

ST 450 / 550 - Statistical Methods for Research I - Fall 2006

Class Meetings: Rm. #6 Bashinsky Lab 5:00 – 6:55 TTh

Text: *Introduction to Statistical Methods and Data Analysis*, by Ott and Longnecker, Fifth Edition. We will cover approximately Chapters 1 - 10. Students should regularly check WebCT for this class for notes, assignments, and other handouts.

Prerequisites: none

Description: Basic summary statistics; Elements of probability; Bayes' Theorem; Hypothesis testing for location and variability in both normal and non parametric settings; Analysis of count data, including chi-squared goodness-of-fit and confidence intervals for proportions; Strong emphasis on concept over calculation.

Objectives: Students should be able to examine problems from a variety of disciplines with their attendant data, and then determine the appropriate analysis to apply. Moreover, students should be able to identify Type I and Type II errors in the context of specific problems and hypothesis tests, and identify how these relate to the appropriate choice of significance level. The culminating objective is the ability to read and analyze statistical results presented in journal articles, with an eye toward implementation in future research.

Instructor: Bruce Barrett, 352 Alston, 348-8903; bbarrett@cba.ua.edu

Office Hours: By appointment. I am available the majority of normal business hours.

Attendance: Attendance of the lectures is an integral part of the course and is expected from all students.

Grading: Tests 1-3: 25% each, Comprehensive Final: 25%. Tests may include both take-home and in-class portions.

| Scale | | |
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| 95 – 100 | A+ | No make-up tests will be given for students missing any of the three scheduled tests. Absence from any test will result in a score of zero unless the instructor has approved the absence <u>prior</u> to the test. If prior approval is given, the weight of the missed test is added to the Final Exam. |
| 91 – 94 | A | |
| 88 – 90 | A– | A make-up for the Final Exam will be given only in the most extreme circumstances, and only with <u>prior approval</u> . |
| 85 – 87 | B+ | |
| 80 – 84 | B | |
| 77 – 79 | B– | Graduate students are not graded according to the plus / minus system and may also be required to submit work beyond that required of the undergraduates. |
| 74 – 76 | C+ | |
| 70 – 73 | C | To request disability accommodations, please contact the Office of Disability Services at 348-4285. After consultation with that office, contact your professor. However, it is the student's responsibility to make arrangements for the accommodations on a timely basis. Special arrangements for exams must be made at least one week prior to the exam date or your instructor is not required to provide requested accommodations. Any request for special arrangements made less than one week prior to an exam date may not be able to be honored. |
| 67 – 69 | C– | |
| 64 – 66 | D+ | |
| 60 – 63 | D | |
| 57 – 59 | D– | |
| 0 – 56 | F | |

In the event of an emergency, we will adhere to the following actions in accordance with University policies. FIRE/FIRE ALARM: Evacuate the building and stay out of the building at a safe distance until authorized to return. TORNADO WARNING: Move to the Lower Level, inside classrooms, offices or corridors. Remain until the warning has expired. Classes are cancelled until the warning expires.

**ST 450 / 550 SCHEDULE (TENTATIVE)
TUESDAY**

**Fall 2006
THURSDAY**

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| | August 24 Collecting and Summarizing Data Ch 2 & Ch 3 |
| August 29 Probability Distributions Ch 4 | August 31 Probability Distributions Ch 4 |
| September 5 Binomial Distribution Ch 4 | September 7 Binomial Distribution Ch 4 |
| September 12 Normal Distribution Ch 4 | September 14 Normal Distribution Ch 4 |
| September 19 Central Limit Theorem Ch 4 | September 21 TEST 1 |
| September 26 Inferences About a Single Mean Ch 5 | September 28 Inferences About a Single Mean Ch 5 |
| October 3 Inferences About a Single Mean Ch 5 | October 5 Comparing Two Means Ch 6 |
| October 10 Comparing Two Means Ch 6 | October 12 Comparing Two Means Ch 6 |
| October 17 Non Parametric Tests Ch 5 & Ch 6 | October 19 Fall Break No Class |
| October 24 Non Parametric Tests Ch 5 & Ch 6 | October 26 TEST 2 |
| October 31 Inferences About a Population Variance Ch 7 | November 2 Testing Proportions 10 |
| November 7 Testing Proportions 10 | November 9 Testing Proportions 10 |
| November 14 Categorical Data Analysis Ch 10 | November 16 Categorical Data Analysis Ch 10 |
| November 21 Categorical Data Analysis Ch 10 | November 23 Thanksgiving No Class |
| November 28 Categorical Data Analysis Ch 10 | November 30 TEST 3 |
| December 5 Review | December 7 Review |

Final Exam: December 12 7:00 PM - 9:30 PM