Kentucky CTE

Engineering Technology: Foundations of Energy 210341 (2026–2027)

Apply the design process involving problem identification, conceptualization, research, refinement of preliminary ideas, design analysis, development and implementation, detailed documentation of final design, optimization and final presentation. 1	1 Apply the design process involving problem identification, conceptualization, research, refinement of preliminary ideas, design analysis, development and implementation, detailed documentation of final design, optimization and final presentation. 1
Develop competencies and skills in the areas of energy. 2	2 Develop competencies and skills in the areas of energy. 2
Engage in meaningful, hands-on, minds-on, conceptual-based activities in the areas of energy. 3	3 Engage in meaningful, hands-on, minds-on, conceptual-based activities in the areas of energy. 3
Develop competencies in the safe and efficient use of the tools, machines, materials and processes of energy technology. 4	4 Develop competencies in the safe and efficient use of the tools, machines, materials and processes of energy technology. 4
Demonstrate employability and social ski in	5 Demonstrate employability and social skills relative to careers in the energy industry. 5

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Understand electric power generation, transmission and distribution. 6	**6 Understand electric power generation, transmission and distribution.** 6
Use computer-based skills related to concepts of energy in various technologies. 7	**7 Use computer-based skills related to concepts of energy in various technologies.** 7
Demonstrate knowledge and skills in blueprint reading in energy technology. 8	**8 Demonstrate knowledge and skills in blueprint reading in energy technology.** 8
Demonstrate and develop fundamental skills and knowledge of tools in the energy industry. 9	**9 Demonstrate and develop fundamental skills and knowledge of tools in the energy industry.** 9
Apply basic electricity concepts and knowledge as it applies to energy technologies. 10	**10 Apply basic electricity concepts and knowledge as it applies to energy technologies.** 10
Describe similarities and differences between renewable and nonrenewable sources of energy. 11	**11 Describe similarities and differences between renewable and nonrenewable sources of energy.** 11
Develop core competencies in the area of safety. 12	**12 Develop core competencies in the area of safety.** 12
Identify ways to conserve energy. 13	**13 Identify ways to conserve energy.** 13
Compare the advantages and disadvantages of the use of the various energy sources. 14	**14 Compare the advantages and disadvantages of the use of the various energy sources.** 14
As Skip to main content **various energy sources**	**Assess the impact of the various energy sources on the economy in Kentucky.** 15

on the economy in Kentucky. 15		
Differentiate between the terms energy and electricity. 16	16	Differentiate between the terms energy and electricity. 16
Describe the difference in potential and kinetic energy. 17	17	Describe the difference in potential and kinetic energy. 17
Analyze how supply and demand impact Kentucky's economy in relation to energy. 18	18	Analyze how supply and demand impact Kentucky's economy in relation to energy. 18
Investigate the role of technology in the future development of energy usage. 19	19	Investigate the role of technology in the future development of energy usage. 19
Map the major sources of energy used in Kentucky. 20	20	Map the major sources of energy used in Kentucky. 20
Analyze the impact energy has on the environment. 21	21	Analyze the impact energy has on the environment. 21
Standard		