ADVANCED AUTOCAD I W/LAB
CID 2155

Class Hours: 3.0   **Credit Hours: 3.0**

Laboratory Hours: 2.0   **Revised: Fall 06**

Catalog Course Description:

Expands the knowledge and use of AutoCAD software commands with the continuation of training begun in CID 1100 and 1105. The course covers topics involving the creation and manipulation of orthographic and three-dimensional drawings, introduction of solid modeling, the concept of creation and management of symbol libraries, and rendering the models. The students will be able to use AutoCAD to enhance their performance in producing various drafting projects, create a three-dimensional model, and turn the model into a fully detailed set of working drawings.

Entry Level Standards:

Must have college level English and math skills.

Prerequisite:

CID 1100 and 1105; CID 1100 for CET majors

Textbook(s) and Other Course Materials:

Required Text:
Harnessing AutoCAD 2002 Thomas A. Stellman, and G.V. Krishnan (International Thomson Publishing)
Reference:
Technical Drawing MacMillion (Gieseacke)
Notebook and Digital storage media

I. Week/Unit/Topic Basis:

Week	Topic
1-14	Over the 14-week semester, the following topics will be covered: Review of AUTOCAD drawing commands and 2002 changes Creation of prototype drawings Dimensioning and review of geometric construction 3D solid commands Rendering Using existing skills, students will create projects consisting of working drawings that document the design process from start to finished products.
15	Final Exam Period: Final project due

II. Course Objectives*:

A. Create and use prototype drawings. (a, b , f, g, k)

B. Use all drawing commands to make professional quality drawings. (a, b, f, g, k)

C. The ability to create and use symbols and blocks. (a, b, f, g, k)

D. Basic understanding of creation and manipulation of three-dimensional images. (a, b, f, g, k)

E. Basic understanding of Windows environment, use of other software and standards as required in a professional environment. (a, b , f, e, g, k)

F. The ability to use various computer applications to communicate in professional environment. (a, b, c, d, f, g, k)

*Letters (a-k) reference the CID Program Outcomes (as required by ABET).

III. Instructional Processes*:

Students will:

1. Use the LIMITS, SCALE, UNITS, GRID, and LAYER commands to create a prototype drawing for a particular purpose. *Problem Solving and Decision Making Outcome, Active Learning Strategies*

2. Create 3D drawings. *Problem Solving and Decision Making Outcome, Active Learning Strategies*

3. Develop set of individual working drawings for an assembly project. *Problem Solving and Decision Making Outcome, Technological Literacy Outcome*

4. Generate proposals using a word processor and other software as required. Use the computer for interactive communication. *Technological Literacy Outcome*

*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

IV. Expectations for Student Performance*:

Upon successful completion of this course, the student should be able to:

1. Create and use a prototype drawing. A

2. Demonstrate knowledge of drawing, dimensioning and modifying commands to create 2-D mechanical drawings. A

3. Create 3-dimensional models of mechanical parts. A, G

4. Convert 3-dimensional models to the required orthographic 2-D drawings. A, G

5. Print in model and paperspace to specified scales. A, G

6. Use the xreference command to create and assembly drawings. G

*Letters after performance expectations reference the course objectives listed above.

V. Evaluation:

   A. Testing Procedures: 20% of grade

   The purpose of this class is to provide more practice with complex drawings. Students will be evaluated on the correctness of assigned drawings, formal tests, and quizzes.

   B. Laboratory Expectations: 30% of grade

   Students will be evaluated on the correctness of assigned drawings, on-line tests, and quizzes.

   C. Field Work: 50% of grade

   Students will be assigned several sets of working drawings including 3-D solid model, rendering, and all necessary orthographic drawings required to sufficiently describe the part/parts for manufacture or construction. These projects are practice for real world applications and in preparation for the final CIDD project class.

   D. Other Evaluation Methods:

   N/A

   E. Grading Scale:

A	93-100
B+	88-92
B	83-87
C+	78-82
C	70-77
D	60-69
F	59 and below

VI. Policies:

   A. Attendance Policy:

   Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course. Individual departments/programs/disciplines, with the approval of the vice president of Academic and Student Affairs, may have requirements that are more stringent.

   B. Academic Dishonesty:

   Academic misconduct committed either directly or indirectly by an individual or group is subject to disciplinary action. Prohibited activities include but are not limited to the following practices: Cheating, including but not limited to unauthorized assistance from material, people, or devices when taking a test, quiz, or examination; writing papers or reports; solving problems; or completing academic assignments. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign either (1) an F or zero for the assignment or (2) an F for the course. NOTE: It is expected and desirable that CID students assist other students. However, students may only submit work completed by themselves.

C. Accommodations for disabilities:

> If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. Other Policies:

> <u>Equipment:</u>
> Students are expected to take utmost care when using equipment provided by Pellissippi State. No tobacco use, eating, drinking will be allowed in labs. Students are not to load unauthorized software on the computers. Do not use floppy disks for CAD drawings in any other computers other than in CID labs. Students are responsible for maintaining current copies of drawings on their disks. Do not relocate computers, monitors, digitizers or keyboards without supervision by an instructor. Do not copy, delete or move files without instruction by an instructor.