

Principles of Engineering Education

ETE 2660

Spring, 2009

M, W, F: 12:30 – 2:20 pm

Instructor:

Paul D. Schreuders
Department of Engineering and Technology Education
106A Industrial Sciences Building
(435) 797-7559
PSchreuders@cc.usu.edu

Office Hours:

After Class Monday,
When My Door is Open

Course Description:

This course will prepare students to teach pre-engineering in the high school environment. Topics include the engineering design process and reliability, engineering systems, statics and dynamics, and materials.

Prerequisites: Math 1060 (Trigonometry) or equivalent, ETE 1200 (Computer Aided Drafting & Design) or equivalent

Course Objectives:

1. Students will recognize the role of engineering in society and be familiar with the skills utilized by engineers
2. Student be able to prepare engineering documentation and communicate their designs to others
3. Students will be able to identify and utilize the engineering design process
4. Students will understand the different types of engineering systems and be able to create designs using those systems
5. Students will be able to perform algebraic and trigonometric statics and strengths of materials calculations in 2 dimensions
6. Students will understand the role of materials properties in engineering design
7. Students will understand the role of reliability in engineering design

Grading:

Class work (70%)

Classwork/homework	40%
Midterm	10%
Final Exam	20%

Project (40%)

Letter of Intent	5%
Project Proposal	10%

Final Design Statement	10%
Project Execution	5%

As noted above, your grade will be based on two components. The class work component will be based on your work as an individual. Much of the project component will be based on your work as part of a team. The entire team will receive a grade on each portion of the project. An individual's grade will be based upon this grade \pm up to 10%, as appropriate.

Attendance

Missing classes is strongly discouraged but attendance is ultimately considered the responsibility of individual students.

Text

Principles of Engineering Education Course Notes on Blackboard (<http://bb.usu.edu>).

You will be responsible for the materials contained in these documents.

Homework

Homework will be assigned from the course materials and may be supplemented with handouts. You are expected to turn in the homework on time and in a coherent format. Please see the class web-page for an acceptable format.

Course Project

As part of this course you and your assigned team will complete a class project. In this project you will develop an electricity-based project for use in a pre-engineering classroom. The project should take approximately 1 week for a pre-engineering class to complete. Your group will choose the project topic with my guidance. Don't be afraid to follow your group's personal interests, just be sure that there is sufficient data to develop the project.

Project Deliverables

Letter of Intent

This is a 1 page memo describing the general area for your project. It is intended to prevent conflicts between groups and get you thinking. You will still have considerable latitude to refine your area.

Design Proposal

This is a full proposal for your project. The exact format for the proposal is posted on the course web site. At this point you can only change your topic with specific permission from the instructor.

Final Design Statement & Project Execution

This is your final paper and demonstration of your project to the class

Things you need to know:

University Standards of Academic Integrity – “The Honor System”

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

The Honor Pledge.

To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity." A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lived by the Honor Pledge espouses academic integrity as an underlying and essential principle of the Utah State University community; understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and is a welcomed and valued member of Utah State University.

Plagiarism

Plagiarism includes knowingly "representing, by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

Students with Disabilities: The *Americans with Disabilities Act* mandates that reasonable accommodation will be made for students with disabilities in order to assure equal participation in ETE 3040. Students requesting such accommodation must meet with Dr. Schreuders during the first week of classes and must coordinate such accommodations with the Disabilities Resource Center.

Course Evaluation

Students will have the opportunity to complete confidential course and instructor evaluation forms at the end of the semester. In addition, students are encouraged to share any concerns or suggestions related to course administration with the instructor or the department chair as early as possible during the semester.