

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

Course Title: Project Design & Management

Prefix and Course Number: CAD 261

Course Learning Outcomes:

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

- Apply knowledge from all program technical courses and principles when designing typical
Basic engineering systems
- Prepare assembly and detail drawings as required for a given project
- Prepare a project plan, document it's progress, and prepare a full engineering report

Course Outline:

I. Technical Principles

- A. Determination of Power Requirements
- B. Design Techniques for Mechanical Advantage
- C. Efficiency and Friction Loss in Machines
- G. Stress Determination and Analysis
- H. Time-Motion Concepts
- I. Power Transmission Systems

II. System Designs

- A. Belt Drives
- B. Chain Drives
- C. Gear Drives
- D. Bearings and Seals
- E. Cams and Linkages

III. Project Design Process

- A. Project Proposal Plan
- B. Documentation and Reporting
- C. Process of Prototyping, Evaluation, Justification, and Modification