

Science, Technology, Engineering, and Mathematics Career Cluster

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.

Engineering Statewide Program of Study



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

Secondary Courses for High School Credit

Level 1

- Engineering Essentials (PLTW)
- Intro to Engineering Design (PLTW)

Level 3

- Aerospace Engineering (PLTW)
- Engineering and Design and Development (PLTW)

Work-Based Learning and Expanded Learning Opportunities

Exploration Activities

- Participate in Skills USA competitions

Work-Based Learning Activities

- Intern at an engineering firm
- Shadow a machinist

Industry-Based Certifications

- Autodesk Associate (Certified User) AutoCAD
- Autodesk Associate (Certified User) Fusion 360
- Autodesk Associate (Certified User) Inventor for Mechanical Design
- Autodesk Associate (Certified User) Revit Architecture
- Autodesk Associate (Certified User) Revit for Electrical
- Autodesk Associate (Certified User) Revit for Structural Design
- Autodesk Certified Professional Fusion 360
- Autodesk Certified Professional in AutoCAD for Design and Drafting
- Autodesk Certified Professional in Civil 3D for Infrastructure Design
- Autodesk Certified Professional in Inventor for Mechanical Design
- Autodesk Certified Professional in Revit for Architectural Design
- Autodesk Certified Professional in Revit for Electrical Design
- Autodesk Certified Professional in Revit for Structural Design
- C-103 Certified Industry 4.0 Associate - Robot System Operations
- Engineering Technology Foundations
- Lean Six Sigma Green Belt Certification
- Pre-Engineering/Engineering Technology - Job Ready

Postsecondary Opportunities

Associates Degrees

- Electrical and Electronics Engineering
- Drafting and Design Technology/ Technician, General
- Engineering Technology

Bachelor's Degrees

- Electrical and Electronics Engineering
- CAD/CADD Drafting and/or Design Technology/ Technician
- Bioengineering and Biomedical Engineering
- Construction Engineering Technology/ Technician

Master's, Doctoral, and Professional Degrees

- Electrical and Electronics Engineering
- Mechanical Engineering
- Bioengineering and Biomedical Engineering

Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$110,843	481	9%
Industrial Engineers	\$97,074	1,263	10%
Mechanical Engineers	\$91,107	1,535	11%
Chemical Engineers	\$112,819	474	9%
Electrical Engineers	\$98,405	1,137	10%

Successful completion of the Engineering program of study will fulfill requirements of the Business and Industry or STEM endorsement if the math and science requirements are met. Revised – November 2022

Engineering Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Introduction to Engineering Design (PLTW)	N1303742 (1 credit)	None	None
Engineering Essentials (PLTW)	N1303760 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Design and Development (PLTW)	N1303749 (1 credit)	None	None
Aerospace Engineering (PLTW)	N1303745 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATH CAREER CLUSTER,
PLEASE CONTACT: CTE@tea.texas.gov
<https://tea.texas.gov/cte>

The Argyle Independent School District does not discriminate on the basis of race, color, national origin, sex, disability, or age in any of its career and technical education programs, services, or activities and provides equal access to the Boy Scouts and other designated youth groups as required by Title VI of the Civil Rights Act of 1964 as amended; Title IX of the Education Amendments of 1972; and Section 504 of the Rehabilitation Act of 1973, as amended.

For inquiries regarding non-discrimination policies under Title VI, Title IX, and Section 504, contact Dr. Deana Steeber, Assistant Superintendent, via email at deana.steeber@argyleisd.com or by phone at 940-464-7241. Dr. Steeber can also be reached at Argyle ISD's central offices, 6701 Canyon Falls Drive in Flower Mound, TX.

Title VI, Title IX, & Section 504 Coordinator
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Further nondiscrimination information can be found at [Notification of Nondiscrimination in Career and Technical Education Programs](#).