

Course Objectives/Course Outline
Spokane Community College

Course Title: Mechanical CAD Applications

Prefix and Course Number: CAD 256

Course Learning Outcomes:

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

- Generate production type mechanical design working drawings
- Describe the design factors and shop drawing requirements for machined, fabricated, welded, molded parts
- Generate the required types of assembly drawings found in the mechanical design industry
- Demonstrate proficiency in required skills to pass associate level certification for SOLIDWORKS (CSWA).

Course Outline

- I. Working/Detail Drawings
 - A. Stock Material Selection
 - B. Catalog Information Selection
 - C. Single/Multiple Detail Formats
 - D. Drawing Number Systems and Documentation
- II. Assembly Modeling and Drawing Layout
 - A. Bottom Up and Top Down Assembly modeling
 - B. Assembly Configurations and exploded views
 - C. Types of Assembly Drawings
- III. SOLIDWORKS Certification Preparation
 - A. Productivity tools
 - B. File management
 - C. SCWA practice test
- IV. Engineering Office/Design Specifications
 - A. Personnel
 - B. Physical Structure
 - C. Technician Responsibilities
 - D. Customer/Government Specifications
- V. Design and Drawing of Machined parts, Weldments, Fabrications, Casting/Moldings in various industry-relevant materials and design layout styles
 - A. Terminology
 - B. Symbols
 - C. Strength Characteristics
 - D. Full detail and assembly drawings