

# Course Objectives/Course Outline

## Spokane Community College

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**Course Title:** Engineering Drawing

**Prefix and Course Number:** APM 103

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**Course Learning Outcomes:**

**By the end of this course, a student should:**

- Recognize and interpret terminology commonly used in Engineering Drawings
- Recognize standard abbreviations used on technical drawings
- Identify and describe common line types used on technical drawings
- Identify and use the four different systems of dimensioning: Fractional inch, decimal inch, dual dimensions, and metric dimensions
- Read, interpret and describe the information commonly found in a title block
- Identify and discuss tolerance for given dimensions from blueprints
- Recognize the different views of an orthographic projection and how they relate to each other in third-angle projection
- Identify and draw surfaces and views from pictorial views and orthographic projections
- Calculate missing dimensions from existing dimensions on multiview drawings
- Describe two ways of dimensioning angles
- Describe how blind holes, chamfers, keyseats and keyways, and counterbores and countersinks are dimensioned and be able to read dimensions from prints
- Identify the symbols for surface finish and interpret finish allowance dimensions
- Describe surface roughness, how it is indicated on drawings, as well as surface texture symbols and lay designation

**Course Outline:**

- I. **Week One**
  - A. Course Review and Introduction
  - B. History of Blueprints
  - C. Vocabulary
  - D. Line Types
- II. **Week Two**
  - A. Dimensioning Systems
  - B. Single-view Drawings
  - C. Orthographic Projection
- III. **Week Three**
  - A. Orthographic & Angle Projections
  - B. Reading Multi-view Drawings
  - C. Datum Dimensioning
- IV. **Week Four**
  - A. Multiview Drawings
  - B. Orthographic Projection of Inclined Planes
  - C. Foreshortened Views
  - D. Angular Dimensions

- V. **Week Five**
  - A. Reference Dimensions
  - B. Blind Holes
  - C. Surface Finishes
- VI. **Week Six**
  - A. Midterm
- VII. **Week Seven**
  - A. Bosses and Pads
  - B. Knurling
  - C. Heat-Treat Notes
- VIII. **Week Eight**
  - A. Sectional Views
  - B. Recognize Symbology
- IX. **Week Nine**
  - A. Threaded Hole Specifications
  - B. Multiple Threads
- X. **Week Ten**
  - A. Typical Dimensions
  - B. Right Triangles
- XI. **Week Eleven**
  - A. Metric Drawings
  - B. Auxillary Views
  - C. Dimensioning Symbols
  - D. Metric Threads
- XII. **Week Twelve**
  - A. Final Exam