Stat 512 – Mathematical Statistics

Basic information :

Instructor: Peijie Hou (PJ)

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Course: Mathematical Statistics

Class Time/Place: MTWRF 8:30-9:45am in 310 LeConte College   (29 June - 07 Aug)

Prerequisite: Successful completion of Math/Stat 511

Office Hours: 10:00-11:00 MTWR, or by appointment

Required Course Material :

- Wackerly, D., Mendenhall III, W., and Scheaffer, R. *Mathematical Statistics with Applications, 7th edition*

Objective/Learning Outcomes :

The purpose of this course is to introduce you to topics in mathematical statistics. From Wackerly, Mendenmall, and Scheaffer (WMS), we will cover Chapter 6-9. We will explore distributions of functions of random variables(distribution function technique, transformation, mgf technique), order statistics, t and F distributions, the Central Limit Theorem, interval estimation, efficiency, sufficient statistics, MVUE estimation, method of moments, maximum likelihood estimation, and large-sample theory. Similar to STAT/MATH 511, this course is a mix of application and mathematical theory. STAT 512 serves as a basis for the material to be covered in STAT 513.

Note : For students in actuarial science, topics from Chapter 6-7 are covered on Exam P, along with Chapters 2-5, which were covered in STAT/MATH 511.

Homework Assignments:

There will be no collected homework assignments during the semester. Suggested problems will be provided to supplement the lecture and each student is highly encouraged to independently work through these.

Exam Schedule:

We will have 5 take home midterm examinations which will be assigned every week on Friday and will subsequently be due at the beginning of class on the following Wednesday. These exams are to be completed independently by all students. A cumulative final examination will be on Saturday, August 8, at 8:30am. Please note that I do not give make up examinations nor do I accept late work unless your absence is due to a university commitment and you have informed me about it at least before 1 day in advance.

Grade Breakdown:

Your course grade will be determined by midterm examinations (12% each), and the final examination (40%). Final course grades will likely be assigned according to a 90-80-70-60 protocol (but I reserve the right to adjust this scale if appropriate).

Some comments about STAT/MATH 512:

- **Turn cell phones off!**

- Doing well in STAT 512 requires that you have mastered the material from STAT 511. So review STAT 511 notes would be helpful. Those who haven't mastered STAT 511 usually find STAT 512 to be overwhelming. A copy of STAT 511 notes is available on

  `http://www.stat.sc.edu/~tebbs/stat511/f09notes.pdf`

- Feel free to ask questions during and after class. Your questions are an important part of this course.

- Working together on suggested exercise problems is permitted and encouraged. Cheating on take home exams or in class exams is an extremely serious offense and will be dealt with accordingly.

- I would like to talk to anybody with a disability that may require special attention with examinations or other aspects of the course. Pleas talk with me during the first week of class