WHY CHOOSE THIS PROGRAM?

- Help care for and support patients
- Learn hands-on healthcare skills
- Explore medical and health careers
- Prepare for healthcare certifications

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Health Science

Principles of Health Science introduces students to a wide range of careers in the healthcare industry. The course explores pathways in therapeutic services, diagnostics, health informatics, support services, and biotechnology research.

Medical Terminology

Medical Terminology introduces students to the structure and meaning of medical language, including prefixes, suffixes, roots, and abbreviations. Students build vocabulary used in anatomy, physiology, medical procedures, and disease processes.

Recommended Prerequisite: A course from the Health Science career cluster

Health Science Theory

Health Science Theory develops advanced knowledge and skills for a wide range of healthcare careers. Through hands-on learning, students strengthen critical thinking, problem-solving, decision-making, and communication skills in preparation for clinical or work-based practicums.

Prerequisites: One credit in biology and at least one credit in a course from the Health Science career cluster

Recommended Prerequisite: Medical Terminology

Practicum in Health Science (Medical Assistant)

Practicum in Health Science (Medical Assistant) provides hands-on experience applying clinical skills in a healthcare setting. Students prepare for the National Healthcareer Association Certified Clinical Medical Assistant (CCMA) certification while learning to assist physicians with patient care, basic procedures, and administrative tasks.

Industry-Based Certification Opportunity: Medical Assistant

Prerequisites: Health Science Theory and biology

or

Practicum in Health Science (Emergency Medical Assistant)

Dual Credit course

Practicum in Health Science (Emergency Medical Assistant) provides hands-on training to prepare students for the NREMT Emergency Medical Technician exam. Students develop critical thinking, teamwork, communication, and professional skills while learning ethical, legal, and safety standards in emergency healthcare settings.

Industry-Based Certification Opportunity: Emergency Medical Technician (EMT)

Prerequisites: Health Science Theory and biology

DIAGNOSTIC AND THERAPEUTIC SERVICES

Pharmacy Technician

PROGRAM SNAPSHOT

Health Science

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Diagnostic and Therapeutic Services program of study focuses on occupational and educational opportunities associated with diagnosing and treating acute, episodic, or chronic illness independently or as part of a healthcare team. This program of study includes exploration of patient treatment and rehabilitative programs that help build or restore daily living skills to persons with disabilities or developmental delays.

INDUSTRY-BASED CERTIFICATIONS

Pharmacy Technician

WHY CHOOSE THIS PROGRAM?

- Help care for and support patients
- Learn hands-on healthcare skills
- Explore medical and health careers
- Prepare for healthcare certifications

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Health Science

Principles of Health Science introduces students to a wide range of careers in the healthcare industry. The course explores pathways in therapeutic services, diagnostics, health informatics, support services, and biotechnology research.

Medical Terminology

Medical Terminology introduces students to the structure and meaning of medical language, including prefixes, suffixes, roots, and abbreviations. Students build vocabulary used in anatomy, physiology, medical procedures, and disease processes.

Recommended Prerequisite: A course from the Health Science career cluster

Anatomy and Physiology

Learners in Anatomy and Physiology of Human Systems study the structures and functions of the human body systems and learn how to maintain health and wellness. This course includes at least 40% laboratory investigation using scientific inquiry and dissections.

Prerequisites: One credit in biology and one credit in chemistry, Integrated Physics and Chemistry (IPC), or physics
Recommended Prerequisite: A course from the Health Science career cluster

or

Medical Microbiology

This course is designed to explore the microbial world, studying topics such as pathogenic and non-pathogenic microorganisms, laboratory procedures, identifying microorganisms, drug resistant organisms, and emerging diseases. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement.

Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Health Science career cluster

(Note: Health Science Theory can also be taken as a third course in this pathway.)

Pharmacology

Pharmacology examines how natural and synthetic drugs affect biological systems. Students learn about therapeutic agents and their role in providing safe, effective healthcare in a rapidly evolving field.

Industry-Based Certification Opportunity: Pharmacy Technician
Prerequisites: One credit in biology, one credit in chemistry, and at least one credit in a Level 2 or higher course from the Health Science career cluster

ENGINEERING FOUNDATIONS

PROGRAM SNAPSHOT

Engineering

STEM (Science, Technology, Engineering, and Mathematics) Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Engineering Foundations program of study focuses on occupational and educational opportunities associated with a wide range of skills applied in the Engineering industry. Students will design, test, and evaluate projects related to engines, machines, and structures. This program of study incudes applying scientific, mathematical, and empirical evidence to solve problems through innovation, design, construction, operation, and maintenance of different engineering systems.

INDUSTRY-BASED CERTIFICATIONS

Certified SOLIDWORKS Associate (CSWA) – Academic Certification

WHY CHOOSE THIS PROGRAM?

- Design and build real projects
- Apply math and science skills
- Solve real-world engineering problems
- Explore engineering and technology careers

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Applied Engineering

Principles of Applied Engineering introduces students to the fields of science, technology, engineering, and mathematics and how they connect. Students build engineering communication skills through modeling, computer graphics, presentations, and collaborative design projects while exploring engineering career pathways.

Recommended Prerequisite: Algebra I or Geometry

Engineering Design and Presentation

Engineering Design and Presentation builds on applied engineering concepts through hands-on use of the engineering design process. Students create and present working drawings, 3D models, and prototypes using industry-standard tools while exploring careers in engineering, technology, and drafting.

Prerequisites: Algebra I and at least one credit in a course from the Engineering career cluster

Recommended Prerequisites: Principles of Applied Engineering

Engineering Design and Problem Solving

Engineering Design and Problem Solving focuses on using the engineering design process to identify needs and develop effective solutions. Students apply science and mathematics while working within real-world constraints to solve problems across various engineering disciplines.

Industry-Based Certification Opportunity: Certified SOLIDWORKS Associate (CSWA) – Academic Certification

Prerequisites: Algebra I, Geometry, and at least one credit in a Level 2 or higher course in the Engineering career cluster

Recommended Prerequisites: Engineering Science, chemistry, or physics

Practicum in Engineering

Practicum in Engineering is a senior capstone course that provides supervised, real-world application of engineering skills through one or more major projects. Students may participate in off-campus experiences (transportation required) and demonstrate advanced problem-solving, design, and technical skills.

Prerequisites: Algebra I and Geometry and a minimum of two credits with at least one course in a Level 2 or higher course from the Engineering career cluster

DRONE (UNMANNED VEHICLE)

PROGRAM SNAPSHOT

Engineering

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Drone (Unmanned Vehicle) regional program of study focuses on the occupational and educational opportunities associated with operating or designing an unmanned aircraft using a ground-based controller. This program of study includes understanding and designing systems of communications between the controller and the aircraft to ensure compliance with federal aviation safety regulations.

INDUSTRY-BASED CERTIFICATIONS

FAA Part 107 Remote Drone Pilot Certification

WHY CHOOSE THIS PROGRAM?

- Help care for and support patients
- Learn hands-on healthcare skills
- Explore medical and health careers
- Prepare for healthcare certifications

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Introduction to Aerospace and Aviation

⚠️ Not available in the 2026-2027 school year ⚠️

Introduction to Aerospace and Aviation introduces students to the fundamentals of flight, aircraft systems, navigation, safety, and aerospace careers. Through hands-on, real-world activities, students explore how aircraft and spacecraft are designed, operated, and maintained.

Introduction to Unmanned Aerial Vehicles (UAV)

Introduces students to drone systems, flight principles, safety regulations, and real-world applications. Students explore UAV design, operation, and data collection while building foundational skills for future study.

Robotics I

Engages students in project-based learning using the engineering design process. Students build and test prototypes or simulations while exploring careers, employer expectations, and education pathways in robotics and automation.

Digital Electronics

Introduces students to basic circuits, logic gates, binary systems, and electronic components. Through hands-on problem-solving, students learn how digital systems are designed, built, and tested, supporting future study in engineering, robotics, and computer science.

Industry-Based Certification Opportunity: FAA Part 107 Remote Drone Pilot Certification

Prerequisites: Algebra I and Geometry

Robotics II

⚠️ Not available in the 2026-2027 school year ⚠️

Builds on prior skills with a focus on programming, artificial intelligence, and advanced robotics applications. Students use the engineering design process to create and test prototypes in a project-based environment, and the course satisfies a math credit requirement.

Prerequisite: Robotics I

Scientific Research and Design

⚠️ Not available in the 2026-2027 school year ⚠️

Introduces students to research methods and engineering design through real-world UAV applications. Students develop skills in investigation, data collection, analysis, and problem-solving using drone technology to support future studies and careers in engineering, aviation, and applied sciences.

Prerequisites: Biology, and one credit of the following: Physics for Engineering, chemistry, Integrated Physics and Chemistry (IPC), or physics

Practicum in Transportation Systems

⚠️ Not available in the 2026-2027 school year ⚠️

Provides hands-on, real-world experience through advanced projects and work-based learning. Students apply technical and professional skills related to transportation systems, safety, and operations while preparing for postsecondary study, certifications, and transportation-related careers.

ROBOTICS AND AUTOMATION TECHNOLOGY

PROGRAM SNAPSHOT

Manufacturing

STEM (Science, Technology, Engineering, and Mathematics) Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Robotics and Automation Technology program of study focuses on occupational and educational opportunities associated with the assembly, operation, maintenance, and repair of electromechanical equipment or devices. This program of study includes exploration of a variety of mechanical fields, including robotics, refinery and pipeline systems, deep ocean exploration, and hazardous waste removal.

INDUSTRY-BASED CERTIFICATIONS

FC-103 Certified 4.0 Associate III – Robot System Operations Certification

WHY CHOOSE THIS PROGRAM?

- Work with robots and automation systems
- Build hands-on technical skills
- Solve real-world technical problems
- Prepare for advanced manufacturing careers

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Principles of Applied Engineering

Principles of Applied Engineering introduces students to the fields of science, technology, engineering, and mathematics and how they connect. Students build engineering communication skills through modeling, computer graphics, presentations, and collaborative design projects while exploring engineering career pathways.

Recommended Prerequisite: Algebra I or Geometry

Robotics I

Robotics I engages students in project-based learning using the engineering design process. Students build and test prototypes or simulations while exploring careers, employer expectations, and education pathways in robotics and automation.

Recommended Prerequisites: Principles of Applied Engineering

Robotics II

Robotics II builds on prior skills with a focus on programming, artificial intelligence, and advanced robotics applications. Students use the engineering design process to create and test prototypes in a project-based environment, and the course satisfies a math credit requirement.

Industry-Based Certification Opportunity: FC-103 Certified 4.0 Associate III – Robot System Operations Certification

Prerequisite: Robotics I

Practicum in Robotics and Automation Technology

Practicum in Robotics and Automation Technology provides hands-on, real-world experience through advanced, industry-aligned projects and work-based learning. Students apply technical skills in robotics, automation, and programming while developing teamwork, communication, and problem-solving skills in preparation for postsecondary study, certifications, and careers in advanced manufacturing.

PROGRAMMING AND SOFTWARE DEVELOPMENT

PROGRAM SNAPSHOT

Information Technology

STEM (Science, Technology, Engineering, and Mathematics) Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Programming and Software Development program of study focuses on occupational and educational opportunities associated with researching, designing, developing, testing, and operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computer applications. This program of study includes creating, modifying, and testing the codes, forms, and script that allow computer applications to run.

INDUSTRY-BASED CERTIFICATIONS

Certified Entry-Level Python Programmer (PCEP) Certification

WHY CHOOSE THIS PROGRAM?

- Learn to code and build software
- Solve problems using technology
- Develop in-demand tech skills
- Explore careers in computer science

Note

Students can begin this Program of Study in Middle School. See your campus course guide for details

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Fundamentals of Computer Science

Fundamentals of Computer Science introduces beginners to core computer science concepts through real-world problem solving and collaboration. Students develop creativity, critical thinking, digital citizenship, and technology skills while learning Python programming.

Computer Science I

Computer Science I engages students in designing and creating programs while solving real-world problems through collaboration and data analysis. Students build skills in Python programming, computational thinking, and responsible digital citizenship while exploring core computer science systems and concepts.

Prerequisite/Corequisite: Algebra I

or

Advanced Placement (AP) Computer Science Principles

AP Computer Science Principles introduces students to the foundational concepts of computing through a broad, multidisciplinary approach. Students explore programming, algorithms, data, the Internet, cybersecurity, and the impact of computing while preparing for the AP exam and a wide range of college majors and careers.

Recommended Prerequisite: Algebra I

Computer Science II

Computer Science II expands students' skills in designing and implementing programs through collaborative, problem-based learning. Students apply data analysis and advanced computer science concepts to create, evaluate, and refine solutions while practicing responsible digital citizenship.

Industry-Based Certification Opportunity: Certified Entry-Level Python Programmer (PCEP) Certification

Prerequisites: Algebra I and Computer Science I or AP Computer Science Principles

Computer Science III

Computer Science III focuses on advanced programming and problem-solving through collaborative, project-based learning. Students apply data analysis and complex data structures to design, create, and evaluate solutions while practicing responsible digital citizenship.

Prerequisites: Computer Science II, or Advanced Placement (AP) Computer Science A

or

Advanced Placement (AP) Computer Science A

AP Computer Science A is a college-level course focused on programming, algorithms, and object-oriented design. Students learn to implement algorithms, use data structures, and apply OOP concepts while preparing for the AP Computer Science A exam.

Recommended Prerequisites: Algebra I or a student should be comfortable with functions and the concepts found in the uses of functional notation such as $f(x) = x + 2$ and $f(x) = g(h(x))$

AVIATION PILOTS

PROGRAM SNAPSHOT

Transportation, Distribution, and Logistics

Business & Industry Endorsement

Campuses Offered At:

PROGRAM OVERVIEW

The Pilots and Aviation Operations program of study focuses on occupational and educational opportunities associated with the principles and science of flight. This program of study includes the exploration and understanding of aviation engineering, air navigational aids, air traffic controls, and communications equipment to ensure conformance with federal safety regulations.

INDUSTRY-BASED CERTIFICATIONS

WHY CHOOSE THIS PROGRAM?

- Explore flight and aviation careers
- Learn how aircraft operate
- Build aviation knowledge and skills
- Prepare for pilot training pathways

RECOMMENDED COURSE SEQUENCE & PROGRESSION

Introduction to Aircraft Technology

Introduces students to the systems, components, and maintenance principles of modern aircraft. Students explore aircraft structures, powerplants, avionics, safety procedures, and career pathways.

or

Principles of Transportation Systems

IThis course introduces students to how transportation systems operate and support the movement of people and goods. Students explore careers, technologies, and safety practices.

Introduction to Unmanned Aerial Vehicles (UAV)

Introduces students to drone systems, flight principles, safety regulations, and real-world applications. Students explore UAV design, operation, and data collection while building foundational skills for future study in aviation, engineering, and drone technology.

or

Aerospace Design I

⚠️ Not available in the 2026-2027 school year ⚠️

Introduces students to aerospace engineering and the engineering design process to topics such as aerodynamics, structures, materials, and propulsion

Prerequisite: Algebra I

Aviation Ground School

⚠️ Not available in the 2026-2027 school year ⚠️

Introduces the foundational knowledge needed for safe flight, including aerodynamics, aircraft systems, weather, navigation, airspace, and FAA regulations. The course prepares students for pilot training and FAA written exams.

Industry-Based Certification Opportunity: FAA Part 107 Remote Drone Pilot Certification

Prerequisites: Algebra I and Geometry

or

Aerospace Design II

⚠️ Not available in the 2026-2027 school year ⚠️

Builds on prior coursework with advanced aerospace engineering and design optimization. Students tackle complex challenges in aerodynamics, structures, and propulsion.

Prerequisites: Geometry and Aerospace Design I

Scientific Research and Design

⚠️ Not available in the 2026-2027 school year ⚠️

Introduces students to research methods and engineering design through real-world UAV applications. Students develop skills in investigation, data collection, analysis, and problem-solving to support future studies and careers.

Prerequisites: Biology, and one credit of the following:, chemistry, or physics

or

Practicum in Transportation Systems

⚠️ Not available in the 2026-2027 school year ⚠️

Provides hands-on, real-world experience through advanced projects and work-based learning. Students apply technical and professional skills related to transportation systems, safety, and operations while preparing for postsecondary study, certifications, and transportation-related careers.

Career and Technical Student Organizations

DECA

- Accounting and Finance
- Aviation Pilots
- Business Management
- Digital Communications - Fuze
- Drone (Unmanned Vehicle)
- Graphic Design and Interactive Media - Rewind Yearbook
- Marketing and Sales

hosa future health professionals

- Diagnostic and Therapeutic

The Hope for Tomorrow TAFE

TAFE Texas Association of Future Educators

- Teaching and Coaching

TSA TECHNOLOGY STUDENT ASSOCIATION ®

- Digital Communications - KCBY
- Engineering Fundamentals
- Graphic Design and Interactive Media
- Graphic Design and Interactive Media - Sidekick Newspaper
- Graphic Design and Interactive Media - Round Up Yearbook
- Programming and Software Development
- Robotics and Automation