

**Department of Electrical and Computer Engineering  
University of Massachusetts Amherst**

**ECE 303: Junior Seminar  
Spring 2013**

**Time:** Monday, 1:25 – 2:15 pm  
**Location:** Engin. & Comp. Science II, room 119 (auditorium)

**Instructors:** Stephen Frasier  
113A Knowles Engineering Building  
[frasier@ecs.umass.edu](mailto:frasier@ecs.umass.edu)  
phone: 545-4582

**Description:** Overview of the electrical and computer engineering field, including introduction to various sub-disciplines and the corresponding upper-level ECE courses. Additional topics, presented by invited speakers, will include issues in professional ethics, engineering management, technology and society and entrepreneurship (1 credit)

**Prerequisite:** Grade of C or better in E&C-ENG 211, 212, 232 and 242.

**Objective:** To increase awareness of important aspects of the electrical and computer engineering profession through discussions of the roles and responsibilities of electrical and computer engineers in society, overviews of technical sub-disciplines, and an introduction to the process for conducting engineering projects.

**Web Site:** Moodle (TBA)

**Office Hours:** Open door policy or by appointment.

**Seminar Schedule (Tentative)**

**L1.** January 28      Course Overview      Prof. Maciej Ciesielski  
Computer Systems Engineering

**Part 1 – Technical Overview of Electrical and Computer Engineering**

**L2.** February 04      Signal Processing, Communications and Controls      Profs. Hollot and Kelly

**L3.** February 11      Professional Ethics      Linda Enghagen (SoM)

**L3.** February 19 (Tu)      Microwaves and Electronics      Profs Anderson and Vouvakis

**L4.** February 25      Computer Systems Engineering      Profs Kundu and Wolf

**L5.** March 04      Engineering Management      Vice Chancellor Michael Malone

## Part 2 – Societal Roles and Responsibilities of Electrical and Computer Engineers

L7.	March 11	Graduate and Continuing Education	Prof. Goeckel
	March 19	No class - Spring Break	
L8.	March 25	<u>Technology and Society</u>	Prof. David Jensen (CS)
L9.	April 01	Engineering Projects: Intro+ Examples	Prof. Salthouse
L10.	April 08	<u>Innovation and Entrepreneurship</u>	Prof. James Theroux (SoM)
L11.	April 17 (Wed)	PANEL: Future of Electrical & Computer Engineering - ECE Faculty	

## Part 3 – The Engineering Project Process

L12.	April 22	Project Management	Prof. Salthouse
L13.	April 29	Career Paths – Alumni Examples	Prof. Soules

## Course Requirements

- **Attendance:** Attendance at all seminars is mandatory. Unexcused absences will result in a grade penalty (see section on Grading below). You are expected to come to class on time and to stay for the full period.
- **Writing Assignments:** There are three writing assignments, all of which must be completed satisfactorily in order to pass the course (see section on Grading below):
  - Essay on *Engineering Ethics* – This is a brief essay that will explore ethical issues in a case study of engineering practice.
  - Essay on *Technology and Society* – This is a brief essay that will discuss issues related to the social, political, or cultural impact of a particular ECE-related technology.
  - *Engineering Project Problem Statement and Requirements Specification* – A brief document that defines and specifies the requirements for a prospective engineering project (suitable for an ECE Senior Design Project).

Detailed descriptions of the written assignments will be posted on the course web site (SPARK).

### Writing Assignments and due dates (tentative):

- **March 04** - Engineering Ethics essay
- **March 25** - Brief (one paragraph) description of topic for Technology and Society essay
- **April 08** - Technology and Society essay (final)
- **April 17** - Engineering Project Problem Statement (preliminary)
- **April 29** - Engineering Project Problem Statement (revised)

## **Grading Policy**

- In order to pass the course, **all** written assignments (including the one-paragraph Science and Technology essay topic description and the preliminary Engineering Project problem statement) must be completed satisfactorily – failure to complete any of the assignments in a satisfactory manner will result in a failing grade for the course.
- If all assignments are completed satisfactorily and there are **no** unexcused absences or late assignments, then the course grade will be “A”.
- If all assignments are completed satisfactorily but there are one or more unexcused absences and/or late assignments, the course grade will be as follows:
  - One unexcused absence or late assignment: Course grade = **A-**
  - Any combination of two unexcused absences and/or late assignment: Course grade = **B**
  - Any combination of three unexcused absences and/or late assignments: Course grade = **C**
  - Any combination of four unexcused absences and/or late assignments: Course grade = **D**
  - Any combination of five or more unexcused absences and/or late assignments:  
Course grade = **F**
- In addition, if assignment is returned to a student as unsatisfactory and needs to be resubmitted, the grade will be lower by one-third of the point (from X to X- or from Y+ to Y).

## **Important Notes**

- An attendance sheet will be circulated during each class – it is your responsibility to make sure that you sign the sheet before you leave at the end of class. Failure to sign the attendance sheet will be treated as an absence.
- You will not be penalized for legitimate absences, but in order to have them excused, it is your responsibility to contact one of the instructors in a timely manner and to produce any required documentation.
- Signing the attendance sheet for anyone other than yourself will be considered an act of academic dishonesty.
- All submitted assignments must be your own work. Any acts of plagiarism or other forms of academic dishonesty will result in a failing grade for the course and referral to the University Academic Honesty Office, which may impose additional sanctions.
- For definitions and University policies on academic honesty and absences please see the Academic Regulations, available at the web site of the Undergraduate Registrar <http://www.umass.edu/registrar/> .