

R FOR SOCIAL DATA SCIENCE

Fall 2022

 : Jeffrey Ziegler, PhD	 : Tuesday/Thursday 18:00 - 19:30
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1. Description

This module provides foundational knowledge of computer programming concepts and software engineering practices. It introduces students to major data science programming languages and workflows, with a focus on social science data and research questions. Students will be introduced to R, a principal data science programming language. This course covers basic and intermediate programming concepts, such as object types, functions, control flow, testing and debugging. Particular emphasis will be made on data handling and analytical tasks with a focus on problems in social sciences. The module also will include hands-on coding exercises.

2. **Readings:** This is a list of interesting and pertinent books that will be used during the course. You may need to consult them occasionally, but you **do not need to purchase them**, I have included a free access link for each resource.

- Matloff, Norman. 2011. [The Art of R Programming: A Tour of Statistical Software Design](#). San Francisco, CA: No Starch Press.
- Roger D. Peng. 2016. [R Programming for Data Science](#). Leanpub.
- Wickham, Hadley, and Garrett Grolemund. 2017. [R for Data Science: Import, Tidy, Transform, Visualize, and Model Data](#). Sebastopol, CA: O'Reilly Media.
- Wickham, Hadley. 2019. [Advanced R](#). 2nd ed. Boca Raton, FL: Chapman and Hall/CRC.

3. Class Materials, Structure, and Assignments

- *Class materials:* All materials presented in class, and the readings used to prepare for this course, will be made available on Blackboard.
- *Class Structure:* This class is unique because we are only meeting online. Regardless, I want our class to thrive no matter how we meet or your individual methods of participating in class. I cannot guarantee an identical experience for each student, nor an experience that is identical to in-person modules. But, my goal is that all students receive a high-quality experience to the extent possible, and that all students are treated equitably and consistently.

Due to the nature of the module, communication is important. I commit to responding to emails within 48 hours of receipt, and my intention is to respond faster than that most of the time. I will likely be slower on weekends. Likewise, if your situation changes regarding health, housing, or in any other aspect with regard to your ability to participate in class, please contact me and the appropriate student support organization as soon as feasible. It is easier for me to address your needs if I know about them. This does not mean I can successfully respond to every request, but I want to emphasize that I aim for you succeed in life, not just this course.

The lectures will provide you with core concepts and theoretical foundations of regression analysis in the social sciences. Lectures will be supported by a PowerPoint style presentation. I will post

a handout of the shortened, student version of the lecture on Blackboard, under the “Slides” tab. You may want to use this brief outline to follow the lecture and take additional notes.

All class sessions on Zoom will be recorded for students in the course to refer back. The content presented through video conferencing will be posted on the course website for the sole purpose of educating the students enrolled in the course. The release of such information (including but not limited to directly sharing, screen capturing, or recording content) is strictly prohibited, unless the instructor states otherwise. Doing so without the permission of the instructor will be considered an Honor Code violation.

Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. Please read the [Rules of Zoom Engagement](#) for further advice on participating in our Zoom class sessions.

- *Academic Integrity*: Cheating and plagiarism will not be tolerated even though you will not receive formal marks. I strongly encourage you to review the College’s policies regarding academic honesty. In general, if you have any questions, please feel free to ask me.

4. Additional Information

- *Students with Disabilities*: Students with disabilities enrolled in this course who may need disability-related classroom accommodations are encouraged to make an appointment to speak with me within the first week of the semester. All conversations will remain confidential. If you have a disability-related need for reasonable academic adjustments in this course, you are required to provide the instructor with an accommodation notification letter from the [Office of Disabilities Services](#). If you need immediate accommodations or physical access, please arrange to meet with me as soon as your accommodations have been finalized.
- *Religious observances*: Some students may wish to take part in religious observances that occur during this semester. If you have a religious observance that conflicts with your participation in the course, please talk to me within the first week of the semester to discuss accommodations.
- *Mental Health*: This is a difficult time. Please reach out to me with any concern, and know that [Mental Health Services](#)’ professional staff members work with students to resolve personal and interpersonal difficulties, many of which can affect the academic experience during even “normal times”. These include conflicts with or worry about friends or family, concerns about eating or drinking patterns, and feelings of anxiety and depression. Your health is a critical part of your success in life, not just your coursework.