

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

Course Title: Technical Applications I
Prefix and Course Number: CAD 255

Course Learning Outcomes:

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

- Develop relevant engineering and manufacturing skills independently of structured courses.
- Work individually and in groups to complete design projects from start to finish including project documentation, working drawings, prototyping, and design validation.
- Set up and operate equipment using new technologies in industry, like 3D printers and other rapid prototyping equipment.

Course Outline:

- I) Project Packet Documents
 - A) Project Specification Sheet
 - B) Project Proposal
 - C) Project Planning Chart
 - D) Cost Analysis
 - E) Project Post Mortem
- II) Possible Research Projects
 - A) Brainstorming
 - B) Problem solving
 - C) Physical concepts
 - D) Mechanism design
- III) Technology Applications
 - A) CAD drafting and solid modeling
 - B) Use of new technologies in industry like 3D printers and Laser cutter
 - C) Use of shop equipment
- IV) Structured Drafting/Design Projects
 - A) Project Spec Sheet
 - B) Drawing Set
 - C) Prototype and validation
- V) Independent Drafting/Design Projects
 - A) Project Proposal
 - B) Drawing Set
 - C) Prototype and validation