

COURSE SYLLABUS
SOUTHEAST MISSOURI STATE UNIVERSITY
DEPARTMENT OF INDUSTRIAL TECHNOLOGY

Course No.: TG220 Fall 2007
Course Title: Solid Modeling and Rapid Prototyping

Instructor: Doug Koch
Office: PB 213 N
Office Phone: (573) 986-7478
Office Hours: M 10:00-11:00, T 1:00-2:00, & W10:00-11:00 or by appointment
Email: dskoch@semo.edu
Web URL: <http://cstl-pti.semo.edu/koch>

I. Catalog Description and Credit Hours of Course:

Use of advanced computer-aided design and drafting software, hardware, and systems to produce three dimensional drawings, renderings and actual physical prototypes of parts and assemblies. Variable lecture and lab hours per week. 3 credit hours.

II. Prerequisites:

TG-120 or TG-126.

III. Purposes or Objectives of the Course: TG 220

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

- A. Effectively apply skills and techniques in math, science, and engineering to solve technical design problems (O.1.1, O.2.1, O.1.3, O.3.1)
- B. Demonstrate proficiency in applying CAD, solid modeling, and the associated computer hardware or equipment to solve technical design problems (O.1.2, O.3.2, O.6.3)
- C. Properly setup and configure the necessary hardware and equipment required to create, modify, or solve design problems related to industry (O.1.3, O.2.4)
- D. To invent or modify a product (O.2.1, O.2.6)
- E. Communicate and work effectively as a team to solve a design problem (O.5.1, O.5.2, O.5.3)
- F. Apply math, science, engineering, and computer aided analysis to evaluate, improve, and meet or exceed design performance and ethical requirements (O.3.2, O.3.4, 0.7.1)
- G. To be able to FIND and USE information independently (O.3.3)

IV. Expectations of Students:

- A. Read and study all assignments.
- B. Class attendance and participation are required, both lecture and lab.
- C. Major portion of lab work must be completed in lab.
- D. Complete and turn in assignments at the scheduled time
- E. Assignments may not be turned in to department secretary

V. General Guidelines

1. In a professional environment, work areas are kept clean. In keeping with a professional attitude towards fellow students, always clean your area before leaving
2. Please no eating or drinking in the labs.
3. Headsets are not allowed during class time including lab time.
4. Students are responsible for removing their personal work/drawing from the computers each day.
5. Computer in the lab are to be used for course work ONLY. Do not use them to check email, download games etc., and do not change settings such as screen savers and backgrounds unless instructed to do so. The computers and software in the lab are for your instruction of the class materials. Downloading, browsing, and changing settings often causes conflicts with software, creates openings for security issues, and can make the computers inoperable until repairs can be made. Students failing to honor these rules may be asked to leave the class or have lab privileges removed and it will be difficult if not impossible to complete the class without being able to use the lab.

VI. Course Content or Outline: (not necessarily in this order)

1. Advanced Drafting
2. Geometric Dimensioning & Tolerancing (GD &T)
3. Sketching and Metrology
4. AutoCAD in 3D
5. Introduction to ProEngineer
6. Rapid Prototyping
7. Reverse Engineering
8. Computer Aided Measurement
9. Sheet Metal Parts
10. Design Drawings
11. Assemblies

VI. Textbook and Other Required Materials or Equipment:

- Bertoline, G. R., & Wiebe, E. N. (2003). Technical Graphics Communication 3rd Ed. New York, McGraw Hill Companies Inc.
- Tickoo, S. (200X). Pro/Engineer Wildfire 3.0 for Designers, Indiana, CADCIM Technologies
- Two CD-R's and a USB storage device

VII. Student Evaluation:

Class participation starts day one and continues throughout the semester. This course is more meaningful if you **ASK QUESTIONS**. Grading will consist of the following criteria and percentages.

Class Participation	10%
Assignments/Drawings	50%
Quizzes/Tests	20%
Final/Final Project.....	20%

Grading Scale:

A =	100 - 90%
B =	89 - 80%
C =	79 - 70%
D =	69 - 60%
F =	59 - 0%

VII. Academic Dishonesty

As printed in the Southeast Missouri State University Undergraduate Bulletin

Academic dishonesty is defined to include those acts which would deceive, cheat, or defraud so as to promote or enhance one's scholastic record. Knowingly or actively assisting any person in the commission of an above-mentioned act is also academic dishonesty.

Students are responsible for upholding the principles of academic honesty in accordance with the "University Statement of Student Rights" found in the Student Handbook. The University requires that all assignments submitted to faculty members by students be the work of the individual student submitting the work. As exception would be group projects as assigned by the instructor. In this situation, the work must be that of the group. Academic dishonesty includes: Plagiarism and Cheating

All students will be expected to understand and uphold this policy. See the Student Handbook or Undergraduate Bulletin for further descriptions and explanations of academic dishonesty.

VIII. Lab Fee:

There is a \$10.00 lab fee.

IX. Disabilities Act:

If you need special accommodation due to the ADA law please notify me.
Reasonable efforts will be made to meet your needs.