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. Viewportes 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
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