

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

- Introduction to Engineering Design (PLTW1)

Level 2

- Engineering Science/Principles of Engineering (PLTW2)

Level 3

- Civil Engineering and Architecture (PLTW3)

Level 4

- Engineering Design and Problem Solving

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

- Participate in Skills USA

Work-Based Learning Activities

- Intern at an engineering firm
- Shadow a machinist

Industry-Based Certifications

- Engineering Technology Foundations



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 – August 2022

Engineering Course Information

Level 1

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Introduction to Engineering Design (PLTW1)	N1303742 (1 credit)	None	None

Level 2

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Science/Principles of Engineering (PLTW2)	13037500 (1 credit)	Algebra I, Biology, Chemistry and either Integrated Physics (IPC) or Physics	None

Level 3

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Civil Engineering & Architecture (PLTW3)	N1303747 (1 credit)	None	None

Level 4

COURSE NAME	SERVICE ID	PREREQUISITES	COREQUISITES
Engineering Design & Problem Solving	13037300 (1 credit)	Algebra I and Geometry	None

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

Mabank ISD does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs or activities and provides equal access to the Boy Scouts and other designated youth groups. The following person has been designated to handle inquiries regarding the nondiscrimination policies: Mr. Clay Tracy, Assistant Superintendent of Human Resources, 310 E. Market Street, Mabank, TX 75147, 903-880-1305.

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