

PURDUE UNIVERSITY
School of Electrical Engineering
EE 438 Digital Signal Processing with Applications
Class Information
Spring 2001

Prerequisites: EE 301 and EE 302

Lecturer: Professor Michael D. Zoltowski
Office: MSEE 356
Phone: 494-3512
login: mikedz
Office hours: MWF 12:30-1:30

Required Texts:

Digital Signal Processing, 3rd Edition, John G. Proakis and Dimitris G. Manolakis, Prentice-Hall International, Inc., Englewood Cliffs, New Jersey, ISBN 0-13-373762-4, 1996.

Course Web Site: <http://dynamo.ecn.purdue.edu/~mikedz/ee438>

Lab Web Site: <http://www.ecn.purdue.edu/VISE>

Lecture:

It is essential that you attend the lecture and take complete and accurate notes. While this is generally a good idea with any course, it is particularly important in this course, because the text does not contain all of the material that we will cover. We will not necessarily do everything the same way that it is done in the text. On questions of terminology, definitions *etc.*, 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 5:00 PM at my secretary's office in room MSEE364. There will be a drop-off box labeled EE438 on the counter in MSEE364. Of course, you're welcome to turn your homework in during class. Solutions will be posted at the course web site as a scanned in Acrobat pdf file. The assignments will be graded and returned to you on the following Friday. There will be no homework assignments due on the week that an exam is given. No late assignments will be accepted for any reason. However, your lowest homework grade will be dropped as discussed below under Computation of Final Grade.

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 very 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.

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 4 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, and is an integral part of the laboratory. I will be conducting Matlab based computer simulations in class on a regular basis. However, if you are not familiar with Matlab, you are strongly encouraged to go to my personal web page where there are links to a number of Matlab tutorials posted at various web sites.

If you choose to work with others on Matlab homework assignments, you must list all collaborator's names at the top of the assignments. Remember that you will be responsible for knowing Matlab in exams, so you are encouraged to work independently when possible.

Laboratory:

The laboratory is in Room MSEE 186, the Video and Image Systems Engineering (VISE) Lab. You will be assigned to a 3 hour lab session which you must attend each week during the entire semester. You must attend and attempt each and every lab to pass the course since you do get an hour of lab credit. All laboratory material is available at the web site listed towards the top of this handout. You are responsible for printing out and reviewing the labs in advance of your laboratory session. Each laboratory will begin with a quiz covering the basic concepts underlying that week's experiment and/or related lecture material. **All lab sections will meet during the first week of classes.**

You will also be able to use the laboratory to work on EE438 homework or laboratory experiments during periods when it is not scheduled for formal use. The laboratory may be accessed through MSEE 190 using your student ID card. To do this you will need to have your TA or site specialist have your access activated. Please observe the rules for laboratory use posted at the lab web site.

Examinations:

There will be 3 one hour exams. The dates for these exams are fixed as indicated on the attached syllabus, and cannot be changed. The exams will be held during the regular class time so that there will be no conflicts with exams in other classes. **No exams can be made up, or taken early.** Make sure that you will be available to take exams. **Job interviews, conflicts with other university activities are not considered valid excuses for missing an exam.** If you miss an exam, your exam grade will be recorded as 0, and your final exam will count for that portion of your grade, as discussed below. Always obtain approval from the instructor prior to missing an exam. All examinations will be closed book. No crib sheets will be permitted. However, some tables or formulas may be provided. This will be announced in advance of the exam. Each exam will typically contain 3 or 4 problems. Please schedule your plant trips and interviews so that they do not conflict with exams.

Computation of Final Grade:

Your final grade will be determined as a weighted combination of the homework, laboratory, hour exams, and final exam. Your lowest homework grade will be dropped. If your lowest hour exam grade is less than your final exam grade, then the grade for that exam will be replaced by your final exam grade. Your letter grade will be based solely on your weighted final grade. This means that failure to do the homework or laboratory assignments can definitely hurt your grade, regardless of how well you do on the exams.

Laboratory	
Formal labs	20%

Homework	15%
3 Hour Exams (15% ea.)	45%
Final exam	20%

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 regrade, please attach a sheet to the front, indicating where you think that your paper was graded incorrectly. Also, date the sheet.

Web Site:

Copies of all class handouts including this one will be available at the EE438 web site listed towards the front of this document. Rarely will paper copies of handouts be distributed in class. In addition, a large portion of each lecture will involve going over course notes already posted at the course web site. It will be a good idea to print out this material ahead of lecture. The course web site should be checked regularly for announcements, at least once every day.