

**STA 3533 - Spring 2001**  
**Probability and Random Processes**  
**Time: TR 11:00 am - 12:15 pm, Room: MS 2.03.08**

**Instructor:** Dr. Ming-Ying Leung  
Office: BB 4.03.32  
Phone: 458-5535  
Email: mleung@utsa.edu  
Web: <http://www.math.utsa.edu/~leung/>

**Office Hours:** TR 10:00 - 10:55 a.m. and 12:25 - 1:00 p.m., or by appointment

**Course Objectives:** To introduce probability concepts to Electrical Engineering students as needed for applications in signal processing, communication systems, and information theory.

**Scope:** This course will cover basic probability, discrete and continuous distributions, joint distributions, expected values, covariance, correlation, transformations of random variables, autocorrelation and autocovariance for random processes. Examples from electrical engineering are included.

**Text:** Probability and Random Processes for Electrical Engineering, 2<sup>nd</sup> edition  
by Alberto Leon-Garcia.

**Prerequisite:** EE 3423 and either EE 2323 or MAT 3253

**Syllabus:**

Chapter 1:	Probability Models.
Chapter 2:	Basic Concepts of Probability Theory, sections 2.1, 2.2, 2.4 - 2.7.
Chapter 3:	Random Variables, sections 3.1 - 3.6, 3.9.
Chapter 4:	Multiple Random Variables, sections 4.2 - 4.4, 4.7.
Chapter 5:	Sums of Random Variables, sections 5.1 - 5.3.
Chapter 6:	Random Processes, sections 6.1 - 6.4.
Chapter 7:	Analysis and Processing of Random Signals, sections 7.1, 7.2.

**Grading:** There will be 10 homework assignments, at least 10 class exercises, two in class tests, and a final exam. They will contribute to your overall grade according to these percentages.

Homework:	20%	(Due in class every Thursday except on test dates)
Class exercises:	10%	(Group work in class)
Test I:	20%	(In class Thursday, 2/22)
Test II:	20%	(In class Thursday, 4/5)
Final Exam:	30%	(Tuesday, 5/8, 10:30 am - 1:15 pm)

**NO MAKEUP EXAM** will be given except for emergency or medical reasons. In such cases, the student must inform the instructor with 24 hrs from the scheduled time of the test and then submit a written request accompanied by official documents to arrange for a makeup test. **Overdue assignments** will only be accepted for a good reason. However, the instructor reserves the right to discount part or all of the credit for any late homework.

**LAST DAY TO DROP** an individual course and receive a grade W is 3/23.