Kentucky CTE

Engineering Technology: Engineering II

Apply the design process involving EII1	**a** problem identification, conceptualization, and research EII1A
	b refinement of preliminary ideas, design analysis, development and implementation EII1B
	c detailed documentation of final design, optimization and final presentation. EII1C
Recognize how the history of design (including artistic periods, styles, and form and function) influences product development. EII2	**2** Recognize how the history of design (including artistic periods, styles, and form and function) influences product development. EII2
Research information about professional engineering-related organizations EII3	**3** Research information about professional engineering-related organizations EII3
Develop and demonstrate competencies with various engineering drawings. EII4	**4** Develop and demonstrate competencies with various engineering drawings. EII4
Research selected disciplines of engineering areas and incorporate computer-aided design and problem solving such as EII5	**a** manufacturing EII5A
	b power/energy/transportation EII5B
	c bio-medical EII5C
	d robotics EII5D
	e hydraulics EII5E
	lectricity/electronics, EII5F

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	g communications EII5G
	h construction systems EII5H
	i alternative energy EII5I
Develop solutions to problems within engineering areas such as manufacturing, power/energy/transportation, bio-medical, robotics, hydraulics, electricity/electronics, communications, construction systems, and/or alternative energy, and incorporate computer-aided design and problem solving. EII6	6 Develop solutions to problems within engineering areas such as manufacturing, power/energy/transportation, bio-medical, robotics, hydraulics, electricity/electronics, communications, construction systems, and/or alternative energy, and incorporate computer-aided design and problem solving. EII6
Apply geometric relationships of forms and shapes, lines, various polygons, geometric constraints, Cartesian coordinate system, and origin planes. EII7	7 Apply geometric relationships of forms and shapes, lines, various polygons, geometric constraints, Cartesian coordinate system, and origin planes. EII7
Perform modeling using conceptual, graphical, physical, mathematical, and computergenerated techniques, including 3-dimensional software. EII8	8 Perform modeling using conceptual, graphical, physical, mathematical, and computergenerated techniques, including 3-dimensional software. EII8
Develop knowledge and understanding of basic electric, welding and industrial process and symbols EII9	9 Develop knowledge and understanding of basic electric, welding and industrial process and symbols EII9
Develop knowledge and un co (computer-aided	10 Develop knowledge and understanding of concepts of CAD (computer-aided design), construction/fabrication techniques, structural systems, hydraulics, and pneumatics systems. EII10

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design), construction/fabrication techniques, structural systems, hydraulics, and pneumatics systems. EII10	
Conduct model analysis and verification. EII11	**11 Conduct model analysis and verification.** EII11
Create model documentation including working drawings, dimensioning, and annotations EII12	**12 Create model documentation including working drawings, dimensioning, and annotations** EII12
Develop product presentations using proper communication techniques and appropriate presentation aids. EII13	**13 Develop product presentations using proper communication techniques and appropriate presentation aids.** EII13