STA 3100 (Class Number: 19177)

Programming With Data in R

Summer 2022

MTWRF 12:30-1:45 p.m. (Room: FLO 0100)

The course is offered fully in person. Please feel free to wear a mask for your safety and the safety of others.

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

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Course Description: An introduction to statistical computing and programming with data. Topics include basic programming in R; data types and data structures in R; importing and cleaning data; specifying statistical models in R; statistical graphics; statistical simulation using pseudo-random numbers; reproducible research and the documentation of statistical analyses.

- Install R and RStudio (IDE for R) on your PC.

Prerequisites: STA 2023 ($\geq$B) or STA 3032 ($\geq$B-) or AP statistics ($\geq$4).

Course Website: e-Learning. Check course website at least once a day for updates.

Course Material: Lecture notes and R scripts (will be posted on course website), in-class notes (will not be posted).

Useful References:

1. *An Introduction to R* by Venables, Smith, and the R Core Team.
2. *R for Data Science* by Wickham and Grolemund.

Course Communication: Office hours and email.

- **Always wear a mask during in-person office hours.**
- **Always use GatorMail for email.** I do not check Canvas inbox.
- **Always put 3100 in the subject line of your email.** I teach multiple courses and use course numbers to search emails from students.

Course Objectives:

1. Import data into R and prepare the data for analysis.
2. Write functions in R making effective use of data structures and control structures.
3. Determine statistical graphics appropriate to a statistical analysis and produce them using R.
4. Formulate statistical models in the R language.
5. Perform and document a basic statistical analysis.
6. Carry out basic simulations.
7. Document and report the results of data analyses and simulations in a reproducible way.

Assignments and Grading:

- Grades will be based on the following components.

Homework	Final Exam (take-home)	Total
75%	25%	100%

- **Attendance is not mandatory. However, it is your responsibility if you miss any information provided in class.**
- There will be about six homework assignments. Since there is no in-class or timed exam, each homework assignment serves as a small test and will be **graded strictly for accuracy**.
- **Once graded, your assignment can only be reviewed again by the grader if a request is made within a week.**
- **A late assignment will be accepted with the penalty of 25% credit per day.** For example, suppose Homework 1 is due on May 13, 2022 at 11:59 p.m. and you submit Homework 1 on May 14, 2022 at 12:01 a.m. Then you will at most receive 75% for Homework 1. You will be given sufficient time for each assignment and no excuse for being late will be accepted. **Note that a due date is the last day you can submit your assignment, not the day you should submit your assignment.** It is fine if you decide to submit your assignment at a later time on or before the due date, but that means you are taking more risks and it is your responsibility if you fail to meet the deadline. For example, it is your responsibility if you could not submit your assignment due to an outage (e.g., power, Internet, etc.) in the due date evening.

- I will strictly follow the cutoffs below for letter grades.

		A	≥ 92	A-	90 to < 92
B+	87 to < 90	B	82 to < 87	B-	80 to < 82
C+	77 to < 80	C	72 to < 77	C-	70 to < 72
D+	67 to < 70	D	62 to < 67	D-	60 to < 62
E	< 60				

Academic Integrity:
You may discuss homework with each other, but you must write up your solutions independently. You may never discuss exams with each other. You are held accountable to the UF Student Honor and Conduct Code.

Students with Disabilities:
Students requesting accommodation for disabilities must first register with the Disability Resource Center (DRC). The DRC will provide documentation to the students who must then provide this documentation to the instructor when requesting information. You must submit this documentation prior to submitting any assignments for which you are requesting accommodation.

Course Evaluations:
Students are expected to provide feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at `https://gatorevals.aa.ufl.edu/students/`. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via `https://ufl.bluera.com/ufl/`. Summaries of course evaluation results are available to students at `https://gatorevals.aa.ufl.edu/public-results/`.