

# Course Objectives/Course Outline

## Spokane Community College

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**Course Title:** Basic Blueprint Reading

**Prefix and Course Number:** CAD 120

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### Course Learning Outcomes:

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

- Interpret detail drawings, assembly drawings, schematics, and sketches
- Interpret symbols, dimensions, and tolerances
- Develop personal and career goals for success in college and industry
- Generate a variety of freehand sketches
- Freehand letter vertically and inclined in engineering format

### Course Outline:

- I. The Engineering Profession
  - A. Careers and Opportunities
  - B. Engineering Positions
  - C. Engineering Ethics
  - D. Effects of the Global Economy
- II. Lines
  - A. The Alphabet of Lines
  - B. Hidden Lines and Center Lines
  - C. Projection Lines, Other Lines, and Line Combinations
- III. Views
  - A. Three View (Orthographic) Drawings
  - B. Arrangement of Views
  - C. Two View Drawings
  - D. One View Drawings
  - E. Auxiliary Views
- IV. Freehand Lettering
  - A. Vertical Lettering
  - B. Inclined Lettering
- V. Design for Success – Student Success Skills
  - A. Setting personal goals
  - B. Career planning
- VI. Dimension and Notes
  - A. Size and Location Dimensions
  - B. Dimensioning Standards
  - C. Tolerances
- VII. The Metric System
  - A. Dimensioning, Diametric Dimensions, and ISO Symbols
  - B. First Angle/Third Angle Projection and Dimensioning
- VIII. Section Views and Auxiliary Views
  - A. Cutting Planes
  - B. Full Sections
  - C. Section Lining (Hatch Lines)
  - D. Half Sections
  - E. Partial Sections
  - F. Assembly Section Drawings
- IX. Shop Sketching: Pictorial Drawings
  - A. Orthographic
  - B. Oblique
  - C. Isometric
  - D. Perspectives
  - E. Pictorial Drawings with Dimensions
- X. Machine Symbols, Measuring, Threads & Fasteners

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- A. Machine marks, standards
- B. Thread Callouts/Standards and Fasteners