



<b>Level 1</b>	<b>9<sup>th</sup> Grade</b> Principles of Applied Engineering
<b>Level 2</b>	<b>10<sup>th</sup> Grade</b> Engineering Design and Presentation I
<b>Level 3</b>	<b>11<sup>th</sup> Grade</b> Research and Design
<b>Level 4</b>	<b>12<sup>th</sup> Grade</b> Engineering Design and Problem Solving

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
Autodesk Certified Professional or User (ACU)-Inventor	Engineer, Professional	Electrical and Electronics Engineering	Electrical and Electronics Engineering	Electrical and Electronics Engineering
Certified SolidWorks Associate (CSWA)	Fluid Power Systems Designer	Drafting and Design Technology/Technician, General	CAD/CADD Drafting and/or Design Technology/Technician	Mechanical Engineering
Certified Engineering Technician-Audio Systems	Certified Biomedical Auditor	Engineering Technology	Bioengineering and Biomedical Engineering	Bioengineering and Biomedical Engineering
	Certified Cost Estimator/Analyst		Construction Engineering Technology/Technician	

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%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES	
<b>Exploration Activities:</b>	<b>Work Based Learning Activities:</b>
Participate in competitions like Skills USA	Engineering internship Job shadow a machinist

Additional industry-based certification information is available on the TEA CTE website. For more information on postsecondary options for this program of study, visit [TXCTE.org](http://TXCTE.org).

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.



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.

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 - July 2020



# COURSE INFORMATION

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
Principles of Applied Engineering	13036200 (1 credit)	None	9-10
Engineering Design and Presentation I	13036500 (1 credit)	PREQ: Algebra I	10-12
Engineering Design & Problem Solving	13037300 (1 credit)	PREQ: Algebra I and Geometry	11-12
Scientific Research & Design	13037200 (1 credit)	PREQ: Biology, Chemistry, Integrated Physics, and Chemistry (IPC), or Physics	11-12

FOR ADDITIONAL INFORMATION ON THE SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS CAREER CLUSTER,  
PLEASE CONTACT:

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