Department Approval:

Date Initial
Curriculum Committee Approval:
Date Initial
Faculty Approval:
Date Initial

SCHENECTADY COUNTY COMMUNITY COLLEGE
COURSE OUTLINE

ACADEMIC DEPARTMENT: Math/Science/Technology
PREPARED BY: Jerry Moore

COURSE CODE: CIS 140 COURSE TITLE: Intro to Computer-Aided Drafting

LECTURE HOURS/WEEK: 2 LAB HOURS/WEEK: 2 CREDIT HOURS: 3

COURSE PREREQUISITES: None

COURSE CO-REQUISITES: None

FINAL EXAM REQUIRED: YES X NO

**COURSE DESCRIPTION:** This course teaches the basics of computer aided drafting as applied to engineering drawings using the AutoCAD drafting package. Topics include: Fundamentals of computer aided drafting, drafting equipment, orthographic representations, special views, applied geometry and drawing conventions, basic dimensioning, section views, thread representation, detail and assembly drawings, auxiliary views, isometric and other pictorial drawings, geometric dimensioning and tolerancing. The student will then learn the fundamentals of 3D solids and sheet metal designs using the Autodesk Inventor package.

**STUDENT LEARNING OUTCOMES:** Upon course completion students will be able to:

- Describe the nature and characteristics of the AutoCAD drafting package.
- Identify current practices as well as accepted concepts and principles of computer drafting.
- Demonstrate an understanding of basic dimensioning, section views, detail and assembly drawings.
- Identify the fundamentals of 3D solids and designs.
- Compare and contrast different Orthographic representations.

**RELATIONSHIP TO SCCC GENERAL EDUCATION PRINCIPLES:** This course enables students to:

**Apply logical and critical reasoning in evaluation and problem solving:** Students will use problem solving skills to apply basic dimensioning to AutoCAD drawings.

**Develop effective oral and written communications skills:** Students will use effective communication skills in reading, writing, speaking and listening through participation in class assignments.

**Locate, evaluate, and synthesize information from a variety of sources:** The student will use manufacturer's literature and information from the Internet to stay current with updated AutoCAD features.

**Utilize appropriate computer and technology skills:** Students will be required to understand and apply appropriate computer skills in the area of computer aided drafting.

**INSTRUCTIONAL METHODS:**
Methods may include but are not limited to: lectures, computer hands-on lab exercies, group activities, individual projects, assignments and presentations.

**REPRESENTATIVE TEXT/S:**
AutoCAD 2006 Tutorial, First Level: 2D Fundamentals; Randy H. Shih; (for additional cost, some texts have a 180 day copy of the software for home use); current edition
Parametric Modeling with Autodesk Inventor R10; Randy H. Shih; current edition.

**INSTRUCTIONAL TECHNOLOGY/EQUIPMENT /MEDIA:**
A teacher station and computer projection system will be used to demonstrate the software used in this course. Students will use classroom computers equipped with appropriate software to complete in-class work. Required course software includes the latest version of Microsoft ACCESS. Instructional enrichment may include but is not limited to: Internet resources, and PowerPoint presentations.

EVALUATION METHODS:
A portfolio of drawings will be prepare. Other methods may include but are not limited to: exams, group/individual projects and presentations, homework assignments.

**SUPPLEMENTARY MATERIALS/REFERENCES:** None

**Topical Outline attached**

# Schenectady County Community College
## Course Outline
## CIS-140

| Week | Topics | Lab |
|---|---|---|
| 1 | Intro, AutoCAD 2006, startup, toolbars, command line, Units, Limits, Grid, Line, Erase, Undo, Snap Coordinates, Polar lines | Lab Drawing I |
| 2 | Grid, Snap, Object Snap, Extend, Trim, TTR, Fillet, Offset, Explode | Lab Drawing 1 |
| 3 | Units, Grid, Snap, Zoom, Multiline, Multiline Edit, Layers | Lab Drawing 2 |
| 4 | Orthographic views, Grid, Snap, Layers, Offset, Construction Line, O'Snap | Lab Drawing 2 |
| 5-6 | Dimensioning, Text Commands | Lab Drawing 3 |
| 7 | Templates, Title Blocks, Arrays, Mirror, Printing, Plotting | Lab Drawing 3 |
| 8 | Auxiliary Views, Polar Tracking | Lab Drawing 4 |
| 9 | Sectional Views, Hatching, Blocks Assembly Drawings | Lab Drawing 4 |
| 10 | AutoDesk Inventor, Parametric Modeling | Lab Drawing 5 |
| 11 | Inventor's Toolbars, Features | Lab Drawing 5 |
| 12 | Inventor Sketch Tools, AutoCAD drawing Conversions | Lab Drawing 6 |
| 13 | Inventor's Solids Toolbars, Sheet Metal Tools | Lab Drawing 6 |
| 14,15 | Inventor Assemblies | Finalize Completed Drawings |
| 16 | EXAM | |