

PURDUE UNIVERSITY
School of Electrical and Computer Engineering
ECE 302 Probabilistic Methods in Electrical and Computer Engineering
Division 1 (MWF 10:30pm)
Class Information
Spring 2004

Prerequisites: MA 262 or MA 266.

Prerequisites by Topic: basic calculus skills; differential equations; familiarity with basic concepts of circuits and linear system analysis, such as convolution; familiarity with Fourier analysis and two-sided transforms used in solving linear systems and differential equations.

Corequisite: ECE 301.

Instructor: Professor Ilya Pollak
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494-5916
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Office hours M 5-6pm and by appointment.

Course TA Waseem Sheikh
ENAD 308
waseem@purdue.edu
Help session: T 7-8pm in FRNY 302 (Chemical Engineering Building)
Office hours MT 1-3pm, F 3-5pm.

Course Web Site: <http://www.ece.purdue.edu/~ipollak/ee302/spring04>
All handouts and announcements will be posted on the course website.

The course will very closely follow the organization of the following textbook:

Introduction to Probability, Dimitri P. Bertsekas and John N. Tsitsiklis. Athena Scientific, Belmont, Massachusetts, 2002. ISBN 1-886529-40-X. It is not available at the bookstore, but can be ordered from athenasc.com, amazon.com, or other online bookstores.

Recommended Text (Optional):

Probability and Random Processes for Electrical Engineering, 2nd edition, Alberto Leon-Garcia, Addison Wesley, 1994. ISBN 0-201-50037-X.

Course Outcomes:

- A student who successfully fulfills the course requirements will have demonstrated:
- i. an ability to solve simple probability problems in electrical and computer engineering applications;
 - ii. an ability to model complex families of signals by means of random processes;

- iii. an ability to determine the random process model for the output of a linear system when the system and input random process models are known.

Homework:

Homework will be assigned on a weekly basis. Assignments will be due in class on Wednesday. They will be posted on the course web site during the preceding week.

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. Needless to say, your understanding of the material will not be improved if you simply copy your solutions from a friend. You will benefit most from the homework if you attempt to do the problems *before* consulting your friends. While it is perfectly reasonable to discuss your approach to solving the problems with a friend, the final write-up of the solution should be your own work.

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.

Mid-term Examinations:

There will be two 75-minute evening exams whose dates will be announced during the first two weeks of classes. Please schedule your plant trips and interviews so that they do not conflict with these dates. If anyone has a conflict with another evening exam or some other type of extraordinary circumstance, please let the instructor know. A plant trip or an extracurricular activity will not be considered an "extraordinary circumstance". In exceptional cases, you may be allowed to either take the exam at a different time, or to replace the score for that exam with your final exam score.

To comply with the University regulations, three classes (the dates TBA) will be canceled.

Computation of Final Grade:

Homework	10%
2 Midterm Exams	50%
Final exam	37%
Instructor and TA's discretion	3%

The instructor and the TA will assign 3% of your grade at the end of the semester. This policy will only influence students who are close to the cut-off point between two letter grades.

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. We reserve the right to re-grade the whole paper. ***Only written re-grade requests will be considered; there will be no discussion of grades.***

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 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.

Cheating on an exam will result in a failing grade for the entire course. Please note that after the exam papers are graded, they will be copied; therefore, requesting a re-grade of an exam which has been altered will automatically result in a failing grade for the course. 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.