

STA 4322 Sec 1007  
STA 5328 Sec 18E7

# Introduction to Statistics Fundamentals of Statistics

Spring, 2019

## Course Information

**Time:** MWF 11:45 – 12:35 a.m. (Period 5)

**Location:** Anderson 134

**Instructor:** Dr. Sayar Karmakar

**Office:** 101B Griffin Floyd Hall

**E-mail:** sayarkarmakar@ufl.edu

**Office Hours:** (might change occasionally) Mon 3.30 – 5.00, Wed 12.35 – 2.05 or by appointment

**Teaching Assistant:** WooJung Bae

**Office:** 234 Griffin Floyd Hall

**E-mail:** woojung.bae@ufl.edu

**Office Hours:** (might change occasionally) Tue 2:45 – 4:45, Thu 3:50 – 4:50

**Text:** Wackerly, Mendenhall, and Scheaffer, *Mathematical Statistics with Applications* (7th ed), Duxbury Press (Thomson Brooks/Cole Publishing), 2008.

## Objective

This course uses mathematical statistics to provide a rigorous understanding of statistical inference, such as point estimation and hypothesis testing. We will cover the following topics: sampling distributions, central limit theorem, estimation, properties of point estimators, hypothesis testing, linear models and least square.

## Prerequisite

STA 4321 (Introduction to Probability) MAC 2311, 2312, 2313 (Calculus I, II, III)

## Text

- Wackerly, Mendenhall, and Scheaffer, *Mathematical Statistics with Applications* (7th ed), Duxbury Press (Thomson Brooks/Cole Publishing), 2008.

Lectures will cover (roughly) chapters 7-11. Note that the exams will be based on material actually taught in lectures. The textbook is helpful and suggested additional exercises will be assigned from it, but is not strictly mandatory.

## Course Website

Canvas course page. Please check the canvas site regularly. Most course documents and important information, including homework exercises and solutions, sample exams and special announcements, will be posted in canvas.

## Grades

- There will be four in-class exams and the worst of the first three will be dropped (20% for the best two of first three and 30% for exam 4). The fourth exam (not cumulative) is compulsory and cannot be dropped. 30% of the grades will be based on weekly quizzes/homeworks. 5 of the quizzes will be take home and 4 of the quizzes will be in-class. We will select best 6 out of 9 quizzes towards the 30% of grades.
- The usual 10 point scale (90% above for an A, 86-89% for an A-, 81-85% for a B+, 80% for a B, ...) will be used for grading. Refer to the tentative grade cut-off pdf uploaded. **All grades are final and non-negotiable.**

## Exams

- Four in-class (**non-cumulative**) exams are **tentatively** scheduled:
  - Exam 1: **Friday, Feb 1** (Covers Lecture 2 to Lecture 10, Chapter 8 WMS)
  - Exam 2: **Friday, Mar 1** (Covers Lecture 11 to Lecture 21, Chapter 9 WMS)
  - Exam 3: **Monday, Apr 1** (Covers Lecture 22 to Lecture 30, Chapter 10.1-10.9 WMS)
  - Exam 4: **Wednesday, April 24** (Covers Lecture 31 to Lecture 39, Chapter 10.10-10.11, 11 WMS)
- You will be permitted to bring one 8.5 by 11 inches sheet of paper with formulas or notes written on both sides to each exam.
- Only one make-up exam will be offered and you must either let the instructor know well before the scheduled day of the exam which you need to be excused from (for a non-emergency reason), or produce a proof of emergency (or medical problem) as soon after the missed exam as possible.
- **Calculator:** A non-graphing calculator might be used for the exams and quizzes however you will not be harshly penalized for not simplifying terms like  $\binom{20}{4}/\binom{30}{6}$

## Homework Exercises and Quizzes

- There will be approximately nine in-class quizzes, typically scheduled on every Friday, based on homework exercises assigned about a week before. Each will take place during the final 10 to 15 minutes of class time. No books, notes or other references may be used during a quiz. All quizzes have equal weight for grading, but three of your (lowest) quiz scores will be dropped. No make-up quizzes will be offered.
- You are encouraged to discuss homework problems with other students; however, you must answer on your own during the quizzes. Solutions to the homework exercises will be posted after the quizzes.
- The instructor and Teaching Assistant make every effort to ensure that grades assigned are scrupulously fair and reflect the quality of the work concerned. Due to this process of consultation and the use of uniform grading criteria, the TA has complete authority in all actions that he undertakes regarding the quizzes, and the instructor is unlikely to rescind any of his decisions.

## **Suggested Additional Exercises**

In order to master the course material it is essential that you work as many exercises as possible. For this reason, along with the weekly homework exercises, additional suggested exercises from the textbook will also be posted on the course web-page on a regular basis. You are not expected to submit answers to these suggested exercises, but you should solve all of them to keep up with the pace of the course and thoroughly learn the material. This will also help you prepare for the exams.

## **Lecture Attendance**

Classroom lecture attendance is fully expected, even if not strictly enforced. You are responsible for learning all material presented during lecture, and any topic covered is a potential exam topic (unless otherwise stated).

## **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 more information.

## **Academic Integrity**

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