

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

ECTC-110, Computer Aided Drafting for Environmental Control

I. Basic Course Information

- A. Course Number and Title: ECTC-110, Computer Aided Drafting
for Environmental Control
- B. New or Modified Course: Modified
- C. Date of Proposal: Fall 2016
- D. Effective Term: Fall 2017
- E. Sponsoring Departments: Business and Public Service Department
- F. Semester Credit Hours: 3
- G. Weekly Contact Hours: 5 Lecture: 1
 Laboratory: 4
 Out of class work per week: 2 hours
- H. Pre-requisite or Co-requisite: None
- I. Laboratory Fees: Yes
- J. Name and Telephone Number or e-mail Address of Department Chair:
Anne Marie Anderson, AnneMarie.Anderson@raritanval.edu

II. Catalog Description

This course is an introduction to basic CAD (computer aided drafting) techniques using AutoCAD® software. Fundamentals of drawing and editing are presented and practiced.

III. Statement of Course Need

- A. Accurate scaled drawings are the basic mode of communication within the technical fields. CAD has been found to be an effective teaching and learning tool. The demand for trained computer drafting technicians continues to be great. This course is intended to introduce the student to the basics of computer aided drawing.
- B. This course generally transfers as a free elective, but it also serves as a Program Elective to Pennsylvania College of Technology for those students graduating with

the AAS in Environmental Control Technology who are interested in pursuing B.S. degree at that institution.

IV. Place of Course in College Curriculum

- A. Free elective
- B. This course meets a program requirement for the A.A.S. Environmental Control Technology Program.
- C. Course transferability: a) for New Jersey schools go to the NJ Transfer website, www.njtransfer.org; b) For all other colleges and universities go to their individual sites.

V. Outline of Course Content

- A. Introduction to Computer Aided Drafting (CAD) and AutoCAD®
- B. Opening a Drawing
- C. Using Commands
- D. Specifying Coordinates
- E. Setting up a Drawing
- F. Drawing Simple Lines
- G. Drawing Curves and Point Objects
- H. Viewing Drawings
- I. Basic Editing Tools
- J. Advanced Editing Tools
- K. Organizing Drawings with Layers, Colors, Linetypes, and Lineweights
- L. Getting Information from Drawings
- M. Creating Text
- N. Drawing Dimensions
- O. Creating Dimension Styles and Tolerances
- P. Drawing Complex Objects
- Q. Plotting and Printing
- R. Blocks and Attributes

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes

At the completion of the course, students will be able to:

1. Produce technical drawings from scratch. (GE - NJ 4).
2. Select computer aided drafting commands. (GE - NJ 4).
3. Solve graphical problems using the computer and CAD software. (GE - NJ 4).

B. Course Learning Outcomes

At the completion of the course, students will be able to:

1. Produce basic scaled technical drawings.

C. Assessment Instruments

The following assessment methods may be used:

1. Projects.
2. Exams.
3. Lab Performance.
4. Demonstrations.

VII. Grade Determinants

- A. Computer Lab performance.
- B. Homework.
- C. Exams.
- D. Class participation
- E. Projects.

Modes of Teaching and Learning used in the Course:

- A. Lecture/discussion.
- B. Small-group and individual work.
- C. Computer-assisted instruction.
- D. Laboratory work.
- E. Student Collaboration.

VIII. Text and Materials

Suggested Text: No textbook required.

Please note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.

IX. Resources

- A. Computers with AutoCAD® software
- B. LCD projector and screen
- C. Printers

X. Honors Option

Not applicable