

Mercer County Community College

Arts, Communication and Technology Division

DRA 191

Introduction to Computer Drafting - Micro Station

COURSE DESCRIPTION

Introductory computer drafting course using the popular Microstation software. Topics include basic terminology, geometry, addition and manipulation, display options, text, dimensioning, and plotting.

Text (s): Reference Division Booklist

Prerequisites: **None**

Co-requisites: **ENT116 or divisional permission**

Credits: 2

Lecture Hours: 1

Studio/Lab Hours: 2

**Food and drink are strictly prohibited in classrooms as per health and safety laws.
Students may not bring in chemicals of any kind without the appropriate MSD sheets.**

Course Coordinator: **John Santosuosso**

Latest Review:

Fall 2003

I. GENERAL OBJECTIVES

- A. Students will become proficient in using Micro Station software to produce elementary and moderately complex drawings on IBM compatible personal computers.
- B. Students will gain a good understanding of various commands necessary to produce two-dimensional drawings.
- C. Students will be introduced to the three-dimensional aspects of Micro Station software.

II. TOPICAL OUTLINE

- Part 1:** Getting Started/The Computer
 - Turning the computer on
 - Entering Micro Station
- Part 2:** Getting Acquainted
 - What is CADD?
 - The History of Micro Station
 - A tourist guide to Micro Station
 - The digitizer and mouse
- Part 3:** A sample design session
 - Creating a new design file (seed.dgn)
 - Placing lines (xy,dx,dl,di)
 - Right hand rule
 - Copying elements, move elements
 - Deleting elements
 - Manipulations (Trimming and Extending)
 - Snaps and locks
 - Element symbology (Color, weight, style and level)
 - View controls
 - View attributes
 - Placing text
- Part 4:** Fundamentals of Micro Station
 - Working units
 - English/Metric
 - Coordinate system

TOPICAL OUTLINE (cont'd)

- Part 5:** Two-dimensional basics Part 1
Elements
World's greatest command (UNDO)
Multiple element manipulations
Plotting
- Part 6:** The snaps and locks (Revisited)
- Part 7:** Two-dimensional basics Part 2
Symbology Revisited
Compressing your design file
Save settings
View Control
Basic Manipulations
- Part 8:** Two-dimensional basics Part 3
Placing text (Revisited)
Modifying elements
Measuring
Line Palette
Fillet
- Part 9:** Complex Elements
Chains
Shapes
Cells
Cell library
Groups
Element select tool (Selector)
- Part 10:** Reference files
The power within
Using reference files
Capabilities of reference files
Reference file tools
- Part 11:** Detailing tools
Dimensioning
Patterning
- Part 12:** Printing/Plotting
- Part 13:** An introduction to three-dimensional design
Working in three dimensions
Rendering

III. **COURSE GRADING:**

Weekly Assignments: 60%-70%

Several drawings will be constructed, plotted or printed. These drawings will require the student to demonstrate mastery skills learned throughout the course. Due dates will be assigned for each project.

Midterm Exam: 10%

Final Exam: 15%

**Class Performance
& Attendance:** 10%-15%