

MASTER SYLLABUS

1. Course Information

College: Engineering & Computer Science

Department: College of Engineering & Computer Science

Course Title: Fundamentals of Engineering and Computer Science

Course Designation and Number: EGR 190

GE Area(s):

VI: College Component

Writing Intensive: Yes No

For WI Courses: All sections Selected Sections are WI.

Method(s) of Instruction: Lecture
 Discussion
 Web-enhanced
 Web-only
 Other (Explain below.)

Includes Lab: Yes No

There is one 2 hour lecture and two 2 hour labs per week.

Prerequisites:

NONE

2. Objectives

GE Program Objectives:

Sharpen critical thinking, problem solving, and communication skills;

GE Area Objectives:

Area VI requirements link general education more closely with study in the major, thereby making more apparent the applicability and transferability of general competencies to specialized study.

Course Objectives and GE Learning Outcomes:

There are four objectives for this course: to introduce students to engineering principles through hands-on experience, foster collaboration among students through cooperative team project activities, establish a sense of community among the students, and develop an understanding of how to be successful in studying engineering.

The learning outcomes are:

1. To be able to communicate with individuals who are in the student's major, in allied fields, and non-specialists.
2. To understand important relationships and interdependencies between the student's major and other academic disciplines, world events or life endeavors.

For WI Courses: WAC Objectives

1. To improve students' writing proficiency – their ability to develop ideas and transmit information for an appropriate audience in an organized, coherent fashion while writing with appropriate style and correct grammar, usage, punctuation and spelling.
2. To encourage students to use writing as a learning tool to explore and structure ideas, to articulate thoughts and questions, and to discover what they know and do not know, thereby empowering students to use writing as a tool of discovery, self-discipline, and thought.
3. To demonstrate for students the ways in which writing is integral to all disciplines, essential to the learning and conveying of knowledge in all fields.

The writing intensive portion of this course will meet the minimal requirements of 1,500 words involving at least six double spaced pages. The assignments will come from the laboratory portions of the course that have a written requirement beyond that expected of an engineering laboratory report. In particular the laboratories on Web Searching, How Things Work, and Web Design 2 are good choices. A rubric will be designed for each writing intensive laboratory to help the students and graders. One assignment will require a revision. The writing intensive assignments will be counted as a percent of the course grade. It is build into the lab assignment and is approximately 0.7%.

Sample writing assignment:

This project involves researching and writing a short report about how something works. The object of your investigation may be chosen from the list provided in lab. The report requirements take the form of a "process description" as detailed in "Pocket Book of Technical Writing for Engineers and Scientists", Leo Finkelstein, Jr., McGraw-Hill, 1999. This is an excellent reference book and guide for any technical writing.

3. Suggested Course Materials

1. "Studying Engineering A Road Map to a Rewarding Career" by Raymond B. Landis, Discovery Press, ISBN 0-9646969-5-9
2. "Engineering & Computer Science Freshman Text: Word & Excel" Prentice Hall, ISBN 0-13-029645-7
3. Lecture notes and Lab assignments on the EGR190 web site.

4. Suggested Methods of Evaluation

There are two in-lab examinations, one involving computer lab assignments and the other involving instrumentation lab assignments on engineering art.

There is a final examination which focuses upon the lectures and labs involving instrumentation.

5. Grading Policy

All GE courses are graded A-F.

WI component is graded Pass/Unsatisfactory

6. Suggested Weekly Course Outline Including Typical Assignments

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|--------|-------------------------------------|
| Week 1 | Bridge Building Competition |
| Week 2 | Engineering Art, E-mail and the Web |
| Week 3 | 3D Art and How Things Work |
| Week 4 | 3D Art and Web Design |

Week 5 Exam 1
Week 6 Instrumentation, Web Design and Final Project Assigned
Week 7 Circuits and Web Design
Week 8 Timers, Flip-Flops and Engineering Math
Week 9 Exam 2
Week 10 Presentation of Final Projects and Analog to Digital Signal Processing Lab
Week 11 Final Exam

7. Other

Syllabus distributed to students should employ the format approved by UCAP and must include:

- Instructor name, office hours, and contact information
- Office of Disability Services information
- Information on how grades will be determined
- Attendance policy