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Reading assignments will be posted on the web, as will homeworks, outlines of class notes, office hours, etc. Please check regularly.


PREREQUISITES: Univariate calculus (e.g., M131-132) covering both differentiation and integration for single variables. The necessary concepts for multiple integration or partial derivatives will be introduced in the course as needed.

General Description. This course provides a calculus based introduction to probability and at the end an introduction to statistical inference (continued in ST516). Coverage includes basic axioms of probability, sample spaces, counting rules, conditional probability, independence, random variables (and various associated discrete and continuous distributions) expectation, variance, covariance and correlation the central limit theorem, and sampling distributions. Introduction to basic concepts of statistical inference.

Course Policies

GRADING: Homework 20%, Two exams during semester (25% each), Final exam (30%)

Grades will be assigned according to the following scale: A : 93-100; A-: 88-92; B+: 83-87; B : 80-82; B-: 75-79; C+: 70-74; C : 65-69; C-: 60-64; D+: 55-59; D : 51-54; F: below 51

Exams:

EXAM 1: Thursday, Oct. 2 (7 - 8:30 p.m.)
EXAM 2: Wed., Nov. 5 (7 - 8:30 p.m.)

Exams are scheduled for the evening (as allowed by University policy) so you are not rushed for time in the 50 minute period. If you have conflicts, please make arrangements early to be available for these dates.

No regular class on Friday, Oct 3 or Wed. November 5.
Make-up exams will only be given for legitimate, documented reasons and with approval before the exam!!

You are responsible for taking the final exam at the time it is scheduled by the University. Do not make travel plans that may conflict with the final date before knowing when the exam is scheduled for.

Homework: Homework is due at the end of class on the due date. No late homework is accepted. Homework must be written neatly on standard size paper. Unreadable work, scratching out, etc. will not be graded. Cooperating on homework is fine (and encouraged) but everyone is responsible for independently writing up a final solution.

Email. While I will answer administrative questions via email, I cannot answer questions on the material through email as this is too time consuming and inefficient. Take advantage of office hours and class time to ask questions Keep this in mind as homework deadlines and tests approach and plan accordingly.

Syllabus (tentative)

Exact coverage and reading refined as we move along.

1. Introduction to Probability (Chapters 1-3).
   What is probability?; set theory; basic axioms of probability and associated results; counting rules; conditional probability; independence; Baye’s rule.

2. Univariate Random Variables, Expected values and variance (Chapters 4-5)

3. Jointly distributed random variables, conditional distributions. (Chapter 6)

4. Further results with expectations, including the notion of covariance and correlation, the multivariate normal and treating sums and linear combinations (Chapter 7)

5. Means of random variables and central limit theorems. (Chapter 8)