

Statistical Methods

Stat 511 - Spring 2005

T, R 10:30-11:45 UNIV 217

Instructor Bruce A. Craig
Office 520 MATH
Office Hours M 3:00-4:30, R 11:45-12:45 or by appt
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Required Textbook : Probability and Statistics (6th Edition) - Jay L. Devore

Course Objectives : To learn a variety of ways to describe data; To understand the mathematical foundation of statistical inference for random samples; To be able to utilize basic statistical methods; To obtain the background necessary to study additional statistical methods in the future.

Course Description : Statistics is concerned with learning that results from the collection and interpretation of information (data). We will discuss methods to describe information as well as formal methods to learn or generalize from data. We will develop each method from its probabilistic foundations but emphasize interpretation over calculation. We will incorporate the data analysis tools available in **SAS** to aid in this process. In addition to homework assignments and three exams, there will be one in-depth group project allowing the student to experience the complete problem-solving process.

Breakdown of Grade : The final grade is based on a total of 500 points broken down into **Home-work** 160 pts, **Exams (3)** 300 pts, and a **Project** 40 pts. The general policy is approximately 90% for an A, 80% for a B, etc. The group project will be ongoing throughout the semester. It will involve handing in written summaries.

Attendance : Attendance is optional but you are responsible for any announcements and the material covered during that lecture. If you cannot attend an exam at the assigned time, notice must be given at least a week prior to the exam in order to decide on a different (preferably earlier) time.

Homework : Homework will primarily be due Tuesdays at the end of class. Shortly after class an answer key will be made available on the Web page and any homeworks turned in afterward will not receive credit. Exceptions may be arranged if discussed in advance. Expect around 11 homeworks during the semester. They will be handed out at least a week in advance so students can work around potential conflicts.

Tentative Course Schedule :

Textbook Chapters	Description	Approx. Time
1	Summarizing information	1.5 wks
2-3	Building the mathematical/probabilistic foundation	1.5 wks
3	Common discrete distributions	1 wk
4	Common continuous distributions	1 wk
5-6	Sampling Distributions	2 wks
7-8	Statistical Inference (One Sample)	2 wks
9	Statistical Inference (Two Samples)	1 wk
10-11	Analysis of Variance	1.5 wks
12-13	Linear Regression	1.5 wks
14	Comparing Proportions, Categorical Data	2 wks

Important Dates - TENTATIVE :

- Tue. Feb 8th - NO CLASS
- Thu. Feb 17th - EXAM I
- Mar 15th, 17th - NO CLASS (Spring Break)
- Thu. Mar 31st - EXAM II
- Tue. Apr 12th - NO CLASS
- EXAM III - TBA