INTRODUCTION:
Working drawings are often the final product of an engineering office. They are the means by which a design concept is communicated to those people who approve and manufacture the designed product. In your career as an engineer, you will be called upon to create, or supervise the creation of, drawings which will be used to make something. Errors made on a drawing often result in very expensive changes and a lot of scrap parts. Because of the cost or errors, the ability to create neat and accurate drawings is an essential talent employers require of an engineer. The primary goal for the students in this course is to learn how to create a set of working drawings for some product. All of the activities, readings and course lectures are meant to support this goal.

GOALS & OBJECTIVES:
After completing this course, students should be able to:
1. Make a set of working drawings for a mechanical product;
2. Create solid model assemblies using fully constrained components and check for interferences;
3. Model new parts in the context of an assembly;
4. Create assembly drawings of a mechanical product with a part list and item balloons;
5. Use mathematical relations to drive solid models;
6. Use family tables to create different configurations of solid models;
7. Extract partial, auxiliary, and section views from solid models;
8. Compute limits, allowance and fits for mating features;
9. Represent geometric tolerances on a drawing and understand their meaning;
10. Compute bonus tolerance associated with a position tolerance;
11. Specify and represent threaded shafts and holes on detail drawings;

REQUIRED TEXT:

COURSE GRADE DISTRIBUTION:
Graded Activities  40%
Exam #1          20%
Exam #2          20%
Project         20%

GRADE SCALE:
A    93-100%  B    83-86%  C    70-76%
A-   90-92%   B-   80-82%  D    65-69%
B+   87-89%   C+   77-79%  F    Below 65%
COURSE POLICIES AND PROCEDURES:

- Attendance is required although role will not be regularly taken. You are responsible for material covered during an absence from class.
- Please pay attention during class lectures and discussions. If you have questions or comments during class, please address them to the instructor instead of disturbing those seated around you. Do not allow yourself to be distracted by the computer in front of you. “Playing with software” and web surfing during class lectures and discussions is discouraged.
- Homework assigned during the week is due at the beginning of the first class of the following week unless noted otherwise. Late homework will be docked a letter grade (10%). Once grading begins for a particular assignment, late papers will not be accepted. Late assignments are to be completed on your own time, not during class.
- You may discuss homework activities with other students, but you may not copy one another’s work. Additionally, you may not look at another person’s work to “see how they did it” – this is really copying the work of another.
- Exams may be made-up at the discretion of the instructor upon presentation of a valid doctor’s excuse or University authorized justification for the absence. As a condition of being granted a make-up exam, you must contact the instructor prior to the absence. Students will not be permitted to share anything during the exams.
- Several quiz-like “in-class assignments” will be given throughout the semester. If missed, these assignments cannot be made up.
- You are expected to strive to produce neat and accurate work. There is no excuse for sloppy or poorly prepared assignments. A failing grade may be assigned for the course if all assigned work is not satisfactorily completed.
- I will be communicating with you between class via email and updates on the web pages. You are expected to regularly check for these communications.

ACADEMIC INTEGRITY:

Penn State Erie puts a very high value on academic integrity, and violations are not tolerated. Academic integrity is one of Penn State’s four principles to which all students must abide. This principle states:

I will practice academic integrity. Academic integrity is a basic guiding principle for all academic activity at Penn State University, allowing the pursuit of scholarly activity in an open, honest, and responsible manner. In accordance with the University’s Code of Conduct, I will practice integrity in regard to all academic assignments. I will not engage in or tolerate acts of falsification, misrepresentation, or deception because such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of work completed by others.

Any violation of academic integrity will receive academic and possibly disciplinary sanctions, including the possible awarding of an XF grade which is recorded on the transcript and states that failure of the course was due to an act of academic dishonesty. All acts of academic dishonesty are recorded so repeat offenders can be sanctioned accordingly.

RESOURCES AND MATERIALS:

- Course web site: http://engr.bd.psu.edu/edevans
- Handouts
- Textbook
- Penn State Erie Graphics Standards
- Pro/ENGINEER Help Files
- Other students
- Tutor
- Instructor
- Textbooks from the John Lilley Library (access to all PSU libraries)
- World Wide Web