

Youngstown State University

Department of Mathematics and Statistics

Course Outline for Mathematics 5843

Course Title: Theory of Probability

Text: Statistical Inference, by Casella and Berger, 2nd edition, Duxbury, 2002.

Course Credit: 3 s.h.

Course Prerequisite: STAT 3743 and MATH 2673 or consent of department chairperson. Credit will not be given for STAT 5843 and MATH 5843.

Course Description: The mathematical foundation of probability theory including the study of discrete and continuous distributions. Other topics selected from limit theorems, generating functions, stochastic processes, and applications.

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

- develop an axiomatic foundation for the study of probability and its consequences.
- develop skills to read and understand advanced mathematical and statistical definitions, theorems, and proofs.
- apply the theory of probability to contemporary problems in probability
- develop the ability to communicate in probability and produce written proofs
- prepare students for further study in probability and statistics

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.

General Education Requirement: Please note that this course satisfies the oral intensive requirement of the General Education Program.

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.