UTD

Course	**ENGR 3341.005, Probability Theory and Statistics**
Professor	Paul Deignan, Ph.D.
Term	Fall, 2016
Meetings	Monday & Wednesday: 11:30pm – 12:45pm, ECS-N 2.110

Instructor's Contact Information

Office Location	ECS-N 4.522
Phone	(972) 883-6944
Email Address	pbd130130@utdallas.edu
Office Hours	Official: Tuesday and Thursday 12:00 pm – 3:00pm Unofficial: Whenever office door is open.

General Course Information

Prerequisites	MATH 2414 or MATH 2419
Corequisite	MATH 2420 (recommended)
Course Description	Axioms of probability, conditional probability, Bayes theorem, random variables, probability density/mass function (pdf/pmf), cumulative distribution function, expected value, functions of random variables, joint, conditional and marginal pdfs/pmfs for multiple random variables, moments, central limit theorem, elementary statistics, empirical distribution correlation.
Learning Outcomes	1. Understand probability axioms and calculation of basic set probabilities 2. Understand random variables and their probability distributions and densities 3. Extend principles to two random variables and be able to determine a linear regression between the two. 4. Understand the Central Limit Theorem and the calculation of confidence intervals
Required Text	"Introduction to Probability, Statistics, and Random Processes", Pishro-Nik Available free online at http://www.probabilitycourse.com/
Suggested Software	R Available for free download at http://www.r-project.org

These descriptions and timelines are subject to change at the discretion of the Instructor.

Date	Topic	Text	Assignment	Due
Aug. 22	Chapter 1: Basic Concepts	1.1-2		Aug. 29
24		1.3		
29		1.4		Sep. 7
31	Chapter 2: Counting Methods	2.1.1-2		
Sep. 7		2.1.3-4		
12	**Exam I**	**Ch. 1-2**	**CLO #1**	
14	Chapter 3: Discrete Random Variables	3.1.1-4		Sep. 26
19		3.1.5		
21		3.2.1-2		
26		3.2.3-4		Oct. 3
28	Chapter 4: Continuous Random Variables	4.1.1-2		
Oct. 3		4.1.3		Oct. 10
5		4.2		
10		4.3		
12	**Exam II**	**Ch. 3-4**	**CLO #2**	
17	Chapter 5: Joint Distributions	5.1.1-2		Oct. 24
19		5.1.3-4		
24		5.1.5		Oct. 31
26		5.2.1-2		
31		5.2.3-4		Nov. 7
Nov. 2		5.3		
7	Chapter 6: Multiple Random Variables	6.1.1-3		Nov. 14
9		6.1.4-5		
14		6.2		Nov. 28
16	Chapter 7: Limit Theorems and Convergence	7.1-2		
28	Chapter 8: Statistical Inference	8.1-2		Dec. 7
30		8.3		
Dec. 5		8.4		
7		8.5		
TBA	**Final**	**Ch. 5-8**	**CLO #3-4**	

Assignments are due at the beginning of class on the due date submitted through eLearning.

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Course Policies

Grading Criteria	Examinations are designed to assess fundamental comprehension and understanding rather than short term retention. The accumulated weighted points from homework and tests establish a rank ordering of students within the section to which grades are assigned. Grades are distributed by the historical average for ENGR 3341 of publically available grade data which can be found at myEdu by a rank ordering of students (omitting withdrawals). Pluses/Minuses are taken at the 1/3 division points within grade brackets for A/B and pluses only at the midpoint with the C bracket. In the case of candidates for D and F, all are individually evaluated in rank order against CLOs and will be adjusted if raw point weighted averages on tests exceed 50% (for D) and 60% (for C). The weighting of the cumulative raw point totals is by: Homework: 10% Exam I: 20% Exam II: 30% Final: 40%
Make-up Exams	Any excusal from a regularly scheduled test or assignment must comply with the policies of the University for excused absences. In particular the student is responsible for providing satisfactory evidence to the instructor to substantiate the reason for absence. Except in the case that the student seeks an excusal for religious holy days (below), if the absence is foreseeable, this evidence will be provided and acknowledged by the instructor ahead of the excused absence. In the case of an emergency absence, the student will provide satisfactory evidence to the instructor within three days for the absence to be excused. ODA tests will be administered two hours prior to the scheduled test time.
Late Work	Not graded except in cases of university excused absences.
Class Attendance	Not taken. Attendance for administrative purposes is recorded by homework submission.
Classroom Citizenship	Please be respectful to your classmates by minimizing disturbances. Class time is prescheduled and should be considered to be analogous to a business meeting.
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.

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