

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

Course Title: Introduction to Computer Aided Design

Prefix and Course Number: CAD 125

Course Learning Outcomes:

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

- demonstrate the proper operation of micro-based CAD equipment
- apply terminology to CAD hardware operation, software, and techniques
- apply industry standard concepts and methods of printing and plotting drawings
- produce 2D CAD drawings that meet mechanical, architectural, and civil engineering standards

Course Outline:

- I. Introductory Concepts
 - A. CAD Equipment and Software Parameters
 - B. File and Data Handling with the CAD Software

- II. Lettering, Sketching, and Display
 - A. Text
 - B. Sketching
 - C. Display Operations Using Pan and Zoom
 - D. Linetypes Using Linetype Command and Ltscale
 - E. Paper Space vs. Model Space
 - F. Viewports and Vport Commands
 - G. Entity Grips and Entity Selection

- III. Drawing Using AutoCAD
 - A. Starting a Drawing
 - B. Sections of the Graphic Screen
 - C. Setting Units and Limits
 - D. Line Creation Using Snap, Grid, and Coordinates
 - E. Erasing Entities
 - F. Undo Operations
 - G. Drawing Circles and Arcs
 - H. Saving a Drawing
 - I. Ending a Drawing Session
 - J. Object Snaps Using the OSNAP Modifiers

- IV. Geometric Graphics Construction
 - A. Placing of Points on a Drawing
 - B. Creating Parallel Lines
 - C. Snapping to Existing Entities
 - D. Trimming and Breaking an Entity
 - E. Dividing and Measuring a Line
 - F. Creating Polygons

 - G. Splining and Curve Fitting
 - H. Drawing Ellipses

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- I. Transferring Figures
- J. Appropriate Scaled Drawings

V. Multi-view Drawings

- A. Making Templates and Prototypes
- B. Creating a Drawing Plane

VI. Sectional Views

- A. Cutting Plane Lines
- B. Section Lines
- C. Hatching Principles
- D. Creating Section Drawings
- E. Section Assembly Drawings

VII. Dimensioning

- A. Practices
- B. Elements
- C. Style Dialog Box
- D. Text
- E. Tolerancing
- F. Associative Dimensioning
- G. Dimension Format for Mechanical, Architectural, Civil, and Metric Engineering