

Print Date: 7/15/14
Course Objectives/Course Outline
Spokane Community College

Course Title: Introduction to Design
Prefix and Course Number: CAD 133

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Demonstrate the techniques used in the Design Process to develop new products, test and modify existing products and machine components, and prove the function and application of the design
- Generate production type working drawings
- Describe the design factors for mechanical parts that will determine proper dimensioning and notes on drawings
- Apply math and principles of physics to develop, prove, and modify a design

Course Outline

- I. The Design Process in Application
 - A. Develop a Design Plan to be Implemented and Tracked
- II. Design Techniques
 - A. Application of Engineering Graphics (2D & 3D)
 - B. Measurement and Statistics
 - C. Create and Test a Prototype Model
- III. Design Calculations
 - A. Geometry
 - B. Math and Documentation
 - C. Physical Properties (Physics)Structure
- IV. Design Functions
 - A. Design Teams
 - B. Design Documentation
 - C. Reverse Engineering Techniques
 - D. Design Challenges