

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE
MASTER SYLLABUS

ADVANCED MECHANICAL DRAWING II
CID 2230

Class Hours: 3.0

Credit Hours: 4.0

Laboratory Hours:
3.0

Date Revised: Fall 1998

Catalog Course Description:

An advanced course using Pro/ENGINEER to create parametric, feature based, three-dimensional solid models. This covers assemblies, menu customizing, rendering, and detailing engineering drawings.

Entry Level Standards: None

Prerequisite: CID 1100

Textbook(s) and Other Reference Materials Basic to the Course:

Text:

Inside Pro/ENGINEER, Fourth Edition. James Utz & Robert Cox. Onword Press, 1997.

Reference:

Principles of Technical Drawing. Gieseche, Mitchel, Spencer, Hill, Dygdon & Novak. MacMillan, Ninth Edition.

I. Week/Unit/Topic Basis:

Week	Topic
1	Introduction to Pro/ENGINEER Environment
2-3	Sketcher Tools
4-6	Modeling Tools
7-9	Modifying Parts
10-12	Assembly Operations
13	Part and Feature Management
14-16	Menus, Customizing Pro/ENGINEER Environment

II. Course Objectives*:

- A. Creation and use of seed files. II , V
- B. Use of Pro/ENGINEER drawing commands to make professional drawings. II, IV, V
- C. Understanding of the process of changing and customizing menus. II, III, V, VI

- D. Understanding parametric, feature-based modeling system. II, V, VIII

*Roman numerals after course objectives reference goals of the CID program.

III. Instructional Processes*:

Students will:

1. Use critical thinking to solve problems dealing with drawings and class projects. *Problem Solving and Decision Making Outcome, Numerical Literacy Outcome*
2. Use Pro/ENGINEER's sketcher to constrain and modify the geometry of mechanical part/parts. *Numerical Literacy Outcome*
3. Use Pro/ENGINEER to produce professional sets of drawings. *Technological Literacy Outcome, Transitional Strategy*
4. Use Microsoft Word to generate a report documenting one or more Pro/ENGINEER commands. *Technological Literacy Outcome, Active Learning Strategy*
5. Participate in open discussions regarding the strengths and weaknesses of Pro/ENGINEER commands and what improvements might be made in future releases. *Active Learning Strategy*
6. Use the Internet and electronic mail to communicate effectively between the instructor and other students. *Technological Literacy Outcome*
7. Locate and use desired ISO and ANSI standards to produce professional drawings. *Information Literacy Outcome*

*Strategies and outcomes listed after instructional processes reference Pellissippi State'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. Set software and environment variable to create a seed file. A
2. Utilize a text editor to edit the seed file. A
3. Test the newly created seed file to evaluate the accuracy of the code. A
4. Optimize the seed file that will result with the most efficient execution. A
5. Create 3 dimensional models of mechanical parts. B
6. Produce 2 dimensional drawings from the models. B
7. Utilize the 3 dimensional model to reference individual parts to create an assembly drawing. B
8. Determine if a new menu item needs to be added or if an existing menu item needs modification. C
9. Utilize a text editor to add or modify menu items. C
10. Test and evaluate the new or modified menu items. C

11. Create 3D parametric, feature-based drawings. B, D
12. Delete, suppress, resume, reorder, modify, and redefine features. D

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

V. Evaluation:

A. Testing Procedures:

Formal tests and quizzes will be given at the discretion of the instructor.

B. Laboratory Expectations: 75% of grade

Students will be evaluated on the correctness of their drawings.

C. Field Work: 25% of grade

Students will be graded on a final set of working drawings of a project that includes three-dimensional solid model and all orthographic drawings as required to sufficiently describe the part/parts for manufacturing.

D. Grading Scale:

- A 90 - 100
- B 80 - 89
- C 70 - 79
- D 60 - 69
- F < 60

VI. Policies:

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. Instructors may have requirements that are more stringent.