CENTRAL WASHINGTON UNIVERSITY
Mathematics 411C, INTRODUCTION TO MATHEMATICAL STATISTICS II
Spring, 2009

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OVERVIEW OF COURSE

OVERALL COURSE OBJECTIVES:

The major objectives of this course are to help students:

1. Develop the ability to work with probability distributions and statistical theorems/techniques through calculus-based mathematical discussion and computer software.
2. Apply probability densities, sampling distributions, and statistical theorems and techniques to formulate and solve applied problems.

Student Outcomes:
Students will gain an understanding of the relation between probability and mathematical statistics, and will study the most important probability distributions, learning the situations in which they arise. Students will be able to find the distribution of functions of random variables and will learn the basic statistical distributions that are derived from the normal distribution. They will be able to find the distribution of order statistics such as the sample minimum, sample maximum and the i-th order statistic. Students will also learn how to set confidence intervals on unknown parameters, and will also learn methods of statistical estimation, including least squares, method-of-moments, and maximum likelihood.

COURSE MATERIALS REQUIRED:

Irwin Miller and Marylees Miller, John E. Freund's Mathematical Statistics

, 7th Edition (Prentice-Hall), 2004. Chapters 10-12 will be covered.

Advance reading of the problems and text material is essential to good performance in this course. Advice from previous students is: "If you want to do well, ***go to class every day, study your notes, and do not fall behind***."

COURSE POINTS:

POB	50 points
HOW	50 points
Chapter Tests (Three)	300 points

Final Exam	100 points
Total	500 points

Grading: You will have several ways of earning points:

1. ***HOW***---or Homework Of the Week. The book exercise problems that are assigned should be worked. Although I will not grade all for you, I will ask for *specific problems* to be turned in, including several that may be derived from class discussion.
2. ***POB***---or Problems On the Board. To facilitate learning from peers and ensure that most of you got a good handle of exercise problems before each chapter test, I will assign one or two problem to each student. Problems presented will earn you full credits unless there is serious error(s). You are welcome to check with me your solutions before your presentation.
3. ***Three 100- points Chapter Tests***: To strongly encourage you to go over the material and problems you have just been exposed to in each chapter, we will have three 50-minute Chapter Tests, each of which will count 100 points. You will find the test problems similar to the assigned text problems and examples/concepts I have emphasized in class.
4. ***A two-hour final***: It can comprise of one-hour take home and one-hour in-class exam or just a 2-hour in-class final exam. They will be given as scheduled in the final exam week.
5. ***Bonus Point(s)***: By asking or answering an excellent/important question related to class material, or by maintaining great quality for ***HOW's*** or ***POB's***, students will be awarded one or two bonus points occasionally throughout the quarter to help enhance their grade.

Text Problems Assigned:

Chapter 10: 1-7, 10-12, 14, 15, 21, 23, 32, 36, 38, 42, 43, 46, 49, 50-56, 59, 60, 63, 65, 66, 72, 73, 77-80, 83, 84, 90, 91, 94, 96, 97

Chapter 11: 1-3, 7, 9, 14, 20, 21, 23, 30, 33, 35, 36, 38, 39, 43, 45, 49, 53, 58-61

Chapter 12: 1, 3, 5-7, 9, 11, 12, 14, 21, 25, 28-33, 44

Chapter 13: 4, 6, 12, 13, 20-25, 36, 42, 44, 47, 48, 53, 63, 64, 66, 68, 74, 75, 76, 77, 78, 81, 84-86

LEVEL OF AWARENESS ISSUES INCORPORATED IN THIS COURSE:

AWARENESS ISSUE	**----------ACTIVITY LEVEL----------**			
	NONE	LOW	MODERATE	HIGH
Graphical Distribution Display			*	
Interpret Information				*
Mathematical Proof			*	
Statistical Methods				*
Personal Work Quality Goals				*
Class Participation				*

SCHEDULE OF CLASS TOPICS AND ASSIGNMENTS

A tentative list of timing of topic coverage and chapter tests is presented below. Due to the intensive nature of the course, and possible variability in student backgrounds and learning process, we may deviate from this schedule.

Week	Sections
1. 3/31-4/3	10.1-10.4
2. 4/6-4/10	10.5-10.10
3. 4/13-4/17	10.8-10.10 Review
4. 4/20-4/24	Review
TEST 1: Chapter 10	
5. 4/27-5/1	11.1-11.4
6. 5/4-5/8	11.5-11.8
7. 5/11-5/15	Review
TEST 2: Chapter 11	
8. 5/18-5/22	12.1-12.4
9. 5/25-5/29	12.5-12.7
10. 6/1-6/5	Review
TEST 3: Chapter 12	
11. 6/8-6/12	FINAL EXAM WEEK
The Final Exam date will be announced	

TEST POLICY

Because of the timely nature of the tests, no make-ups will be given. A grade of zero will be assigned unless you contact me **before** the scheduled time and provide an acceptable excuse. A weighted average of your score on the remaining tests will be used for the missing score. Final examination policy is as established by the Dean of Students.

HOMEWORK POLICY

Homework will be assigned and collected. Working on exercises and homework is the only way most of us learn to critically analyze and "solve" problems. Some class time will be devoted to questions on the exercises and homework. Office hours are also scheduled to provide opportunities for more in-depth discussion of homework problems.

Your homework must be well **stapled** and written/printed on **flat papers**. Failing to do any one of the above will result in losing homework points. No late homework will be accepted unless you contact me and provide an acceptable reason.

ATTENDANCE AND PARTICIPATION

Attendance and class participation are important to this course. If you miss excessive number of classes, your final grade will be affected. Students are expected to have no more than two unexcused absences for the entire quarter.