Course Syllabus

Course Information

Course Prefix, Number, Section:	EESC 6349-002 / MECH 6312-002
Course Title:	Random Processes
Term:	Fall 2016
Days & Times:	MW 2:30-3:45 PM

Professor Contact Information

Professor's name:	Dr. Hlaing Minn
Phone number:	972-883-2889
Email:	hlaing.minn@utdallas.edu
Office:	ECSN 4.204
Office Hours:	MW 1:15-2:15 PM

Course Pre-requisites, Co-requisites, and/or Other Restrictions

EE 3302 & ENGR 3341 or equivalent courses

Course Description

This course is intended for first year graduate students in Electrical and Telecommunications Engineering or other Engineering Programs. Broad range of topics such as functions of multiple random variables, random vectors, random sequences, random processes, correlation, power spectral density, and responses of linear systems to the input of random processes or random sequences are presented.

Student Learning Objectives/Outcomes

1. Compute probability, statistics of random variables, and their functions
2. Compute statistics of random vectors and their functions
3. Compute statistics of random sequences, random processes, and their input and output relationships and statistics in linear systems
4. Apply the concepts of probability, random variables / vectors / sequences / processes to analyze statistical problems in Electrical and Telecommunication Engineering fields

Required Textbooks and Materials

- Probability, Statistics, and Random Processes for Engineers, 4th Edition, H. Stark & J.W. Woods, Pearson, ISBN 10: 0-13-231123-2, ISBN 13: 978-0-13-231123-6
  Chapters: 1 to 5, 8, 9, Selected topics from Chapter 10.

- Or, Probability and Random Processes with Applications to Signal Processing, (3rd Edition), H. Stark & J.W. Woods, *Prentice Hall*, 2002. ISBN 0-13-020071-9.
  Chapters 1 to 7 (Estimation excluded), Selected topics from Chapter 8.
- Lecture Notes

Suggested Course Materials

- Probability, Random Variables and Stochastic Processes, A. Papoulis and S.U. Pillai, *McGraw Hill*, 2002.
- Probability and Random Processes for Electrical Engineering (3rd Ed.), A. Leon-Garcia, *Prentice Hall*, June 2007.
- Probability and Stochastic Processes: A friendly introduction for Electrical and Computer Engineers, R. D. Yates and D. J. Goodman, 2nd Ed., *John Wiley and Sons*.
- Probability, Random Variables, and Random Signal Principles, 4th Ed., P. Peebles Jr., *McGraw-Hill*, July 2000.

Assignments & Academic Calendar

Lists of Topics	**Number of Weeks**
Review of Probability and Random Variables	~ 2 weeks
Functions of Random Variables	~ 3 weeks
Random Vectors	~ 1.5 weeks
Random Sequences	~ 2.5 weeks
Random Processes	~ 3 weeks
Advanced Topics in Random Processes	~ 1 week
Exam.	**Date & Time**
Exam. 1 (on objective 1)	12 Oct. 2016
Exam. 2 (on objectives 2 and 3)	16 Nov. 2016
Exam. 3 (on objectives 1 to 4)	Check UTD website for final exam date & time

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Grading Policy

Final grades in this course will be based on quizzes and three examinations. Any graded work can be disputed in writing *within one week* of the return or release of that work or grade. Complete work will be re-graded.

The grading policy is:

Quizzes:	15 %
Exam. 1:	20 %
Exam. 2:	25 %
Exam. 3:	40 %

Course & Instructor Policies

No makeup examinations will be offered in this course. In the event of an excused absence (illness, job-related travel, holy day absence, etc.), only one excused exam (not the last exam) is allowed; proper documents should be provided; the weight of the exam will be shifted to the other exams. All exams are closed-book, closed-note. No electronic devices except basic calculators are allowed. All announcements and homework assignments will be posted at http://elearning.utdallas.edu. It is the responsibility of each student to check this web page at least once a week for new announcements and homeworks.
Backup Plan: In cases of the elearning server down-time, please check www.utdallas.edu/~hlaing.minn/teaching.html for announcements and course material postings.

Comet Creed
This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.