

Engineering Technology: Engineering I

Apply the design process involving **EI1**

- a** problem identification, conceptualization, and research **EI1A**

- b** refinement of preliminary ideas, design analysis, development and implementation **EI1B**

- c** detailed documentation of final design, optimization and final presentation. **EI1C**

Perform basic computer-aided drafting functions and develop knowledge and skills in the use of CAD (computer-aided design) software. **EI2**

- 2** Perform basic computer-aided drafting functions and develop knowledge and skills in the use of CAD (computer-aided design) software. **EI2**

Research information about professional engineering-related organizations. **EI3**

- 3** Research information about professional engineering-related organizations. **EI3**

Use principles and elements of design including **EI4**

- a** portfolio development containing various written work, drawings, models, and other documentation. **EI4A**

Perform sketching and visualization using proper techniques and tools to produce pictorial, annotated sketches, multi-view or orthographic drawings using proper and accurate measurements. **EI5**

- 5** Perform sketching and visualization using proper techniques and tools to produce pictorial, annotated sketches, multi-view or orthographic drawings using proper and accurate measurements. **EI5**

Apply geometric relationships of forms and shapes, lines, various polygons,

- 6** Apply geometric relationships of forms and shapes, lines, various polygons, geometric constraints, Cartesian coordinate system, and origin planes. **EI6**

geometric constraints, Cartesian coordinate system, and origin planes. [EI6](#)

Perform modeling using conceptual, graphical, physical, mathematical, and computergenerated techniques, including 3-dimensional software. [EI7](#)

7 Perform modeling using conceptual, graphical, physical, mathematical, and computergenerated techniques, including 3-dimensional software. [EI7](#)

Conduct model analysis and verification. [EI8](#)

8 Conduct model analysis and verification. [EI8](#)

Create model documentation including working drawings, dimensioning, and annotations. [EI9](#)

9 Create model documentation including working drawings, dimensioning, and annotations. [EI9](#)

Develop product presentations using proper communication techniques and appropriate presentation aids. [EI10](#)

10 Develop product presentations using proper communication techniques and appropriate presentation aids. [EI10](#)