

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**

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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**

- f** electricity/electronics, **EII5F**

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

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Develop knowledge and understanding of basic electric, welding and industrial process and symbols EII9

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Develop knowledge and understanding of concepts of CAD (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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construction/fabrication
techniques, structural
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pneumatics
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**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**