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  
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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  
Computer Systems Engineering  
Prof. Maciej Ciesielski

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  Technology and Society  Prof. David Jensen (CS)
L9. April 01  Engineering Projects: Intro+ Examples  Prof. Salthouse
L10. April 08  Innovation and Entrepreneurship  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/.