RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

EMET 105 – Applied Computer Aided Design

I. Basic Course Information

A. Course Number and Title: EMET 105 – Applied Computer Aided Design

B. New or Modified Course: New Course

C. Date of Proposal: Fall 2018

D. Effective Term: Fall 2019

E. Sponsoring Department: Science and Engineering

F. Semester Credit Hours: 2

G. Weekly Contact Hours: 3 Lecture: 1
Laboratory: 2
Out of class student work per week: 3 hours

H. Prerequisites: None

I. Laboratory Fees: Yes

J. Name and Telephone Number or E-Mail Address of Department Chair and Dean at time of approval: Chair: Dr. Marianne Baricevic, marianne.baricevic@raritanval.edu, Dean: Dr. Sarah Imbriglio, Sarah.Imbriglio@raritanval.edu

II. Catalog Description

Prerequisites: None

EMET 105 is the second course in Computer Aided Design (CAD). Additional AutoCAD topics include blocks, move and copy, array, mirror, text, text styles, 3D and isometric modes. Upon successful completion of this course, students should be able to use advanced AutoCAD commands to quickly and efficiently produce 2D and 3D drawings, and also be able to modify the AutoCAD environment (e.g., menus, macros, etc.) to boost productivity.

III. Statement of Course Need

A. It is a required course for the Mechanical Engineering Technology (MET) program.
B. This course has a lab component.
C. This course generally transfers as a requirement of engineering programs.

IV. Place of Course in College Curriculum

A. This course is a Free Elective.
B. This course meets a program requirement for the Mechanical Engineering Technology (MET) AS degree.
C. To see 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 the individual websites.

V. Outline of Course Content

Week #	*Topic*
1	Introduction to AutoCAD & its user interface Workspaces, Toolbars, Pallets/Drawing Templates
2	Command Entry/Point Coordinates Entry, &/Help
3	Line Standards & Layers/View Tools
4	Object Snap tools/AutoTrack/Multiview Drawings **Project #1**
5	Text Styles/Text Placement tools/Modification tools
6	Arraying & Patterning **Test #1**
7	Grips/Other selection tools/Polyline/Spline
8	Dimension Styles/Linear, aligned, angular dims
9	Tables, Section views and Graphic Patterns
10	Blocks: Creation & insertion, Blocks with attributes **Project#2**
11	Layout setup, Plotting Layouts **Test #2**
12	Annotative Objects
13	External References
14	Introduction to 3D, UCS, Solid Primitives, Sheet sets, Miscellaneous topics
16	**FINAL EXAM**

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

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

1. Use appropriate engineering design practices and software to create 2D and 3D designs (GE-NJ 4)

B. Course Learning Outcomes:

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

1. Select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly defined engineering technology activities (*).
2. Design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives (*).
3. Define workspaces,
4. Apply Toolbars, Pallets/Drawing Templates
5. Apply Command Entry, Point Coordinates Entry
6. Define Line Standards & Layers
7. Apply Tools, Text Styles/Placement Tools
8. Apply Arraying & Patterning
9. Apply Polyline, Spline
10. Define Dimension Styles, Tables
11. Define Section Views and Graphic Patterns
12. Apply Blocks Creation and Insertion
13. Define Layout Setup

(*) The Course Learning Outcomes support the achievement of the TAC of ABET Criterion 9 requirements.

C. Assessment Instruments

1. Quizzes
2. Exams
3. Homework
4. Projects

VII. Grade Determinants

A. Quizzes
B. Chapter Exams
C. Homework
D. Final Cumulative Exam
E. Projects

Primary formats, modes, and methods for teaching and learning that may be used in the course:

A. lecture/discussion
B. small-group work
C. student collaboration
D. independent study

VIII. Texts and Material

Computer Use:

- AutoCAD

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

No other type of resources are needed

X. Honors Option

Not applicable