

ENGR 1920 Introduction to Engineering

Fall Semester 2008

2:00 AM – 3:15 AM, Tuesday & Thursday

Location: Room 250 Student Learning Center

Instructor

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Course Description

An introduction to engineering focusing on the inter-relationship between engineering, technology, society, and the environment. Concepts and practices of engineering and evolution of technology in society will be delivered through a combination of class lecture and open classroom discussion. Engineering will be presented and discussed as an activity whereby society as a collective body of people organizes their environment and natural resources for the purposes of developing systems to obtain energy, food and water and preserve public and environmental health.

Offered	Credits	Level	Weekly Meetings
Fall	2	Freshman	Tuesday and Thursday

Course Prerequisite or Co-requisite - N/A

Pre- or Co-requisite by Topic - N/A

Courses that Require this Course as a Prerequisite - N/A

Text

Smil, Vaclav. (2006). *Transforming the 20th Century*

Supplemental Resources: Assigned

Grading

Method of Grading

Attendance	20%
Weekly assignments	60%
Final Project	<u>20%</u>
Total	100%

Numerical Score	Corresponding Grade
90 - 100	A = 4.0
88 - 89.4	A- = 3.7
86 - 87.4	B+ = 3.3
80 - 85.4	B = 3.0
78 - 79.4	B- = 2.7
76 - 77.4	C+ = 2.3
70 - 75.4	C = 2.0
68 - 69.4	C- = 1.7
60 - 67.4	D = 1.0
< 60	F = 0.0

IMPORTANT DATES

October 23
October 31
November 24-28
December 9

Withdrawal Deadline
Fall Break
Thanksgiving Holiday
Friday Class Schedule in Effect

**The Final Exam period is scheduled for
Thursday, December 11, 3:30 PM – 6:30 PM**

Class Lectures/Discussions

Class lectures will be discussion-driven and developed in part from weekly submissions by the students, so you have some say-so in what we discuss in class. I'll facilitate the discussions and provide input from outside the text material if and when appropriate. On occasion, students may be asked to facilitate discussion. The focus will be on the relationship of society, nature, science, mathematics, technology, engineering, politics, economics and any other relevant areas that emerge during the class.

Weekly Submissions (Longer than 1 page but not longer than 2 pages)

Select a topic from the reading assignment and contextualize it within a current issue. This can be anything such as a quote, comment, historical figure, invention, engineered technology, social issue, etc. In one very brief paragraph describe your topic and your reason for selecting it. The remainder of the submission is your reflection of the topic along with references, facts, figures, etc. Grammar will be checked. This is to be submitted by e-mail to me before noon each Monday. All submissions are to be Microsoft Word documents using Verdana font on pages with 1" margins all around and 1-½ line spacing. Make a template from your first submission and you'll have it set from that point forward (refer to attached example).

The weekly journal submission serves two purposes. It indicates to me the extent to which you are preparing for class, and it provides me with topics that may be of general interest to the class. I am very interested in what you think, what is on your mind, the issues that you consider to be most relevant, and your ideas for addressing these issues. My hope is that the journal submission helps you develop the ability to develop and convey your thoughts as a brief, cogent summary.

Final Project

We will routinely discuss issues throughout the semester and develop some of them into ideas for use in a final group project, which will be presented to the class at the end of the semester in PowerPoint format. The issues should be of such a nature that they require national or international attention and will affect you either directly or indirectly. Each group member will be required to submit a final 3-page paper on their group's project. Additional details will be discussed and guidelines will be provided later in the semester.

Course Learning Objectives

Course Learning Objective Upon successful completion of this course, students will have an understanding of:	Course Assessment Method*	Extent of Coverage of Program Outcomes** (ABET Criterion 3)
1. The engineering profession.	A, B, C	d-x; f-xx; g-xx; h-xx; i-xx; j-xx
2. What engineers do.	A, B, C	d-x; f-xx; g-xx; h-xx; i-xx; j-xx
3. Characteristics of an engineering problem.	A, B, C	d-x; f-xx; g-xx; h-xx; i-xx; j-xx
4. The interrelationship between engineering, nature and society	A, B, C	d-x; f-xx; g-xx; h-xx; i-xx; j-xx

*Course Assessment Methods: A– Weekly Journal Submissions; B – Weekly Lecture Preparation Submission; C - Group Project; D – Final Project

** Extent of Coverage: x – some; xx – moderate; xxx - extensive

ABET EC-2000 Criterion 3 Program Outcomes

- a) an ability to apply knowledge of mathematics, science, and engineering
- b) an ability to design and conduct experiments, as well as analyze and interpret data
- c) an ability to design a system, component, or process to meet desired needs
- d) an ability to function on multi-disciplinary teams
- e) an ability to identify, formulate, and solve engineering problems
- f) an understanding of professional and ethical responsibility
- g) an ability to communicate effectively
- h) the broad education necessary to understand the impact of engineering solutions in a global and societal context
- i) a recognition of the need for, and an ability to engage in life-long learning
- j) a knowledge of contemporary issues
- k) an ability to use techniques, skills, and modern engineering tools necessary for engineering practice

Overall Course Contribution to Program Outcomes

Only items d, f, g, h, i and j are addressed by the course to varying degrees. This is understandable, given that this is freshman introductory course.

Academic Honesty

All students are responsible for maintaining the highest standards of honesty and integrity in every phase of their academic careers. The penalties for academic dishonesty are severe and ignorance is not an acceptable defense. The document for academic honesty may be found at the web site for The University of Georgia Office of Senior Vice President for Academic Affairs and Provost.

Departmental Grading Policy Regarding Communication

Thirty percent of the grade on all written assignments (lab reports and papers) and oral presentations will be based on quality of communication. Spelling, grammar, punctuation, and clarity of writing are evidence of written communication quality. Enunciation, voice projection, clarity and logical order of the presentation and effective use of visual aids are evidence of oral communication quality.

Instructor Initiated Withdrawal Policy

A student may be withdrawn from this course by the instructor without notification to the student for excessive absences or for failure to complete necessary prerequisites. For this course, "excessive absences" is defined as absences from all of the first three class meetings or three (3) or more absences from any continuous five (5) scheduled class meetings.

Title (11-point)
Author Name (9-point)
Date (9-point)

(10-point Verdana)
Topic

Brief paragraph explaining topic and rationale for selecting it.

Discussion & Reflection

Main body of text for discussing your thoughts on the topic.

Analysis

Data, tables, graphs, figures, etc. that support or emphasize your point.

References

Reference the text or any other sources (e.g. data, quotes) when appropriate.