

PSTAT 126: REGRESSION ANALYSIS

Winter 2023

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Course Pages:

- Location: [PSYCH 1924](#)
- Gauchospace: [link](#)
- Nectir: [link](#). We ask that when you have a question about the class that might be relevant to other students, post it on Nectir instead of emailing us. That way, all the staff can be on the same page and everyone can benefit from the response.
- JupyterHub: [link](#). All your work may be completed here.
- GradeScope: [link](#). Bi-weekly homework assignments are a required part of the course.
- Use this [link](#) to sync new assignments and labs.
 - **Bookmark this link, you will use it a lot!**

Office Hours:

Professor Targino rodrigotargino@ucsb.edu: Office Hours, Fridays 1.30pm - 3.30pm OG1230 and on Zoom <https://fgv-br.zoom.us/j/95030256507>

Chris Lefrak [TA] clefrak@ucsb.edu: Office Hours, TBA

Xubo Liu [TA] xubo@ucsb.edu: Office Hours, TBA

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Pippa Lin [ULA] haitaolin@ucsb.edu: Office Hours, TBA

Brandelyn Nie [ULA] bhnie@ucsb.edu: Office Hours, TBA

Course Texts

- **Required:** Faraway, J. J. (2005) *Linear Models with R*
- **R programming:** Grolemond and Wickham *R for Data Science*, <https://r4ds.had.co.nz/index.html>
- Optional: Weisberg, S. (2005) *Applied Linear Regression*, 3rd edition

Objectives:

This course introduces the theory and application of linear regression models and uses R to solve real-world problems

Prerequisites:

PSTAT 10 and PSTAT 120B both with a minimum grade of C or better. Familiarity with R is required.

Tentative Course Topics:

- | simple and multiple regression models
- | estimation
- | inference
- | prediction
- | regression diagnostics
- | model selection
- | shrinkage methods
- | analysis of variance

Grading Policy:

- Homework (40%).
 - There will be approximately 4 homeworks, with roughly two weeks to complete
 - Homework solutions must be done in RMarkdown and turned in on Gradescope. Each homework assignment will be given as a template that you should work from.
 - All code must be written to be reproducible in Rmarkdown
 - All derivations can be done in any format of your choosing (latex, written by hand) but must be legible and *must be incorporated into your final pdf*.
 - All files must be zipped together and submitted to Gradescope
 - Ask a TA *early* if you have problems regarding submissions.
 - Homework not submitted online before the deadline will be considered late (20% of the grade deducted). 24 hours after the deadline homework will not be accepted and no credit will be awarded. Do not wait until the night before it is due to start working!
- Quizzes (20%)
 - Roughly every week
 - Online, on gradescope
- Final exam (40%)

Homeworks:

- All files will be submitted electronically via Gradescope
- Submit a zip file containing:
 1. R markdown code (.Rmd file, template provided)
 2. Any additional files as needed
 3. Generated PDF file

Course Policies:

- Learning Cooperatively
 - We encourage you to discuss all of the course activities with your friends and classmates as you are working on them.
 - You will definitely learn more in this class if you work with others than if you do not. Ask questions, answer questions, and share ideas liberally.
- Academic Honesty
 - Cooperation has a limit.
 - You should not share your code or answers directly with other students.
 - Doing so doesn't help them; it just sets them up for trouble on exams.
 - Feel free to discuss the problems with others beforehand, but not the solutions.
 - Please complete your own work and keep it to yourself.
 - Penalties for cheating are severe — they range from a zero grade for the assignment up to dismissal from the University, for a second offense.
 - Rather than copying someone else's work, ask for help. You are not alone in this course! We are here to help you succeed. If you invest the time to learn the material and complete the projects, you won't need to copy any answers.
- Copyright of Course Materials
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