Purdue University

ECE438: Digital Signal Processing with Applications

Spring 2009

Instructor: Mireille (Mimi) Boutin

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Office Hours: M, W 13:30-14:20, F 15:30-16:20

Teaching Assistants:

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Supplementary Reference:

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

Prerequisites:

ECE301, ECE302, and a working knowledge of MATLAB.

Course Related Webpages:

- Rhea: http://kiwi.ecn.purdue.edu,
- Course Wiki: http://kiwi.ecn.purdue.edu/rhea/index.php/ECE438_(BoutinSpring2009),
- Lab Web Site: http://www.ecn.purdue.edu/VISE/ee438L,
- VISE Lab Web Site: http://www.ecn.purdue.edu/VISE/.

Grade

Your final grade will be computed as follows:

Homework (worst score dropped)	5%	No late hw accepted.
Quizzes (worst score dropped)	5%	No make up.
Laboratory	25%	
2 best intra-semestrial exams (out of three)	18% each	No make up.
Final	29%	
Rhea Contributions	up to 5% bonus	(up to 1% awarded every 3 weeks)

For a regrade on any homework, quiz, or exam, you must submit a written request to the instructor.

Lecture

Part of the lectures will be based on Prof. Allebach's course notes (available at `www.ece.purdue.edu/ allebach/ece438/lecture`). However, we will often deviate from these notes, so attending every lecture is required.

Laboratory

The laboratory for this course is the Video and Image Systems Engineering (VISE) lab, in MSEE184. Each student is registered for a mandatory weekly 3 hour lab session. In order to get a passing grade for this course, you much attend and attempt the lab every week. Students are responsible for downloading and reviewing the lab material prior to each lab session. A quiz will be given at the beginning of each lab session.

Homework:

A weekly homework will be assigned. No late homework will be accepted. However your lowest homework grade will be dropped. It is ok to discuss your approach to solving the problems with a friend or on Rhea, but the write-up of the solution you hand in must be your own. **Be careful not to plagiarize!** Plagiarism will be severely punished and reports to the Assistant Dean of Students and to the ECE Assistant Head for Education will be filed. Please write the name of the persons you collaborated with on the cover page of your homework.

Quizzes:

Some unannounced quizzes (10-15 minutes) will be held during lecture time. Your quiz grade will be based on your score on these quizzes (and not on the lab quizzes). There will be no make up quizzes. However, your worst quiz grade will be dropped.

Intra-semestrial Exams (in class)

Dates are as follows:

Wednesday	2/18/09
Friday	3/13/09
Friday	4/24/09

There will be no make up intra-semestrial exams. However, your worst exam grade will be dropped. Scratch paper will be distributed prior to each exam. The work on your scratch paper will **not** be graded.

Final Exam:

The final exam will be a comprehensive, traditional style (not multiple choice) exams. 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.

Rhea Contributions

You can access Rhea at kiwi.ecn.purdue.edu. You will receive bonus points for any meaningful contributions to Rhea, such as creating pages explaining the course material, discussing the material, and cross-linking different pages. Note that your contributions do not have to be related to ECE438: for example, you would receive bonus points for creating a rhea page for a new course or student organization, explaining your summer research and cross-linking it to appropriate courses on campus, or going to the rhea pages of lower-level courses and giving advice to students taking these courses. Please consider volunteering as a"course manager" or as a "course sweeper".

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, iPods) are strictly forbidden during quizzes and exams.
- Working on an exam/quiz either before or after the official time is considered teaching. The exams/quiz of any student who is caught writing after time is up or before the exam begins will receive a grade of zero, and this will be reported to the Assistant Dean of Students, as well as the ECE Assistant Head for Education.
- We keep an electronic 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 severe disciplinary actions.
- Be careful not to plagiarize on Rhea! In particular, do not cut and paste the material from websites such as Wikipedia without citation, and if you do cite, do not copy more than a small portion of the text.

ABET

The outcomes for ECE438 are:

- i. an understanding of linear time invariant systems;
- ii. the ability to manipulate discrete parameter signals;
- iii. knowledge of how to use linear transforms
- iv. the ability to apply linear system analysis to engineering problems