Course Syllabus

Department: Science and Technology

Date: 12/12/12

I. Course Prefix and Number: TECH 106

   Course Name: Engineering Drawing II (2D AutoCAD)

   Credit Hours and Contact Hours: 3 credit hours / 6 contact hours

   Catalog Description including pre- and co-requisites:

   Techniques for creating, viewing, and plotting 2D AutoCAD drawings will be presented. Lectures, demonstrations, and labs in a variety of applications will enhance the student’s CAD ability and professional development. Topics include drawing, editing, and dimensioning commands; drawing setup; blocks; attributes; and plotting. Prerequisite: TECH 105 or permission of instructor.

   Relationship to Academic Programs and Curriculum including SUNY Gen Ed designation if applicable:

   The course is required for A.A.S. Architectural Technology & Building Sciences and A.A.S. Mechanical Technology. Students from other programs may take the course as a general elective if they have the required background.

II. Course Student Learning Outcomes:

   Students will:
   1. Manage drawing files in a networked Windows environment.
   2. Use a printer and/or plotter to print scaled drawings.
   3. Create drawings with standard units, line types, layers, colors, limits, and line type scales.
   4. Understand and use the 2D AutoCAD drawing and editing commands in the creation of accurate drawings.
   5. Use blocks.
   6. Create and display attributes and bills of materials.
   7. Use inquiry commands to determine distances and areas.
   8. Understand and apply dimensioning techniques, which include text, notes, associative and non-associative dimensioning variables, and editing of dimensions.
College Learning Outcomes Addressed by the Course:

- writing
- oral communications
- reading
- mathematics
- critical thinking
- computer literacy
- ethics/values
- citizenship
- global concerns
- information resources

III. Assessment Measures:

<table>
<thead>
<tr>
<th>Identified College Learning Outcomes</th>
<th>Specific Assessment Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking (Problem Solving)</td>
<td>Student will complete weekly or bi-weekly drawing exercises.</td>
</tr>
<tr>
<td>Computer Literacy</td>
<td>Students will complete an independent, comprehensive drawing project or a portfolio of drawings for evaluation.</td>
</tr>
</tbody>
</table>

IV. Instructional Materials and Methods

Types of Course Materials:

Textbook, computer software. Software is provided in the CAD lab.

Methods of Instruction:

Lecture, lab, demonstrations, self guided tutorials, drawing assignments, projects, formal and informal critiques
V. General Outline of Topics Covered:

1. Introduction
2. Sketching, Lettering, & Lines
3. User Interface
4. Entering Commands
5. Basic Objects
6. Object Selection
7. Entering Coordinates
8. Help
9. File Maintenance
10. Object Snap
11. Helpful Drawing Features
12. Construction Aids
13. Magnifying, Panning, Viewing
14. Solid & Curved Objects
15. Adding & Altering Objects
16. Moving & Duplicating
17. Modifying & Maneuvering
18. Hatching & Sketching
19. Text
20. Tables
21. Drawing Setup
22. Layers and Line Types
23. Plotting and Printing
24. Dimensioning
25. Calculation Commands
26. Groups & Blocks
27. Dynamic Blocks
28. Attributes
29. Isometric Drawing