

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: DRF 231

Credits: 3

Course Title: Computer-Aided Drafting I

Course Description: Teaches computer-aided drafting concepts and equipment designed to develop a general understanding of components and operating a typical CAD system.

Prerequisite: DRF 111 is recommended for students (but not required) who have no previous technical drawing experience. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

General Course Purpose: Introduction to the fundamentals of 2D computer-assisted design. To train students to use AutoCAD software efficiently for 2D drawings and become familiar with the drawing, editing, and dimensioning commands as well as doing hatching and inserting blocks. This is a foundation course, which must be taken as early as possible in a student's educational career. Course is required for the Contemporary Technology for Design and Building Construction Management specializations of the Architectural and Engineering Technology AAS degree. Also required for the Computer-Aided Design Specialist CSC.

Course Prerequisites and Co-requisites:

Prerequisite: DRF 111 is recommended for students (but not required) who have no previous technical drawing experience.

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Demonstrate competency in the use of AutoCAD;
- b. Perform multi-view, isometric, orographic, and plan view drawings of objects and portions of buildings including a foundation drawing and section;
- c. Identify and understand the function of each component in a typical CAD workstation including knowing all of the drawing functions available and the proper syntax to use in defining coordinate points in a drawing;
- d. Identify related terminology; and
- e. Draw a complete foundations plan with a wall section inserted at another scale and plot on the DesignJet plotter provided using the proper setting to produce a scalable print.

Major Topics to Be Included:

- a. Computer concepts
- b. AutoCAD workstation and basics
- c. Draw and edit commands, default control settings
- d. OSNAP review
- e. Layers
- f. Display options
- g. Plotting

Date Created/Updated (Month, Day, and Year): January 21, 2019