

COURSE SYLLABUS

22S: 153 Mathematical Statistics
Meetings 11:30 a.m. – 12:20 p.m.
Mondays, Wednesdays, Fridays 150 SH
Spring Semester 2009

COURSE DESCRIPTION

This is a course in mathematical statistics intended for upper-level undergraduate students in the mathematical sciences as well as for graduate students in all disciplines. The goal is to provide a solid foundation in the theory of random variables, probability distributions, and convergence in probability and distribution.

PREREQUISITES

The course prerequisites are the mathematics courses 22M:027 and 22M:028, or equivalents: undergraduate calculus including linear algebra. Undergraduate students often complete 22S:120 or 22S:130 prior to taking 22S:153.

OFFICE HOURS

Scheduled office hours for the course are from 2:00 to 3:00 pm, on Tuesdays in W382 PBB and on Wednesdays in 259 SH.. Appointments at other times may be made via email, john-geweke@uiowa.edu.

EARNING CREDIT

The course grade will be based on:
Regular completion of problems (25%);
March 6 midterm (20%);
April 17 midterm (20%);
Final exam (35%).

READINGS

The course will closely follow the first four chapters of the text *Introduction to Mathematical Statistics* by Robert V. Hogg, Joseph W. McKean and Allen T. Craig (Sixth Edition, Prentice Hall, 2005). All students taking the course for credit are expected to purchase this text, which is available in the bookstore. The course outline indicates section numbers in the text corresponding to class meetings each week.

COURSE OUTLINE

Week of	Topics	Readings
January 19	Set theory	1.2
January 26	Probability and independence	1.3-1.4
February 2	Random variables	1.5-1.6
February 9	Random variables and expectation	1.7-1.8
February 16	Expectation and inequalities	1.9-1.10
February 23	Bivariate random variables	2.1-2.2
March 2	Conditional distributions	2.3
March 9	Correlation and independence	2.4-2.5
March 23	Multivariate distributions	2.6-2.7
March 30	Some discrete univariate distributions	3.1-3.2
April 6	Some continuous univariate distributions	3.3-3.4
April 13	Multivariate normal distributions	3.5
April 20	Student t, F and mixture distributions	3.6-3.7
April 27	Convergence in probability	4.1-4.2
May 4	Convergence in distribution; Central limit theorem	4.3-4.4

The College of Liberal Arts and Sciences Policy and Procedures

Academic Fraud

Plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. Academic fraud is reported to the departmental DEO and then to the Associate Dean for Academic Programs and Services in the College of Liberal Arts and Sciences.

www.clas.uiowa.edu/students/academic_handbook/ix.shtml

Making a Suggestion or a Complaint

Students have the right to make suggestions or complaints and should first visit with the instructor, then with the course supervisor if appropriate, and next with the departmental DEO. All complaints must be made within six months of the incident. www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5

Accommodations for Disabilities

A student seeking academic accommodations first must register with Student Disability Services and then meet with a SDS counselor who determines eligibility for services. A student approved for accommodations should meet privately with the course instructor to arrange particular accommodations.

www.uiowa.edu/~sds/

Understanding Sexual Harassment

Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit www.sexualharassment.uiowa.edu/ for definitions, assistance, and the full policy.

Administrative Home of the Course

The administrative home of this course is the College of Liberal Arts and Sciences, which governs academic matters relating to the course such as the add / drop deadlines, the second-grade-only option, issues concerning academic fraud or academic probation, and how credits are applied for various CLAS requirements. Please keep in mind that different colleges might have different policies. If you have questions about these or other CLAS policies, visit your academic advisor or 120 Schaeffer Hall and speak with the staff. The CLAS Academic Handbook is another useful source of information on CLAS academic policy: www.clas.uiowa.edu/students/academic_handbook/index.shtml