

PURDUE UNIVERSITY  
School of Electrical Engineering  
**EE 301 Signals and Systems**  
Class Information - Fall 2009

**Prerequisites:** EE 202 (Linear Circuit Analysis II)

**Instructor:** Professor Charles Bouman  
MSEE 348  
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**Course Web Site:** <http://www.ece.purdue.edu/~bouman/ee301>

**Lecture Schedule:** MWF 10:30-11:20AM in EE 270

**Help/Office Sessions:**

TA office hours: Tuesday 3:30-5:30 pm; Thursday 3:30-5:30 pm; Friday 2:00-4:00 pm

Instructor office hours: After class or by appointment

Help sessions: Wednesday 7:00-8:00 pm preceding exam

Instructor office hours: after class and by appointment, MSEE348

**Required Text:**

*Signals and Systems, (2nd Ed.)*, A. V. Oppenheim, A. S. Willsky with S. H. Nawab, Prentice-Hall, Inc., New Jersey, ISBN 0-13-814757-4, 1997.

**Recommended Text:**

*Signals and Systems*, 3rd edition, N. Levan, Optimization Software, Inc., New York, ISBN 0-911575-63-4, 1992.

**Course Outcomes:**

A student who successfully fulfills the course requirements will have demonstrated:

- i. An ability to classify signals and systems.
- ii. A knowledge of impulse response functions and convolution for linear systems.
- iii. A knowledge of Fourier series and periodic signals.
- iv. An understanding of Fourier transforms for linear time invariant systems and the basics of sampling and its applications.
- v. A knowledge of discrete time signals systems and transforms.

**Lecture:**

This course will draw from the required text, the recommended text, and other sources. Since the required text book does not contain all material that will be covered, it is essential that you attend the lectures and take complete and accurate notes. We will not necessarily do everything

the same way that it is done in the text. On questions of terminology, definitions, and notation, your lecture notes should be relied upon, not the text.

**Homework:**

Homework will be assigned on a weekly basis. Assignments will be due on Friday at 4:30PM, and can be dropped off in the label box at MSEE330. The assignments will be distributed via the course web page on the Friday preceding their due date. No late assignments will be accepted for any reason.

The homework is a very important part of the course. You may read your lecture notes and the text, and think that you understand the material. However, when you attempt to work the homework problems, you will frequently find that you actually did not understand the material as well as you thought you did. Also, the problems on the exams will be similar to the homework problems.

While it is perfectly reasonable to discuss your approach to solving the problems with a friend, the final write-up of the solution must be your own work. However, you will benefit most from the homework if you attempt to do the problems *before* consulting your friends.

**Rules for Preparing your Solutions:**

The grader will have to handle a lot of paperwork for the course, and wade through many pages of handwritten solutions. It will be to your benefit in terms of maximizing your grade, and will be greatly appreciated by us if you adhere to the following four rules when preparing your assignments:

- 1) Do not use paper torn out of a spiral bound notebook.
- 2) Write on only one side of each page.
- 3) Put the problems in the proper order.
- 4) Staple the pages together before turning in the assignment.

**MATLAB:**

Knowledge of the MATLAB software environment will be a required part of this course. MATLAB will be required for solving many weekly homework assignments. If you are not familiar with MATLAB, you are strongly encouraged to attend one of the MATLAB tutorials offered by ECN at the beginning of the semester. Remember that you will be responsible for knowing MATLAB in exams, so you are encouraged to work as independently as possible.

**Examinations:**

There will be three one-hour exams, which will be given in the evening. The dates for these exams are fixed and cannot be changed. They are:

**Friday, 2009-Sep.-25    10:30-11:20 PM    Sir name A-K→EE 210; L-Z→MSEE B012**  
**Friday, 2009-Oct.-23    10:30-11:20 PM    PHYS 114**  
**Friday, 2009-Nov.-20    10:30-11:20 PM    PHYS 114**

Please schedule your plant trips and interviews so that they do not conflict with these dates. ***You will not be allowed to make up a one-hour exam if you miss it.*** All exams will be closed book. No calculators will be allowed. Each exam will typically contain 3 to 4 problems.

**Help Session:**

We will be holding weekly help sessions. During the weeks during which an exam will be given, the help session will serve as a review for the exam. You will benefit from attending this help session, not only because you can get answers to your questions; but also because you can

learn what questions your classmates have, and what the answers are for those questions, as well. You will benefit much more from the help session if you try to work the problems in advance, and come prepared with questions.

### Computation of Final Grade:

Your final grade will be determined as a weighted combination of your homework, hour exams, and final exam. Your letter grade will be based solely on your weighted final grade. This means that failure to do the homework assignments can definitely hurt your grade, regardless of how well you do on the exams.

Homework	10%
3 Hour Exams	20%
Final exam	30%

If you dispute your grade on any homework or hour exam, you have *one week* from the date that the graded paper was returned to you to request a change in the grade. After this time, no further change in grade will be considered. When you return your paper for a re-grade, please attach a sheet to the front, indicating where you think that your paper was graded incorrectly. Also, date the sheet.

Each problem of each exam will be assigned to one or more of the five outcome categories. At the end of the course, the total score will be tallied for each student's five outcome categories. **Any student who does not meet a minimum performance standard for one of the five outcome categories will receive a failing grade for the entire course.**

### Emergency Preparedness

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. In the event of an emergency, students can get information from the following sources:

1. The course web page
2. By emailing the course instructor or teaching assistant

In an emergency, students are also welcome to contact Prof. Bouman by phone at his office or home.

### Academic Dishonesty

The ECE faculty expect every member of the Purdue community to practice honorable and ethical behavior both inside and outside the classroom. Any actions that might unfairly improve a student's score on homework, quizzes, labs, or examinations will be considered cheating and will not be tolerated. Examples of cheating include (but are not limited to):

- Sharing results or other information during an examination.
- Bringing forbidden material or devices to an examination.
- Working on an exam before or after the official time allowed.
- Requesting a re-grade of answers or work that has been altered.
- Submitting homework that is not your own work, or engaging in forbidden homework collaborations.
- Representing as your own work anything that is the result of the work of someone else.

At the professor's discretion, cheating on an assignment, or examination will result in ***a failing grade for the entire course***, or a reduced grade, or a zero score for the particular assignment, or exam. All occurrences of academic dishonesty will be reported to the Assistant

Dean of Students and copied to the ECE Assistant Head for Education. If there is any question as to whether a given action might be construed as cheating, please see the professor or the TA before you engage in any such action.