

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



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

- Principles of Applied Engineering

Level 2

- None

Level 3

- Engineering Design and Presentation I

Level 4

- Engineering Design and Presentation II ¹
- Practicum in Science, Technology, Engineering and Mathematics - Engineering



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

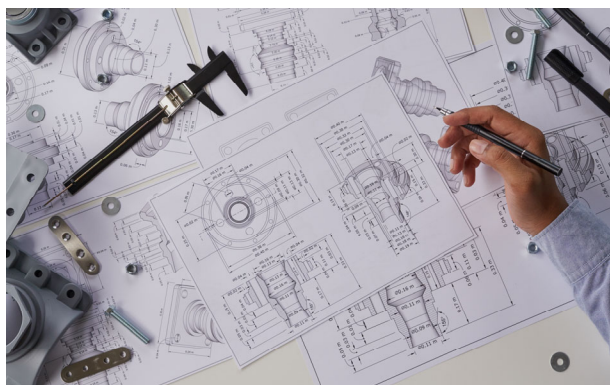
Work-Based Learning and Expanded Learning Opportunities

Exploration Activities	Work-Based Learning Activities
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|---|---|
| <ul style="list-style-type: none"> Join in Technology Students Association (TSA) | <ul style="list-style-type: none"> Intern at an engineering firm Shadow a machinist |
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Industry-Based Certifications

- Autodesk Associate (Certified User) ¹



Aligned Occupations

Occupations	Median Wage	Annual Openings	% Growth
Aerospace Engineers	\$120,000	480	19%
Industrial Engineers	\$101,100	1,900	26%
Mechanical Engineers	\$111,300	1,700	19%
Chemical Engineers	\$164,400	500	25%
Electrical Engineers	\$106,800	1,300	21%

Successful completion of the Engineering program of study will fulfill requirements of the STEM endorsement. Revised – January 2023

Engineering Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Principles of Applied Engineering	13036200 (1 credit)	None	9

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
None	-	-	-

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Engineering Design and Presentation I	13036500 (1 credit)	Principles of Applied Engineering & Algebra I	10

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	GRADE LEVEL(S)
Engineering Design and Presentation II	13036600 (2 credits)	Engineering Design & Presentation I & Geometry	11
Practicum in Science, Technology, Engineering, and Mathematics - Engineering	13037400 (2 credits)	Engineering Design & Presentation II	12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING AND MATH CAREER CLUSTER
PLEASE CONTACT YOUR CAMPUS CTE COUNSELOR

<https://tea.texas.gov/cte>

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Further nondiscrimination information can be found at
[Notification of Nondiscrimination in Career and Technical Education Programs.](#)