

STA 4322 / 5328: Introduction to Statistics Theory
Spring 2017

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Website: <http://www.stat.ufl.edu/~swkwong/teaching.html>
Grades will be posted on Canvas.

Office hours: Mon 1-2pm, Wed 1:30-3:30pm in FLO 220 or by appointment
(for appointment requests you should send me email at least a day in
advance)
TA office hours TBA

Textbook: *Mathematical Statistics with Applications*, 7th ed.
by Wackerly, Mendenhall, and Scheaffer

The book not required; some book problems will be listed as optional extra practice to complement homework, but otherwise we will not refer to it.

Roughly, topics in chapters 7-11 will be covered, but in greater depth. Please note that exams will test all material taught in lecture, including concepts that we cover beyond the textbook. Therefore regular class attendance, while not mandatory, is encouraged.

Lectures: Mon Wed Fri 11:45 - 12:35

Prerequisites: Three semesters of calculus and STA4321.

Objectives: The course covers the basics of statistical inference: point and interval estimation, hypothesis testing, and applications to linear models. Or in more plain English: by the end of the course you should understand the general theory of how to formulate statistical models to describe data, fit and evaluate the models, and use them to draw conclusions about scientific questions. This course also provides the theoretical foundations for further study in statistics at the graduate level.

Rough schedule of topics:

Weeks 1-4:
probability review, transformations, random samples, Central Limit Theorem

Weeks 5-9:
sufficiency, estimation, properties of estimators, confidence intervals

Weeks 10-14:
hypothesis testing, Bayesian inference, linear regression

Course requirements:

The final grade will be based on homework (10%), and three exams during the semester (30% each). There will be no final exam.

- *Homework* will be assigned approximately weekly, as solving problems regularly is integral to the understanding of the course material. Homework is due at the beginning of lecture on the specified date. No late homework will be accepted. Assignments will be equally weighted; your two lowest scores on the homework assignments will be dropped. You are welcome to discuss homework problems with other students; however, the solutions you submit must be written by yourself, in your own words.
- *Three exams* will be held, tentatively on the evenings (8:30-9:45pm) of Jan 31, Mar 14, and Apr 18 (all Tuesdays). The exams are not cumulative, but please note that the later material will build on concepts covered earlier in the course. All exams are closed-book, closed-calculator, closed-phone. You may bring two double-sided pages of self-prepared notes to the exams.

Grading:

Final grades will be normalized. The tentative cutoffs are the usual 10% scale (90% = A, 80% = B, etc.), though will very likely be relaxed. Assigned grades are not negotiable.

Policies:

Please be familiar with the Academic Regulations listed in the UF catalog.

Note that no make-up exams will be given with the exception of documented medical emergencies. Any accommodations requested will require appropriate arrangements with the Dean of Students Office. You are expected to abide by the Student Honor Code and exhibit academic integrity.