

# Youngstown State University

Department of Mathematics and Statistics

## Course Outline for Statistics 6943

**Course Title:** Mathematical Statistics I

**Text:** Statistical Inference, by Casella and Berger, 2<sup>nd</sup> edition, Duxbury, 2002.

**Course Credit:** 3 s.h.

**Course Prerequisite:** MATH 3751; or consent of graduate coordinator.

**Course Description:** Random variables, their distributions and densities. Families and exponential families of distribution. Independence, joint distributions, conditional probability and expectation. Convergence and limit theorems. Credit will not be given for STAT 5843 and STAT 6943.

**Course Objectives:** The goals for students in the course include:

- developing an understanding of the fundamental concepts of probabilistic reasoning, the assumptions involved in those arguments, and interpreting conclusions
- developing the ability to communicate in probability and produce well written probabilistic summaries
- developing the ability to read and understand mathematical definitions, theorems and proofs

**Course Assignments:**

Chapter	Sections	Contents
1	1.1 - 1.8	Probability Theory
2	2.1 - 2.6	Transformations and Expectations
3	3.1 - 3.8	Common Families of Distributions
4	4.1 - 4.9	Multiple Random Variables
5	5.1 - 5.8	Properties of a Random Sample

Students will be using SAS or SPSS or other software packages to perform statistical analysis.

**Grading:** A grading policy and attendance policy will be distributed by the instructor.

Students with Disabilities: In accordance with University procedure, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the Office of Equal Opportunity and Disability Services at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify their eligibility through the Office of Disability Services in Wick House (330) 941-1372 intake procedure.

**Semester:** Fall 2006

**The last day to withdraw with a “W”:** Thursday, November 2, 2006.