

Statistical Computing in R

Instructor:

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Office Hour: TBD

TA:

Yeison Quiceno Duran

Office Hour: TBD

Lecture Format:

The course will be delivered **in person** in the classroom.

Required Textbook:

Statistical Computing With R
by Rizzo, Maria
2nd Edition

Optional reference book on optimization:
Convex Optimization – Boyd and Vandenberghe

Open access version:
https://web.stanford.edu/~boyd/cvxbook/bv_cvxbook.pdf

Objective:

The goal of the course is to introduce various important topics related to the modern statistical computing, as an essential requirement for data science. We will focus on both learning the mathematical foundation underpinning the computing methods and the program implementation using R.

Prereq: STA 3100 and STA 4210 and STA 4322 and MAS 4115.

Course Schedule:

The course covers the following topics.

A tentative plan is

	Topic
1	Introduction
2	Generating Random Variables
3	Generating Random Processes
4	Monte Carlo Integration
5	Optimization
6	Monte Carlo Methods in Inference
7	Markov Chain Monte Carlo
8	Bootstrap and Jackknife

Grading and exams:

The total score grade consists of:

Percentage	Source	Date
40%	Homework	Due every two weeks (posted on Canvas)
30%	First Exam	March 8th
30%	Second Exam	April 21st

Note: if there's any disagreement on the score you get for homework / exam, you have *one week of time to appeal* to the instructor after getting your exams back.

The letter grade is tentatively planned as the 10-point scale (90% for an A, 80% for a B, ...), subject to change depending on the final score distribution.

Information on current University of Florida grading policies for assigning grade points is given at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Homework:

No late homework will be accepted, except for medical reason with the doctor's note.

Class Attendance and Make-up Exams:

You are expected to attend the class. Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Students with Disabilities:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Online Course Evaluation Process:

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these evaluations are available to students at <https://evaluations.ufl.edu/results/>.