

STA 4322/5328, Spring 2013
Introduction to Statistics Theory / Fundamentals of Statistical Theory
Sections 08F1/08F2 (3 credit hours)
Course Information and Policies

Objectives: The sequence of courses STA 4321–4322 (resp. 5325–5328) provides a formal and systematic introduction to the theory of mathematical statistics for students who have passed three semesters of standard undergraduate-level calculus and a first course in statistics. Major topics of STA 4322/5328 include normal-theory sampling distributions, estimation methods, properties of point estimators, confidence intervals, hypothesis testing and related theory, and linear regression. The primary purpose of STA 4322/5328 is preparation for graduate-level study in statistics and closely related subjects. This is a theory - not the applications or methods of statistics – course.

Prerequisites: a calculus-based course in probability (e.g., STA 4321 or STA 5325); basic vector calculus (MAC 2313, a prerequisite for STA 4321). More explicit prerequisites from probability (with pertinent sections of the course text, below) are posted on the course page. Prerequisites from vector calculus: vectors, operations with vectors, differentiation of functions of several variables, partial derivatives, minimization of functions (and optimality conditions), multiple integrals. Please check the (Optional) Pretest section below.

Course Web Site: has been created at e-learning (<http://lss.at.ufl.edu>)

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Teaching Assistants: Ruoxuan Xiang (RX), rxxiang@ufl.edu;

To ensure timely response, mention STA 4322 or 5328 in the subject header.

Anonymous feedback: can be submitted via the form at <https://forms.hush.com/ufl.sta4322.sp13>

Lectures: Tue, 10:40-11:35 (period 4), Thur 10:40-12:35 (periods 4 and 5), Turlington L011.

Office Hours: To be announced on the course web page, and subject to change in the first two weeks of the class. Special appointments with the instructor may be arranged by mutual agreement.

Textbook: Dennis D. Wackerly, William Mendenhall III, & Richard L. Scheaffer, *Mathematical Statistics with Applications*, 7th Edition, Brooks/Cole, Cengage Learning. Tentative list of supplemental readings from the textbook has been posted on the course page. Keep in mind that, although 90% of the lecture topics are contained in the textbook, the textbook is a supplement, not a replacement of the lectures.

Homework: Complementary textbook readings and suggested exercises will be posted as the course progresses. You are not expected to submit your answers to the suggested exercises, but you should solve all of them to thoroughly learn the material and best prepare yourself for exams.

Quizzes: There will be weekly quizzes on Thursdays (except 12 Jan), some online, some in-class. All quizzes will be weighted equally. In the case of sufficient interest from the class, X lowest quiz scores will be dropped for the whole class for completing anonymous intermediate unofficial course evaluation questionnaire (details will be provided in class). Here, X will be determined by the level of participation. No make-ups will be given for the missed quizzes. Quizzes will be solved during lectures; solutions will not be posted.

(Optional) Pretest: to ensure the active knowledge of course prerequisites, a take-home review problem set (a pretest) will be posted by 8 Jan afternoon. The assignment is not to be turned in. Solutions will be posted on 10 Jan. A pretest score well below 70% is likely to indicate inadequate background; consequently, such a student will likely struggle with the course unless the deficiency is quickly eliminated.

Prelim Exams: 4 prelim exams (first in-class, the rest take-home) will be given throughout the semester. Dates, policies and coverage details will be announced in advance of each exam. No make-ups.

Final Exam: Thur, 2 May, 7:30-9:30AM (exam group 2A)

The final is comprehensive/cumulative with emphasis on the material in the second half of the course. Details will be provided near the end of the semester. Plan to take the exam during the university-scheduled date and time — no exceptions for personal travel will be granted!

Lecture Attendance: Classroom lecture attendance is important, though ordinarily not strictly enforced. You are responsible for learning all material presented during lecture, and any topic covered in lecture is a potential exam topic (unless the instructor states otherwise). Please respect your classmates and avoid any circumstances or activities that may be distracting, insensitive, or harmful. Please bring your UF ID card to lecture. You must bring your ID card to the quizzes and exams.

Extra Credit: more challenging optional problems/assignments will be occasionally distributed throughout the semester. Other extra credit opportunities will be discussed in class.

Regrade requests: must be submitted to the instructor within one week after the graded assignment has been returned, along with a written note about possible grading mistakes. The whole assignment will be regraded by the TAs; you won't have your work regraded in your presence unless only a mistake of incorrectly adding up points was made by the teaching assistants. Late regrade requests will not be accepted.

Grading: quizzes (15%), in-class prelim (20%), take-home prelim scores (30%), in-class final exam (35%). Each component score will be converted to a 100-point scale, upon which the weights will be applied.

Final Grades: The usual 10 point scale (90% for an A- or better, 80% for a B- or better, . . .) is tentatively adopted, but will most likely be loosened based on the overall class performance. My expectation is to give B as the median grade for the course, which will be raised in case of exceptional performance of the whole class. (I.e., ideally, everyone can potentially earn an A by acing the course, which I will be more than happy to assign, but obviously this largely depends on the students' performance.) Final letter grades will be assigned on the University's official grading scale; for details, please see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Academic Integrity: Please familiarize yourself with the Student Honor Code and Academic Honesty Guidelines outlined in your University of Florida Student Guide and at <http://www.dso.ufl.edu/sccr/honorcodes/honorcode.php>

Reasonable Accommodations: To request classroom accommodation, please be certain that you have made all necessary arrangements with the Dean of Students Office, and obtain from them documentation to submit to the instructor at the time of your request. A request must be made to the instructor at least one week in advance of the date for which the accommodation is requested. This course information and policies sheet can be made available in alternative formats to accommodate print-related disabilities. Contact the instructor for information.