ABET Course Syllabus for ETSC 160: Computer-Aided Design and Drafting

1. Course number and name: ETSC 160: Computer-Aided Design and Drafting

2. Credits and contact hours: 5 credit hours, 6 hours per week

3. Instructor's Name: Scott Calahan, LBC

4. Textbook, title, author, and year:
    - Terence Shumaker, *AutoCAD and its Applications (Basics) 2020,* Goodheart-Wilcox, 2020

    a. Other supplemental materials:
    - One storage "device" (jump drive preferred)
    - Autodesk products are available for download at:
      http://students.autodesk.com/?nd=download_center

5. Specific course information:
    a. Brief description of the content of the course (catalog description): Hands-on training in the operation of AutoCAD's design and drafting software system with emphasis on features, limitations, and dimensioning strategy. Students are in class/lab 6 hours per week. Formerly IET 160, students may not receive credit for both.

    b. Pre-requisites: None.

    c. Required, elective, or selected elective (as per Table 5-1) course in the program: Required

6. Specific goals for the course:
    The fundamental principles of computer aided drafting are introduced.

    a. Specific outcomes of instruction:
    - Operate the AutoCAD software to produce specific geometric shapes using specific drawing commands.
    - Set up a drawing with correct scale.
    - Draw with precision and modify objects with edit commands.
    - Annotate and dimension drawings to industry standards which includes GD & T.
    - Display any portion of a drawing and plot drawings using a layout view.
    - Create Multiview drawing construction (orthographic drawings) to industry standards.
    - Create Isometric drawings with precision.
    - Produce and/or modify drawings to be exported/imported and used with another CAD program.
    - Create a manufacturing ready drawing that will be used to manufacture a laser cut part.

b. <u>Criterion 3 student outcomes addressed by course</u>:
3 (3)

7. <u>Brief list of topics covered</u>:
- Drawing geometric shapes
- Drawing scale
- Modify objects
- Annotate and dimension
- GD & T
- Blocks
- Drawing layout (Multiview drawing)