

**ENGR 1112 Intro to Engineering (CRN = 28334)**

Spring 2006

Department of Physics and Engineering

University of Central Oklahoma

<b>Location</b>	Howell Hall 220
<b>Time</b>	T 11:00 - 12:50 p.m.
<b>Instructor</b>	Evan Lemley, Ph.D.; Assoc. Prof. of Physics and Engineering
<b>Office</b>	Howell Hall 221L
<b>Web</b>	<a href="http://engrphys.lemley.org">http://engrphys.lemley.org</a>
<b>email</b>	<a href="mailto:elemley@ucok.edu">elemley@ucok.edu</a>
<b>Phone</b>	(405)974-5473 // (405)204-5616
<b>Office Hours</b>	MWF 10:00 - 10:50 a.m. or by appointment.
<b>Final</b>	R May 4, 2006 from 11:00 a.m. - 12:50 p.m. // Final Design Presentations

**Course Description**

This course provides an introduction to engineering disciplines, problem-solving techniques, engineering homework skills, engineering ethics, and university resources. A design project is an integral component of the course. As part of the project, students will function as part of an engineering team, use computer applications, write a report, and make an oral presentation.

**Prerequisites**

PHY 1003 or High School Physics and MATH 1593 or concurrent enrollment in MATH 1593.

**Textbooks**

*Engineering Success*, Peter Schiavone, Second Edition, Prentice Hall, 2002.

*Engineering Design and Problem Solving*, Steven K. Howell, Second Edition, Prentice Hall, 2002.

**Objectives**

Students will:

1. demonstrate an understanding of the various engineering disciplines and possible career paths in engineering;
2. demonstrate an understanding of the National Society of Professional Engineers Code of Ethics;
3. demonstrate an understanding of the process of obtaining profession engineering licensure;
4. demonstrate an understanding of basic engineering graphics;

5. demonstrate an ability to find engineering materials using university computing and library resources;
6. demonstrate an ability to produce a properly formatted engineering report using a word-processor including tabular data, graphs or other figures, and equations;
7. demonstrate an ability to prepare and give a technical presentation on an engineering topic;
8. demonstrate an ability to use the web for course assignments;
9. produce a basic web-page with hyper-text mark-up language;
10. demonstrate an understanding of the rudiments of engineering design;
11. function as part of an engineering team in an engineering design project; and
12. demonstrate an understanding of techniques used to solve engineering problems.

### **Instruction Techniques**

Lecture will be used predominantly although sometimes recitation periods will be employed.

### **All Homework**

Working HW problems in a timely manner is the best way to do well on exams and in the class as a whole. Homework is due at the beginning of the class period on the due-date or due-day.

### **Non-Web Homework**

Homework should be neatly written on only one side of your paper, folded length-wise with your name written on the outside of the folded pages before turning it in. Each problem should fit all of the following criteria: clearly labeled, **one problem per sheet of paper**, legible and organized. HW papers that do not fit these criteria will be penalized accordingly. You may visit the following site for an electronic version of the homework format requirements:

[http://engrphys.lemley.org/courses/hwk\\_format.php](http://engrphys.lemley.org/courses/hwk_format.php)

Each HW problem you turn in is worth ten points. Some problems will be graded on detailed solutions and others will be graded on effort. I will **not** tell you ahead of time which or how many problems will be graded relative to a detailed solution, but on the returned and graded HW paper a check mark next to the problem number will indicate full effort (or ten points) and a numerical score (e.g. 8/10) next to the problem number will be used on those problems under more scrutiny.

**Grading Policies**

The following table shows the breakdown of credit for the course.

HW and misc.	25%
Advising	25%
Attendance	25%
Projects	25%
<b>Total</b>	<b>100%</b>

**Tentative Grading Scale**

90-100% -- A, 80-90% -- B, 70-80% -- C, 60-70% -- D, <60% -- F

**Advising**

As part of this course you will be advised by a faculty member from the Physics and Engineering Department. This advisement will be arranged by Dr. Lemley who will give you the proper forms and arrange an advisement time. *Advisement is a class requirement. Dr. Lemley or a Physics and Engineering faculty member must sign off on all advisement forms before you will receive a grade for this course.*

**STUDENT INFORMATION SHEET / SYLLABUS ATTACHMENT**

See separate handout or go to:

[http://enrphys.lemley.org/courses/fall\\_2005\\_syllabus\\_attachment.pdf](http://enrphys.lemley.org/courses/fall_2005_syllabus_attachment.pdf)

<b>Tentative ENGR 1112 Intro to Engineering Schedule Spring 2006</b>			
<b>Week #</b>	<b>Day</b>	<b>Date</b>	<b>Topic</b>
1	T	10Jan2006	Syllabus // Introduction // Why Engineering?
2	T	17Jan2006	UCO Background // Educational Goals // Academic Biography
3	T	24Jan2006	Academic Success in Engineering // Campus Resources // PEC Presentation
4	T	31Jan2006	Academic Success // Problem Solving
5	T	07Feb2006	Dr. Wei Chen – UCO BME Director
6	T	14Feb2006	Library
7	T	21Feb2006	Engineering Design // // Robolab Tutorial
8	T	28Feb2006	Student Code of Conduct // Engineering Ethics // Robolab
9	T	07Mar2006	Engineering Ethics Quiz // BME and EP Advising Overview // RoboLab
10	T	14Mar2006	<b>SPRING BREAK – NO CLASS</b>
11	T	21Mar2006	Leadership Opportunities // Campus Organizations
12	T	28Mar2006	RoboLAB Project Presentations and Competition
13	T	04Apr2006	Viscometer Design Project Intro
14	T	11Apr2006	Basic Graphics // Viscometer Design Project
15	T	18Apr2006	Basic Graphics // Viscometer Design Project
16	T	25Apr2006	Basic Graphics // Viscometer Design Project
17	R	04May2006	11:00 a.m. - 12:50 p.m. // Final Viscometer Design Presentations and Competition
Revised		14Feb2006	