Course Discipline and Number: DRAF 120   **Year: 2024-2025**

Course Title: Introduction to Computer Aided Drafting   **Credit Hours: 2**

Attendance Policy: To maintain good grades, regular attendance in class is necessary. Absence from class is considered a serious matter and absence never excuses a student from class work. It is the responsibility of all instructors to distribute reasonable attendance policies in writing during the first week of class. Students are required to comply with the attendance policy set by each of their instructors. Students are not penalized if they are unable to attend classes or participate in exams on particular days because of religious beliefs, in accordance with Chapter 161, Section 224-a of the Education Law of the State of New York. Students who plan to be absent from classroom activity for religious reasons should discuss the absence in advance with their instructors. See college catalog for more information.

Services for Students with Disabilities: It is the College's policy to provide, on an individual basis, appropriate academic adjustments for students with disabilities, which may affect their ability to fully participate in program or course activities or to meet course requirements. Students with disabilities should contact the Coordinator of Access and Equity Services, to discuss their particular need for accommodations. All course materials are available in alternate formats upon request.

Course Description

This is an elective course that provides an introduction to the use of computer application software when creating engineering drawings. The course is project oriented with all drawings produced using computer aided design (CAD) software. Note: While the course is open to any student with an appropriate background in drafting fundamentals, students who have completed DRAF 107 or DRAF 117 may not use credit earned for DRAF 120 toward degree requirements. Prerequisites: Basic drafting skills in multi-view drawing and dimensions; MATH 095 if required by placement testing; prior completion or concurrent enrollment in RDNG 099 if required by placement testing. 2 Cr. (1 Lec., 3 Lab.) Occasionally.

Course Context/Audience

This is an elective course. It is not required in any degree or certificate program. It is open to anyone who has a background in drafting but is missing CAD skills.

Basic Skills/Entry Level Expectations

Writing: W0 Course requires very limited or no writing.

Math: M4 Completed MATH 095(if needed) - Course requires the use of basic mathematical skills plus basic algebra skills.

Reading: R1 Course may be taken concurrently with RDNG 099.

Course Goals

By successfully completing this course, the student will

1. become proficient with the two-dimensional drawing commands of AutoCAD 2000.

2. learn to use editing commands to manipulate geometry.

3. be able to utilize file management tools to format disks, save and retrieve files, and transfer files.

4. learn to create simple 3D wireframe drawings.

5. be able to format a drawing in paper space for plotting.

6. plot drawings on a large format inkjet plotter.

Course Objectives/Topics

Objective/Topic	% Course
System access: the student will be able to operate the computer, open the program, properly close the program, and shut down the system.	6.6%
Basic entities: the student will be able to use basic drawing commands to create objects.	6.6%
Text functions: the student will be able to use various text insertion, modification, and style functions.	6.6%
Drawing display: the student will be able to modify the display of the drawing for most efficient operation.	6.6%
Editing: the student will be able to apply the basic editing functions to modify existing geometry.	13.2%
Grids and snaps: the student will be able to set up and use the screen grid and snap functions and be able to describe applications where this function would be beneficial.	6.6%
Dimensioning: the student will be able to apply dimensions to a drawing using ANSI standards.	13.2%
Layers: the student will be able to create and use layers for object segregation.	6.6%
Saving/retrieving: the student will be able to save drawings and retrieve them as needed.	6.6%
Advanced editing: the student will be able to utilize the advanced editing functions for drawing modification.	6.6%
Plotting: the student will be able to format a drawing and plot it on a large format plotter.	6.6%
Drawing symbols: the student will be able to create and use drawing symbols in order to maximize the efficiency of CAD.	6.6%

General Education Goals - Critical Thinking & Social/Global Awareness

CRITICAL THINKING OUTCOMES	HOW DOES THE COURSE ADDRESS THE OUTCOMES (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
Students will be able to ➤ develop meaningful questions to address problems or issues. ➤ gather, interpret, and evaluate relevant sources of information. ➤ reach informed conclusions and solutions. ➤ consider analytically the viewpoints of self and others.	Not addressed
SOCIAL/GLOBAL AWARENESS OUTCOMES	**HOW DOES THE COURSE ADDRESS THE OUTCOMES** (Include required or recommended instructional resources, strategies, learning activities, assignments, etc., that must or could be used to address the goal/outcomes)
➤ Students will begin to understand how their lives are shaped by the complex world in which they live. ➤ Students will understand that their actions have social, economic and environmental consequences.	Not addressed

Instructional Methods

1. Demonstration: The primary method of instruction should be demonstration.

2. Individual assistance: During labs, the instructor should work "one on one" with students as necessary.

Methods of Assessment/Evaluation

Method	% Course Grade
Drawings	50%
Final exam	30%
Observation	20%

Text(s)

NONE REQUIRED
The student is encouraged to find an AutoCAD reference which meets his/her needs.

Bibliography

American National Standards Institute. ANSI Drafting Standards. NY, NY

AutoCAD R2000 Documentation

Civil Engineering, (Periodical) ASCE

Other Learning Resources

Audiovisual
No resources specified
Electronic
No resources specified
Other
No resources specified