

Course Syllabus

Course Information:

Lecture:	Monday, Wednesday and Friday 9:40 to 10:30am, in WEB L103
Pre-requisite:	Calculus II. Specifically: "C-" or better in (MATH 1220 OR MATH 1320).
Credit:	3 hours
Instructor:	Neal Patwari (contact info _http://span.ece.utah.edu/neal-patwari_)
Office:	3120 MEB
Office Hours:	To be announced
Email:	npatwari@ece.utah.edu (mailto:npatwari@ece.utah.edu)
Phone:	801-581-5917
Final Exam Period:	Thursday, April 24, 2014, 8:00 – 10:00 am
Textbook:	<i>Probability and Statistics for Engineers and Scientists</i> , 9th Edition, Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, Keying E. Ye. ISBN: 0321629116

Teaching Assistants:

Lead TA: Mehran Javanmardi, m.javanmardi@utah.edu (<mailto:m.javanmardi@utah.edu>)

Office hours: To be announced

Workshop Session: To be announced

Grader: Fitsum Babu Mesadi, u0883644@utah.edu (<mailto:u0883644@utah.edu>)

Exams:

There are three exams in the course, each covering one segment of the course material (see Topic Schedule below). None are comprehensive, although material in a section builds upon material learned in previous sections.

Students may have note sheets with them for each exam, and a calculator. Laptops, smart phones, and textbooks are not permitted to be used during the exam.

Students may use two sides of an 8.5 by 11 inch sheet of paper of hand-written notes as a note sheet. For exam 2 and exam 3, students may use the note sheet for the previous exam(s). Thus for exam 2 a student may have up to four sides (of 8.5x11 inch paper) as note sheets, and for exam 3, a student may have up to six sides (of 8.5x11 inch paper) as note sheets.

Exams are each weighted as 25% of the course grade.

My philosophy is that your exam grades should reflect how well you master the material by the end of the semester. Thus I provide an opportunity at the end of the semester to be re-examined on any of the exams. The final exam period is an optional period during which you may take the exam retake from any of exam 1, 2, and/or 3. The exam retake is on the same material covered by the original exam, but with different questions. Your grade for an exam is the highest of the original exam score and the exam retake score.

Homework:

Homework assignments are due as listed on Canvas, generally Wednesdays at 11:59pm, but with exceptions. Please see the Canvas assignment calendar. Your completed homework can be scanned and turned in on Canvas, or turned in at the ECE homework locker, across from the ECE office, 3280 MEB. No late homework is accepted, but your lowest homework score is dropped to account for extenuating circumstances. Homework solutions will be posted on Canvas soon after submission the deadline. Exams are weighted as 25% of the final grade.

Collaboration Policy

You are encouraged to work together on homework assignments. Discussing is a great way to learn. After making a genuine attempt to solve the homework problems, you are encouraged to discuss the answers with other students currently enrolled in ECE 3530 to check answers and compare approaches. However, afterwards, **you must complete your answers on your own, without referring to the solutions** of other students, solutions from previous terms, or solutions books or sites. When working on Matlab problems, you **may not use or copy code** written by another student or downloaded from the web. You also may not provide your code to another student.

Grading Policy

Exams and homework assignments are designed so that you can demonstrate your mastery of each of the topics within digital communications. Your grade percentage will reflect the percentage of the course topics which you have demonstrated proficiency. Competition is not necessary, since every student can get an A grade.

Grades are posted on Canvas. Canvas does not accurately calculate your final grade percentage until the end of the semester when all grades are posted on Canvas, so please calculate your final percentage yourself, using the rules: 1) Each exam is 25% of the final grade; 2) Homeworks are 25% of the final grade; 3) the lowest of (the original exam grade, exam retake) is dropped; 4) and the lowest homework score is dropped. The letter grade is then automatically assigned from the final percentage by Canvas as follows:

- A: ≥ 92
- A-: ≥ 90 and < 92
- B+: ≥ 88 and < 90
- B: ≥ 82 and < 88
- B-: ≥ 80 and < 82
- C+: ≥ 78 and < 80
- C: ≥ 72 and < 78
- C-: ≥ 70 and < 72
- D+: ≥ 68 and < 70
- D: ≥ 62 and < 68
- D-: ≥ 60 and < 62

Email the instructor if a posted grade for an assignment is incorrect.

Tips

- Read the corresponding section in the book before lecture.
- Come to office hours.
- Do additional problems, beyond the homework.

Topic Schedule

First Segment:

- Lectures 1-3: Intro and applications of probability and statistics, sample space, events, set algebra
- Lectures 4-6: Tree diagrams, multiplication rule, uniform probability law, permutations and combinations
- Lectures 7-10: Conditional probability, Bayes' Law, independence, games

Second Segment:

- Lectures 11-12: Random variables, probability mass functions, probability density functions
- Lectures 13-14: Expectation, Expected value of a function, variance
- Lectures 15-17: Binomial, Gaussian, and other distributions
- Lectures 18-21: Joint distributions, covariance of two random variables, linear combinations of random variables

Third Segment:

- Lectures 22-24: Chebyshev's theorem, Introduction to statistics
- Lecture 27: Intro to Estimation
- Lecture 28-29: Confidence Intervals
- Lectures 30-33: Hypothesis testing
- Lectures 34-35: Linear regression

End of the semester:

- Lectures 36-37: topics to be determined
- Lectures 38-39: review sessions

Disability Accommodations

The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 801-581-5020 (V/TDD). The Center for Disability Services will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Date	Day	Details
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Jan 15	Wed	Homework 1 (https://utah.instructure.com/courses/269177/assignments/1357136)	due by 11:59pm
Jan 22	Wed	Homework 2 (https://utah.instructure.com/courses/269177/assignments/1357140)	due by 11:59pm
Jan 31	Fri	Homework 3 (https://utah.instructure.com/courses/269177/assignments/1369865)	due by 9:40am
Feb 3	Mon	Exam 1 Original (https://utah.instructure.com/courses/269177/assignments/1357131)	due by 9:40am
Feb 12	Wed	Homework 4 (https://utah.instructure.com/courses/269177/assignments/1369867)	due by 11:59pm
Feb 19	Wed	Homework 5 (https://utah.instructure.com/courses/269177/assignments/1369868)	due by 11:59pm
Feb 26	Wed	Homework 6 (https://utah.instructure.com/courses/269177/assignments/1369869)	due by 11:59pm
Mar 5	Wed	Homework 7 (https://utah.instructure.com/courses/269177/assignments/1369871)	due by 9:40am
Mar 7	Fri	Exam 2 Original (https://utah.instructure.com/courses/269177/assignments/1357132)	due by 9:40am
Mar 26	Wed	Homework 8 (https://utah.instructure.com/courses/269177/assignments/1369873)	due by 11:59pm
Apr 2	Wed	Homework 9 (https://utah.instructure.com/courses/269177/assignments/1369874)	due by 11:59pm
Apr 9	Wed	Homework 10 (https://utah.instructure.com/courses/269177/assignments/1369875)	due by 11:59pm
Apr 16	Wed	Homework 11 (https://utah.instructure.com/courses/269177/assignments/1369876)	due by 9:40am
Apr 19	Sat	Exam 3 Original (https://utah.instructure.com/courses/269177/assignments/1357134)	due by 9:40am
Apr 24	Thu	Exam 1 Retake (https://utah.instructure.com/courses/269177/assignments/1370115)	due by 8am
		Exam 2 Retake (https://utah.instructure.com/courses/269177/assignments/1370147)	due by 8am
		Exam 3 Retake (https://utah.instructure.com/courses/269177/assignments/1370148)	due by 8am