

OPENING DOORS TO THE **FUTURE**



STEM Endorsement *Renewable Energy CTE Pathway* *(Solar Car)* (Requires Algebra 2, Chemistry, AND Physics)

Grade	Language Arts	Math	Science	Social Studies	Required CTE Courses	Potential Certification Opportunities
9 th	English I	Algebra I	Biology	World History	*Foundations of Energy (1 Credit)	
10 th	English II	Geometry	Chemistry		* AC/DC Electronics (1 Credit)	
11 th	English III	Approved 3 rd Year Math	Approved 3 rd Year Science	U.S. History	*Energy and Natural Resources(1 Credit)	
12 th	English IV	Approved 4 th Year Math	Approved 4 th Year Science	Government AND Economics	*Engineering Design and Problem Solving (1 Credit)	

Required Electives
*Business Information Management (1 Credit) Professional Communication (.5 Credit) *Dollars and Sense (.5 Credit)

Sample Career Opportunities	High School	On the Job Training	Certificate	Associate's Degree	Bachelor's Degree	Advanced College Degree	Average Annual Salary	Possible Majors
Wind Turbine Services Technician			X	X			\$51,334	*Surveying Engineering *Systems Engineering *Engineering, Mechanics *Engineering, General
Solar Photovoltaic Installer	X	X		X			\$43,957	
Renewable Energy Consultant					X		\$101,000	
Solar Project Manager			X		X		\$60,990	

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Principles of Applied Engineering
TSDS PEIMS Code: 13036200
Grade Placement: 9–12

Credit: 1

GHS Section 2060
Available as a CTE Elective
Prerequisite: 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.

Foundations of Energy
TSDS PEIMS Code: N1300263
Grade Placement: 9–12

Credit: 1

GHS Section _____
Available as a CTE Elective
Prerequisite: None.

Foundations of Energy provides students with the fundamentals of Texas energy resources from conventional, unconventional, and renewable sources. Students develop knowledge and skills regarding career and educational opportunities in the production, transmission, and use of energy in Texas, including import and export markets for energy.

Introduction to Renewable Energy
TSDS PEIMS Code: 13001100
Grade Placement: 10–12

Credit: 1

GHS Section _____
Designated for Pathway Students
Prerequisite: None.

Recommended Prerequisite: At least 1 credit from courses in the Agriculture, Food, and Natural Resources Cluster.

Energy and Natural Resource Technology examines the interrelatedness of environmental issues and production agriculture. Students will evaluate the environmental benefits provided by sustainable resources and green technologies. Instruction is designed to allow for the application of science and technology to measure environmental impacts resulting from production agriculture through field and laboratory experiences.

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STEM Endorsement ***Renewable Energy CTE Pathway*** ***(Solar Car)*** (Continued)

Energy and Natural Resources

TSDS PEIMS Code: 13037200

Grade Placement: 11–12

Recommended Prerequisite: Biology, Chemistry, Integrated Physics and Chemistry (IPC), or Physics.

Scientific Research and Design is a broad-based course designed to allow districts and schools considerable flexibility to develop local curriculum to supplement any program of study or coherent sequence. The course has the components of any rigorous scientific or engineering program of study from the problem identification, investigation design, data collection, data analysis, formulation, and presentation of the conclusions. These components are integrated with the career and technical education emphasis of helping students gain entry-level employment in high-skill, high-wage jobs and/or continue their education. Students must meet the 40% laboratory and fieldwork requirement. This course satisfies a high school science graduation requirement. Students may take this course with different course content for a maximum of three credits. Note: This course satisfies a science credit requirement for students on the Foundation High School Program.

GHS Section 2069

Designated for Pathway Students

Prerequisite: None.

Credit: 1

Engineering Design and Problem-Solving

TSDS PEIMS Code: 13037300

Grade Placement: 11–12

Recommended Prerequisite: Algebra 1 and Geometry.

This class is an interactive, hands-on robotics class. Students will learn the fundamentals of mechanical, electrical, and computer programming robots. Students will work in groups of 3-6 to complete their robots. This class does require a large amount extra-curricular involvement. We will travel to competitions around Texas and have the possibility to advance to World Competition. You must meet the academic requirements to participate in travel. Please only sign up for this course if you can make these commitments. Students may participate in the class for multiple years.

GHS Section 2054

Designated for Pathway Students

Prerequisite: None.

Credit: 1