

Youngstown State University
Department of Mathematics and Statistics

Course Outline for Mathematics 3743

Course Title: Probability and Statistics

Text: Hogg and Tanis, Probability and Statistical Inference, Prentice Hall, 7th edition, 2006

Course Credit: 4 s.h.

Course Prerequisite: MATH 1572 or MATH 1585H. Credit will not be given for both STAT 3717 and 3743.

Course Description: A calculus-based probability and statistics course. Topics include descriptive statistics, probability models and related concepts and applications, statistical estimation, and hypothesis testing.

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

- developing technical writing skills in regard to presenting technical information in a clear and concise statistical report. This process will involve submitting statistical reports.
- developing an understanding of the fundamental concepts and theories in probability and statistics and their applications
- developing the ability to communicate in mathematics and statistics and produce well written proofs, and preparing for further studies in probability and statistics
- developing an awareness of the role statistical theory and methodology plays in society. This will be made manifest with investigations that demonstrate the statistical paradigm for formulating, test, and evaluating hypotheses

Course Assignments:

<u>Chapter</u>	<u>Topics</u>	<u>Sections</u>
1	Probability	1.1 – 1.6
2	Discrete Distributions	2.1 – 2.6
3	Continuous Distributions	3.1 – 3.5
4	Multivariate Distributions	4.1 – 4.2
5	Normal Distribution	5.1 – 5.5
6	Estimation	6.1 – 6.2, 6.4 – 6.5, 6.7 – 6.8
8	Tests of Statistical Hypotheses	8.1 – 8.3, 8.5 – 8.6
Optional sections: 3.6, 4.7, 5.7, 10.2		

Grading: Your grade will be determined by your performance on exams, a comprehensive final and homework assignments that include several written projects. The written reports will account for at least 30% of the grade for the course.

General Education Requirement: Please note that this course satisfies the critical thinking requirement of the General Education Program.

This course will use R or SPSS or statistical software determined by the instructor

Note: Theft or misuse of information technology (including the downloading of pornography or visiting pornographic web sites) is a violation of “The Code of Student Rights, Responsibilities, and Conduct.” Violating “The Code” will result in disciplinary action, which may include suspension or expulsion from the university.

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 Service in Beeghly Hall, room 3310, (phone number 330-941-1372) intake procedure.

Semester: Fall 2008

Last Day to Withdraw with a grade of “W”: Thursday, October 30, 2008.