

STA4322 (Sect 5238) Introduction to Statistical Theory Summer B 2009
STA5328 (Sect 4048) Fundamentals of Statistical Theory

Instructor: Mark C. Yang
Office: 202 Griffin-Floyd Hall
Phone: 273-2979
E-mail: yang@stat.ufl.edu
Office Hours: 5:10pm-6:30pm Tuesday and Thursday

TA: Minzhao Liu
Office: Griffin-Floyd 218
Phone: To be posted later
E-mail: liuminzhao@stat.ufl.edu
Office Hours: 1:30pm-3:00pm Wednesday and Friday

CLASS: MTWRF - 2nd Period (9:30-10:45AM), Room 113 LIT

CLASS WEB SITE: <http://www.stat.ufl.edu/~yang/STA4322>

OBJECTIVE: The sequence of courses STA 4321-4322 is designed to give the undergraduate student a firm foundation in the basic theory of statistical inference. Three semesters of calculus are required in order to understand the course material. While probability theory is the main subject in STA 4321, STA 4322 deals primarily with the classical theory of estimation and hypothesis testing and their applications. The emphasis is on the full understanding of the fundamental concepts and derivations. From the Course Catalog: **STA 4322 Intro. Statistics Theory (Fall, Spring, Summer)** Credits: 3 Prereq: STA 4321 or equivalent. Sampling distributions, central limit theorem, estimation, properties of point estimators, confidence intervals, hypothesis testing, common large sample tests, normal theory small sample tests, uniformly most powerful and likelihood ratio tests, linear models and least squares, correlation. Introduction to analysis of variance.

PREREQUISITES: MAC 2311, MAC 2312, and MAC 2313, STA4321/STA5325

GRADING: Option 1: 3 exams, equally divided
Option 2: Homework 50%, 3 exams 50%

Those who choose option 2 need to turn in homework on time.
90% correctness in homework is considered as perfect.

SCHEDULE (subject to minor changes):

- Week 1: Sections 7.1 - 7.3, 7.5; Homework assigned on 7/1 (due 7/6)
- Week 2: Sections 8.1 - 8.7; Exam 1 (7/10, Friday) Homework assigned on 7/8 (due 7/13)
- Week 3: Sections 8.8 - 8.9; 9.1 - 9.4 ; Homework assigned on 7/15 (due 7/20)
- Week 4: Sections 9.5 - 9.7; 10.1 - 10.7; Exam 1 (7/24, Friday) Homework assigned on 7/22 (due 7/27)
- Week 5: Sections 10.8 - 10.11 Homework assigned on 7/29 (due 8/3)
- Week 6: Sections 11.1 - 11.8; Final Exam (8/6, Thursday) To make up the Friday class, there will be a review for the final at 5:10 - 6:25 on 8/5. Place will be announced in class.

EXAMS:

1st Exam: Friday, July 10

2nd Exam: Friday, July 24

Final Exam: Thursday, August 6

Exams: Exams will emphasize the examples worked in class, and the problems assigned, as well as the focal questions. The final exam will be comprehensive. Topic coverage lists will be issued for all exams. A very high final exam grade will make it weigh more in your semester grade.

Homework: Exercises will be assigned in daily assignments. Selected problems will be collected and graded as homework for students choosing grade option 2. Homework for grading is always assigned on Wednesday and due on the next Monday. You can find them from the class website too. NO LATE homework will be accepted for any reason. According to the student's honor code, homework has to be done by the student. Copying solutions from others is not allowed. Violation may result in failing this class.

Note: One of the best ways to do well in a course is to master the homework.

Grading Scale: Grade boundaries (in %) will be no higher than,

$$\begin{array}{cccccc} A=90 & A- = 87.5 & B+ = 85 & B= 80 & B- = 77.5 \\ C+ = 75 & C= 70 & C- = 60 & D= 50 & \end{array}$$

TEXT: Wackerly, Mendenhall, & Scheaffer: *Mathematical Statistics with Applications*, Seventh Edition, 2008, Thomson Pub.

ABOUT THE DEPARTMENT OF STATISTICS: The Department of Statistics at the University of Florida is one of the nation's largest and leading statistics departments. The Department awards approximately 15 Bachelors degrees, 12 Masters degrees, and 6 Ph.D. degrees per year. The Statistics Department, chaired by Professor Michael Daniels, has a faculty of national and international reputation for their research. The research interests of the 20 faculty members include both theoretical and applied statistics. We welcome inquiries about about our programs. The Statistics Department's main office is in 102 Griffin-Floyd Hall (telephone 392-1941). You are welcome to visit the Department's web site at <http://www.stat.ufl.edu>.