



Level 1 Principles of Applied Engineering

Level 2 AC/DC Electronics

Level 3 Environmental Sustainability (PLTW)
Solid State Electronics

Level 4 Project-Based Research
Practicum in STEM

HIGH SCHOOL/ INDUSTRY CERTIFICATION	POST-SECONDARY OPTIONS			MASTER'S/ DOCTORAL PROFESSIONAL DEGREE
	CERTIFICATE/ LICENSE*	ASSOCIATE'S DEGREE	BACHELOR'S 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	Job shadowing

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

COURSE NAME	SERVICE ID	PREREQUISITS (PREQ) COREQUISITES (CREQ)	Grade
Principles of Applied Engineering	13036200 (1 credit)	None	9-12
Foundations of Energy	N1300263 (1 credit)	None	9-12
AC/DC Electronics	13036800 (1 credit)	PREQ: Principles of Applied Engineering	10-12
Energy and Natural Resources Technology	13001100 (1 credit)	PREQ: At least 1 credit from courses in Agriculture, Food and Natural Resources Cluster	10-12
Introduction to Renewable Energy	TBD	TBD	TBD
Environmental Sustainability (PTLW)	N1303746 (1 credit)	None	9-12
Solid State Electronics	13036900 (1 credit)	PREQ: AC/DC Electronics	11-12
Scientific Research and Design	13037200 (1 credit)	PREQ: Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics	11-12
Digital Electronics	13037600 (1 credit)	PREQ: Algebra I and Geometry	10-12
Engineering Design and Problem Solving	13037300 (1 credit)	PREQ: Algebra I and Geometry	11-12
Project-Based Research	12701500 (1 credit)	None	11-12
Applied Mathematics for Technical Professionals	1270410 (1 credit)	None	11-12
Practicum in STEM	13037400 (2 credits) 13037405 (3 credits) 13037410 (2 credits) 13037415 (3 credits)	PREQ: Algebra I and Geometry	12
Practicum in Energy	TBD	TBD	TBD

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

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