

**Course Objectives/Course Outline
Spokane Community College**

Course Title: Mechanical Design Fundamentals

Prefix and Course Number: CAD 242

Course Learning Outcomes:

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

- recognize, determine sizes, and draw the various types of threads, fasteners, and springs
- recognize, determine sizes, determine loading, and draw various machine components

Course Outline:

- I. Design and Drawing of Threads, Fasteners, and Springs
 - A. Terminology
 - B. Design Characteristics
 - C. Component Sizing
 - D. Design Loads
- II. Design of Machinery Components: Belt and Chain Drives, Couplings, Bearings, etc.
 - A. Terminology
 - B. Design Characteristics
 - C. Component Sizing
 - D. Design Loads
- III. Engineering Change Orders
 - A. Function
 - B. Required Information
- IV. Cam Design
 - A. Function
 - B. Terminology
 - C. Cam Motions
- V. Fixture Design
 - A. Assembly Operation
 - B. Standard Design Techniques
- VI. Sheet Metal Layout Drawings