

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

Course Prefix and Number: EGR 110

Credits: 3

Course Title: Engineering Graphics

Course Description: Presents theories and principles of orthographic projection. Studies multiview, pictorial drawings and sketches, geometric construction, sectioning, lettering, tolerancing, dimensioning, and auxiliary projections. Studies the analysis and graphic presentation of space relationships of fundamental geometric elements; points, lines, planes and solids. Includes instruction in Computer Aided Drafting. Lecture 2 hours. Laboratory 2 hours. Total 4 hours per week.

General Course Purpose: Course provides a foundation in the use of graphic science as related to engineering design

Course Prerequisites and Co-requisites:

None

Course Objectives:

Upon completing the course, the student will be able to

- a. Apply technical graphic techniques to analyze engineering problems;
- b. Apply the principles of orthographic projection to investigate engineering case studies;
- c. Demonstrate and utilize the fundamentals of both computer-aided-design and parametric modeling;
- d. Participate and contribute as a team member in an engineering design project; and
- e. Effectively deliver a formal presentation of an engineering design solution to a critique jury.

Major Topics to Be Included:

- a. Introduction to principles of orthographic projection
- b. Principles of two-dimensional computer-aided-design
- c. Introduction to parametric modeling and design
- d. Engineering design team management
- e. Visualization for design presentation

Effective Date of Course Content Summary: February, 2009