



Level 1 09940 Principles of Applied Engineering

Level 2 09777 AC/DC Electronics

Level 3 09792 / H09798 (AC) / H09792
Environmental Sustainability

Level 4 09778 Engineer Your World (EDPS)
Dual Credit Science

HIGH SCHOOL/INDUSTRY CERTIFICATION	CERTIFICATE/LICENSE*	Associate DEGREE	BACHELOR'S DEGREE	MASTER'S/DOCTORAL PROFESSIONAL DEGREE
	Photovoltaic Installer-Level I Professional	Industrial Mechanics and Maintenance Technology	Surveying Engineering	Surveying Engineering
	Solar Photovoltaic Certification	Solar Energy/Technology	Systems Engineering	Systems Engineering
	Small Wind Installer-Level I	Engineering, Mechanics	Engineering, Mechanics	Manufacturing Engineering
		Engineering, General	Engineering, General	Engineering, General

*Includes Level I and Level II Certificates

Occupations	Median Wage	Annual Openings	% Growth
Wind Turbine Services Technician	\$51,334	387	108%
Solar Photovoltaic Installer	\$43,957	47	81%

WORK BASED LEARNING AND EXPANDED LEARNING OPPORTUNITIES

Exploration Activities:	Work Based Learning Activities:
Skills USA Science Club	Research four renewable energy companies and compare them.

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 Renewable Energy program of study helps CTE learners discover to assemble, inspect, maintain, and repair different equipment required for renewable energy. It introduces students to solar photovoltaic equipment and wind turbines, the systems and processes used to maintain and manage these types of equipment, and helps students develop the skills needed to do so.



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 Renewable Energy 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

09940	PRINCIPLES OF APPLIED ENGINEERING	GPA Level: Regular
Grade Level: 9-12	Service ID: 13036200 (1 cr.)	Prerequisites: None

Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will understand the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.

09777	AC/DC ELECTRONICS	GPA Level: Regular
Grade Level: 10-12	Service ID: 13036800 (1 cr.)	Prerequisites: None

Students will demonstrate knowledge and applications of circuits, electronic measurement, and electronic implementation. Through use of the design process, students will transfer academic skills to component designs in a project-based environment. Students will use a variety of computer hardware and software applications to complete assignments and projects. Additionally, students will explore career opportunities, employer expectations, and educational needs in the electronics industry.

H09878 / H09792	ENVIRONMENTAL SUSTAINABILITY (PLTW)	GPA Level: Honors
Grade Level: 11-12	Service ID: N1303747 (1 cr.)	Prerequisites: IED or PAE

In Environmental Sustainability, students investigate and design solutions in response to real-world challenges related to clean and abundant drinking water, food supply, and renewable energy. Applying their knowledge through hands-on activities and simulations, students research and design potential solutions to these true-to-life challenges.

19778 H19778	ENGINEER YOUR WORLD (EDPS)	GPA Level: Pre-AP GPA Level: Honors
Grade Level: 11-12	Service ID: 13037300 (1 cr.)	Prerequisites: Geometry & Algebra I

Developed by a team of University of Texas faculty, NASA engineers, and secondary teachers working with funding from the National Science Foundation, Engineer Your World is an innovative, student-centered curriculum that engages learners in authentic engineering experiences and inspires them to embrace an engineer's habits of mind. Collaborative, student-directed projects build resilient problem solving skills and empower students to think like engineers, to adopt engineering processes, and to pursue engineering disciplines for the betterment of our world.

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

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