

CADD Workshop

Course Design

2005-2006

Course Information

Organization	Eastern Arizona College
Division	Industrial Technology Education
Course Number	DRF 207
Title	CADD Workshop
Credits	1
Developed by	Dee Lauritzen
Lecture/Lab Ratio	1 Lecture/0 Lab
Transfer Status	Non-transferable
Activity Course	No
CIP Code	15.1300
Assessment Mode	Pre/Post Test (25 Questions/25 Points)
Semester Taught	Upon Request
GE Category	None
Separate Lab	No
Awareness Course	No
Intensive Writing Course	No

Prerequisites

None

Educational Value

Individuals, High School & Community College Teachers wishing to advance their knowledge and skills in the area of Computer Assisted Design and Drafting (CADD).

Description

For high school and community college teachers, or other interested individuals, wishing to advance their knowledge and skills in the area of Computer Assisted Design and Drafting (CADD). This short-term course is geared to meet the various levels of CADD expertise from beginning to advanced. Attendees will be divided into skill level groups and areas of interest. Basic technique and commands will be covered for the beginning skill levels and advanced techniques will be covered for attendees with experience in the CADD field.

Supplies

None

Competencies and Performance Standards

1. Create Basic 2D Geometry on a CAD System.

Learning objectives

What you will learn as you master the competency:

- a. Use absolute, relative rectangular, and relative polar positioning on a cartesian coordinate system.
- b. Create a 2D drawing using lines, circles, and other 2D geometry.

Performance Standards

Competence will be demonstrated:

- o by completing assigned projects.

Performance will be satisfactory when:

- o learner accurately places 2D geometry on a cartesian coordinate system.
- o learner creates a drawing using line, circle, and other basic drawing commands.

2. Use Basic CAD Drawing Edit Commands.

Learning objectives

What you will learn as you master the competency:

- a. Modify a 2D drawing or 3D model using the copy, move, erase, offset, and other editing commands.
- b. View a drawing or model from different angles using the viewpoint command.
- c. Use the pan and zoom commands to view a drawing.

Performance Standards

Competence will be demonstrated:

- o Through completion of assigned projects.

Performance will be satisfactory when:

- o learner successfully makes required changes to a drawing.
- o learner successfully alters the drawing viewpoint.

3. Create Basic 3D solid model Geometry from Geometric Primitives.

Learning objectives

What you will learn as you master the competency:

- * Create 3D solid primitives (box, cylinder, sphere, etc.).
- * Create complex 3D solid primitives.
- * Join 3D solid primitives.
- * Subtract one 3D solid primitive from another.

Performance Standards

Competence will be demonstrated:

- o Through complete of assigned projects.

Performance will be satisfactory when:

- o learner creates a 3D solid model from geometric primitives.
- o learner creates or modifies a 3D solid model using complex primitives.
- o learner uses the union, subtract, intersection, or slice commands to modify a 3D solid model.

4. Create 2D drawings from a 3D solid model.

Learning objectives

What you will learn as you master the competency:

- * Create (or insert) an appropriate format (title block) in a drawing file.
- * Create principle 2D views of a 3D solid model.
- * Create 2D auxiliary views from a 3D solid model.
- * Utilize the software dimensioning capabilities to dimension the different views of the object.

Performance Standards

Competence will be demonstrated:

- * given a computer configured for Windows NT, the AutoCAD software, and a printer

Performance will be satisfactory when:

- o Drawing shows principle and auxiliary views in PAPER SPACE.
- o Drawing shows all views of a multi-view drawing properly aligned.
- o Drawing shows all feature, part and section geometry correctly represented.
- o Drawing shows proper line weight for all center lines, hidden lines, cutting plane lines, and object lines.
- o Drawing uses correct line types for center lines, object lines, and hidden features.
- o Drawing shows all features fully dimensioned with system default text, using uniform spacing.
- o Drawing contains no double dimensioning.
- o Drawing shows correct tolerance values for all part features or geometry.
- o Drawing shows leading zero's only with metric dimensions less than 1mm.
- o Drawing title block information is complete.

5. Identify System Configuration Methods.

Learning objectives

What you will learn as you master the competency:

- a. Identify different ways to set up and configure a CAD classroom.
- b. Identify pros and cons associated with each method.

Performance Standards

Competence will be demonstrated:

- o Through classroom discussion.
- o Written examination.

Performance will be satisfactory when:

- o learner identifies characteristics of a CAD network

6. Install and Manage a CAD Network.

Learning objectives

What you will learn as you master the competency:

- a. Install AutoCAD on a workstation or network.
- b. Configure AutoCAD to run on a workstation or network.
- c. Backup program and drawing files.
- d. Clean up and maintain an AutoCAD workstation or network.

Performance Standards

Competence will be demonstrated:

- o Through classroom participation.

Performance will be satisfactory when:

- o learner successfully installs or participates in the installation of a CAD software package.
- o learner identifies components of the user profile.
- o learner alters the software configuration parameters.

7. Create an AutoLisp Program Utility.

Learning objectives

What you will learn as you master the competency:

- a. Practice using different AutoLisp commands by completing a tutorial.
- b. Identify uses for various AutoLisp commands.
- c. Program a short drawing utility using AutoLisp commands.

Performance Standards

Competence will be demonstrated:

- o Through classroom assignments and projects.

Performance will be satisfactory when:

- o learner successfully completes an AutoLisp tutorial.
- o learner successfully creates and runs a program utility.

8. Create a Custom Menu.

Learning objectives

What you will learn as you master the competency:

- a. Identify the various AutoCAD Menus and their characteristics.
- b. Develop a custom menu.

Performance Standards

Competence will be demonstrated:

- o Through classroom assignments and projects.
- o Written examination.

Performance will be satisfactory when:

- o learner creates a custom drawing menu.

9. Use a Specialty CAD Application.

Learning objectives

What you will learn as you master the competency:

- a. Use Mechanical Desktop, Softdesk products, or other special CAD application.
- b. Integrate outside drawing data into a different CAD program.

Performance Standards

Competence will be demonstrated:

- o Through classroom assignments and projects.

Performance will be satisfactory when:

- o learner creates a drawing, model, or structure with a specialty CAD application.

Types of Instruction

Conferences, Seminars, Institutes, Workshops

Grading Information

Grading Scale

Pass Participant completes projects in at least 5 of the competency areas.

Fail Participant does not demonstrate a level of competency in at least 5 of the stated competency areas.