



- Level 1**
Introduction to Engineering Design (PLTW)

- Level 2**

- Level 3**
Engineering Design and Development (PLTW)
Digital Electronics
Engineering Science

- Level 4**
Engineering Design and Problem Solving
Practicum in STEM
Scientific Research and Design

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%

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.

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.

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



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 & COURSE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
Introduction to Engineering Design (PLTW)	N1303742 / 8387 (1 credit)	None	9-12
Engineering Science (PLTW)	13037500 / 8390 (1 credit)	Introduction to Engineering Design (PLTW)	10-12
Engineering Design and Development (PTLW)	N1303749 / XXXX (1 credit)	Digital Electronics	12
Scientific Research & Design-Rockets 1	13037200 / 2950 (1 credit)	Introduction to Engineering Design (PLTW); Algebra I concurrent	10-12
Digital Electronics	13037600 / 8391 (1 credit)	Algebra I, Geometry, Engineering Science (PLTW)	10-12
Engineering Design & Problem Solving-Rockets 2	13037300 / XXXX (1 credit)	Algebra I and Rockets 1 Physics concurrent	11-12
Practicum in Science, Technology, Engineering, and Mathematics- Rockets 3	13037400 / 8395 (2 credits)	Rockets 2, Algebra II, Pre-Cal, Physics, Chemistry	12

BISD Recommended Course Sequence

Grade	9 th Year	10 th Year	11 th Year	12 th Year
Courses	Introduction to Engineering Design (PLTW)	Engineering Science and Rockets I	Digital Electronics or Rockets II	Engineering Design & Development (PLTW) or Practicum in STEM (Rockets III)