

ECEn 380: Signals & Systems

Spring 2013 Course Syllabus

Lectures: MTThF noon - 1:50pm, 254 CB
Lab: Tuesdays and Thursdays 2:00 - 4:50pm, 490 CB

Instructor: Professor Neal K. Bangerter
Office: 437 CB
Office Hours: M 2 - 4pm, W 2:30 - 4pm, F 9 - 10:30am
Phone: 422-4869
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Course Website: <http://ece380web.groups.et.byu.net/>

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Course Overview:

Signals & Systems is a four credit hour course that will provide you with a solid introduction to many basic concepts and analytical tools in signal and system theory. The material introduced finds application in nearly every field of engineering, and forms the basis for understanding a host of modern technologies, from digital media systems to medical imaging devices to advanced control and communications systems. Fourier analysis (in both continuous and discrete time) and the theory of sampling have played an enormous role in the development of mathematical physics and engineering and the subsequent explosion in technological advancement of the last century. Mastery of the concepts and tools taught in this class will dramatically increase your understanding of the world you live in, enriching your life and expanding your capabilities as an engineer.

Textbooks:

- Oppenheim and Willsky, *Signals & Systems*, 2nd Edition (Prentice Hall 1997)
- Buck, Daniel, and Singer, *Computer Explorations in Signals and Systems*, 2nd Edition (Prentice Hall 2002)

Homework (20% of grade):

Homework assignments will be due once or twice per week. There will be 10 homework assignments during the term. Completed homework assignments should be put in the ECEn 380 homework box located in the hallway near room 412 CB (by the elevator). You are encouraged to discuss your homework with other students, the TAs, or the instructor, but you should work through each problem on your own and submit your own work. Late homework will not be accepted without prior approval of the instructor. Homework will be graded based on completion, effort, and correctness. You should expect a portion of the midterm and final exams to consist of problems similar to those found on the homework.

Examinations (50% of grade):

- All exams will be held in the testing center
- Exam details will be provided the week before the exam
- **Midterm 1 (15%):** Friday 5/17 - Monday 5/20
- **Midterm 2 (15%):** Tuesday 6/4 - Wednesday 6/5
- **Final (20%):** Wednesday 6/19 - Thursday 6/20

Laboratories (25% of grade):

The laboratory assignments in ECEn 380 will be completed using Matlab, which is available on the PCs in the CAEDM lab (425 CB) and the ECEn 380 lab room in 490 CB. There will be a portion of a lecture devoted to the introduction of each lab immediately prior to that lab. The laboratory assignments may be completed either on your own time or during the scheduled laboratory sections in 490 CB. One of the TAs will be available during each of the scheduled lab blocks in 490 CB. You should plan on attending the weekly lab lectures to receive information and help on the assigned labs. There will be 10 laboratory assignments throughout the term. **Note that, by departmental policy, all labs must be completed to receive a passing grade.**

Participation (5% of grade):

Your attendance and active participation in lectures is strongly encouraged. While I will not be taking attendance in lectures, I will be noting your participation and engagement throughout the course, and will assign this portion of your grade based on my impressions. It is in your best interest to ensure that I know who you are by the end of the term. :)

Grading:

All grading will be done on a points basis. While final grades will be determined based on cutoffs in the final point distribution (i.e., they will be curved), the adjustments will only help you. That is, earning 90% or more of total points in the course will ensure an A or A-, 80% will ensure a B- or higher, etc. Point distributions are as follows:

- Homework (20%): 20 points each (200 points total)
- Labs (25%): 25 points each (250 points total)
- Midterms (30%): 150 points each (300 points total)
- Final (20%): 200 points
- Participation (5%): 50 points

Honor Code:

I expect all students in the course to behave ethically and in keeping with the BYU Honor Code. All work submitted should be your own except where specifically stated otherwise. Cheating of any kind will result in a failing grade. If you have any questions about what comprises unethical behavior, please discuss with the TAs or the instructor.

Preventing Sexual Harassment:

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex

discrimination in education. Title IX covers discrimination in programs, admissions, activities, and student-to-student sexual harassment. BYU's policy against sexual harassment extends not only to employees of the university, but to students as well. If you encounter unlawful sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 422-5895 or 367-5689 (24-hours); or contact the Honor Code Office at 422-2847.

Students with Disabilities:

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability which may impair your ability to complete this course successfully, please contact the Services for Students with Disabilities Office (422-2767). Reasonable academic accommodations are reviewed for all students who have qualified, documented disabilities. Services are coordinated with the student and instructor by the SSD Office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures by contacting the Equal Employment Office at 422-5895, D-285 ASB.