

Purdue University
ECE301: Signals and Systems
Spring 2011

Instructor: Mireille (Mimi) Boutin

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Open Office Hours: Monday 15:30 to 16:20
Wednesday 13:30 to 14:20
Friday 9:30 to 10:00

Teaching Assistant: Imad Ahmad

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Class time / location:

Lecture: M,W,F 14:30-15:20 EE270

References:

- *Signals and Systems* by Oppenheim and Wilsky with Nawab, 2nd Edition.
- *MatLab: Student Version*, The MathWorks, Inc. (not required).

Prerequisites:

An understanding of basic concepts of linear circuits as examples of linear systems; an understanding of the application of unilateral Laplace transforms to circuit problems; a familiarity with the solution of linear constant coefficient differential equations; a familiarity with complex numbers and calculus, including power series; a working knowledge of Matlab.

Course Wiki/Webpage:

https://www.projectrhea.org/rhea/index.php/2011_Spring_ECE_301_Boutin

Attendance

You are expected to attend every lecture.

Grade

Your final grade will be computed as follows:

Homework (worst score dropped)	10%	No late hw accepted.
3 Evening Exams (worst score dropped)	27% each	No make up.
Final	36%	

In addition, there will be bonus point opportunities announced on the course wiki throughout the semester.

Homework

- Each assignment will be posted on the course website. **No late homework will be accepted.** However, your worst homework score will be dropped.
- Do not plagiarize. You can work in a team, or get inspiration from other people's solutions, but the write up of the homework must be your own. Copying a friend's solution and handing it in as if it were your own is plagiarism. Copying a homework problem solution from the internet, from a solution manual, or from a databank of old homework solutions and handing it in as if it were your own is also plagiarism. You must cite all your sources, use quotation marks as appropriate, give credit when credit is due, respect copyrights laws, etc.

Intra-semester Exams

All intra-semester exams will be held in class. Dates are as follows:

Wednesday	2/16/2011
Friday	3/25/2011
Friday	4/22/2011

- **There will be no make up intra-semester exams.** However, your worst exam grade will be dropped.

Final Exam

- The final exam will be a comprehensive, traditional style (not multiple choice) exam. Location and date to be announced later.
- Make up finals will only be given in **exceptional** circumstances and only with **documented** reasons. At the discretion of the instructor, a make up final may be given in oral form.

Academic Honesty

- In order to prevent cheating, we ask that you keep your eyes on your sheet at all times during tests. **Looking around is forbidden.**

- Electronic devices (e.g., calculators, cell phones, PDAs) are strictly forbidden during tests.
- Opening your book or class notes for any reason during a test is strictly forbidden.
- When the test time is over and the supervisor announces that time is up, you **must stop writing**. The exams/quiz of any student who is caught writing after time is up will receive a grade of zero.
- We keep a copy of all graded exams in order to compare them with any exam brought in for a grade revision. Any student who alters his/her exam post grading and asks for a grade revision **will be caught** and will suffer disciplinary actions.

ABET

The outcomes for ECE301 are:

- (a) an ability to classify signals (e.g. periodic, even) and systems (e.g. causal, linear) and an understanding of the difference between discrete and continuous time signals and systems. [1,2;a]
- (b) an ability to determine the impulse response of a differential or difference equation. [1,2;a]
- (c) an ability to determine the response of linear systems to any input signal convolution in the time domain. [1,2,4;a,e,k]
- (d) an understanding of the definitions and basic properties (e.g. time-shifts, modulation, Parseval's Theorem) of Fourier series, Fourier transforms, bilateral Laplace transforms, Z transforms, and discrete time Fourier transforms and an ability to compute the transforms and inverse transforms of basic examples using methods such as partial fraction expansions. [1,2;a]
- (e) an ability to determine the response of linear systems to any input signal by transformation to the frequency domain, multiplication, and inverse transformation to the time domain. [1,2,4;a,e,k]
- (f) an ability to apply the Sampling theorem, reconstruction, aliasing, and Nyquist theorem to represent continuous-time signals in discrete time so that they can be processed by digital computers. [1,2,4;a,e,k]

Ref: p. 20 of www.ece.purdue.edu/ECE/Undergraduates/Courses/coursede.pdf.