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|  | | | SYLLABUS |
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| Political Analysis in R | | MWF 1:50-2:40PM | |
| POLS 3230 | | Spring 2024 | |
| Section 61918 | | Baldwin 101D | |
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| **Course Description and Prerequisites** | | | |
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| In this course, students will learn data science using the statistical programming language R, with a focus on political science applications. By the end of the course, students will be able to work with large datasets, build beautiful visualizations, make predictions, and conduct statistical analyses. | | | |
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| **Learning Outcomes or Course Objectives** | | | |
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| Students will be able to:  Understand the basics of computer programming using R as a learning platform  Manage large, messy political datasets using the tools in R’s tidyverse package  Create striking, informative visualizations of political data using R’s ggplot2 package | | | |
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| **Instructor Information** | | | |
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| Garrett Vande Kamp | Office Hours: Tuesday 2pm-4pm | | |
| garrettvandekamp@uga.edu | Baldwin 409 | | |
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| **Textbook and/or Resource Material** | | | |
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| Textbooks*:*  *Hands-On Programming with R*, Garrett Grolemund. <https://rstudio-education.github.io/hopr/index.html>  *R for Data Science,* 1st edition. Hadley Wickham and Garrett Grolemund. <https://r4ds.had.co.nz/index.html>  *Fundamentals of Data Visualization,* Claus Wilke. <https://clauswilke.com/dataviz/>  *R Graphics Cookbook,* 2nd edition. Winston Chang. <https://r-graphics.org/>  *ggplot2: Elegant Graphics for Data Visualization*, 3rd edition. Hadley Wickham, Danielle Navarro, and Thomas Lin Pedersen. <https://ggplot2-book.org/>  Software:  R. <https://cran.r-project.org/>  R Studio. <https://rstudio.com/products/rstudio/> | | | |
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| **Attendance Policy** | | | |
| The class will be taught in an in-person format, with exceptions occasionally made if the professor is travelling. Attendance is mandatory and will be taken in class for the instructor’s records through TopHat. Any student who misses more than 1/3 of class sessions will automatically fail the class. To download TopHat, visit <https://ctl.uga.edu/learning-technologies/student-response-systems/>  Make-up opportunities will only be provided for students with unforeseen, unavoidable absences. These opportunities will not excuse the absences; such absences will still count as a missed class session that can trigger automatic failure of the class. Foreseen and avoidable absences can schedule earlier assignment submission, if necessary. Unforeseen and unavoidable absences will require documentation for verification. COVID-19 does not merit any special exceptions to this policy.  In the absence of written authorization from the UGA Disability Resource Center, students may not make a visual or audio recording of any aspect of this course. In the event an authorization, the student and faculty must come to a written agreement that ensures recordings will only be used for personal academic use, not to violate the privacy of those in attendance nor to monetize off the content of the lectures. Violation of these terms may subject them to discipline under the Student Code of Conduct or subject them to liability under copyright laws. | | | |
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| **Grading Policies** | | | |
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| Weekly Projects 40%  Final Project 40%  Participation 20% | | | |
| Assignments will receive due dates. Unless otherwise specified in writing, all assignments that are due on scheduled class day will be due before class. These due dates are mandatory. Assignments turned in after class but on the due date will be subject to a 10% grade reduction. Late assignments after the due date will be accepted with a 15% grade reduction for each day it is late.  All assignments should include a copy of the code used to complete the assignment, in addition to any other materials required to complete the assignment. Submissions that do not include all necessary materials will be considered late and be subject to additional penalties.  **Weekly Projects**: Students will be grouped into project teams to complete weekly projects designed to reinforce the skills learned in the past week. The projects will be given on the first day of class each week and are due one week later. These projects are designed to be worked on both during the in-class breakout sessions as well as after-class as homework. Team members are expected to discuss the application of course content to the projects, clarify any uncertainty concerning a topic among team members, and assist in debugging procedures. At the beginning of the semester, weekly projects will consist of a single set of tasks that team members collectively contribute to completing; all team members will be evaluated by a single project submission. As the semester progresses, weekly projects will instead consist of a set of tasks for each team member to complete individually; each team member will be evaluated by their own unique project submission rather than a group submission.  **Final Project**: Students will be required to write a research paper on a topic of their choice. It will be due on the day and time of the final exam and take the place of the final exam. The paper will analyze an issue of political importance and engage in exploratory data analysis in order to learn about that issue. As part of their research paper, they will need to collect data relevant to their topic, clean data in to make it easy to analyze, and visualize basic relationships that are relevant to the project. Students will be required to submit their data and code alongside the final paper. Unlike the weekly project, each student is required to submit a unique, personal project of their own creation. Students are encouraged to seek help from their team members for brainstorming, proofreading, and debugging.  **Participation**: Students may occasionally be given assignments that are outside the scope of the above required assignments. These assignments will fall under a student’s participation grade.  At multiple points of the semester, students will be asked about the group dynamics of their project team and each individual’s overall contribution to it. Students who largely fail to contribute to weekly projects lose points on their participation grade. Students who display persistent behavior issues, either during class periods or when meeting with their assignment team, will also be docked on their participation grade. | | | |
| **Grading Scale** | | | |
| A = 90-100  B = 80-90  C = 70-80  D = 60-70  F = <60 | | | |
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| **Major Class Dates** | | | |
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| Monday-Friday, January 8-12: Add/Drop Period  Monday, January 15: MLK Jr. Day (No classes)  Monday-Friday, March 4-8: Spring Break (No classes)  Thursday, March 21: Withdrawal Deadline  Monday, April 29: Last Day of Class  Wednesday, May 1st (noon): Final Exam | | | |
| **Disability Accomodations**  If you plan to request accommodations for a disability, please register with the Disability Resource Center (DRC). The DRC can be reached by visiting Clark Howell Hall, by calling 706-542-8719 (voice) or 706-542-8778 (TTY), or by visiting http://drc.uga.edu | | | |
| **Mental Health and Wellness Resources** | | | |
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| * *If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit*[*https://sco.uga.edu*](https://sco.uga.edu/)*. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.* * *UGA has several resources for a student seeking mental health services (*[*https://www.uhs.uga.edu/bewelluga/bewelluga*](https://www.uhs.uga.edu/bewelluga/bewelluga)*) or crisis support (*[*https://www.uhs.uga.edu/info/emergencies*](https://www.uhs.uga.edu/info/emergencies)*).* * *If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (*[*https://www.uhs.uga.edu/bewelluga/bewelluga*](https://www.uhs.uga.edu/bewelluga/bewelluga)*) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.* * *Additional resources can be accessed through the UGA App.* | | | |
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| **Syllabus as a Contract** | | | |
| This syllabus is a contract between the professor and the individual student. Every student in this class receives an identical syllabus; therefore, every student in this class will be taught and evaluated in the same manner. This syllabus is unique to this class; therefore, the students in this class may not be taught and evaluated as students in other sections of this class, past or present, even if taught by the same professor. | | | |
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| **A Word of Thanks** | | | |
| Teaching is a difficult task, and even the creation of a course syllabus is difficult. I appreciate the help of all of my colleagues who have helped me along the way. I am also grateful to the students of previous courses whose feedback has helped me improve this syllabus.  That being said, this syllabus and the course materials referenced in it is the intellectual property of the instructor and subject to copyright law. Do not reproduce any course materials without explicit written permission. This includes lecture material; all recordings are prohibited. | | | |
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| **Expected Course Calendar**  The syllabus is a general plan for the course; deviations announced to the class by the instructor may be required. |
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| **Unit 1: Computer Programming**  **Week 1: Course Introduction**  **Week 2: Introduction to R Programming**  HOPR Part 1    **Week 3: Datasets in R**  HOPR Part 2  **Unit 2: Data Exploration**  **Week 4: Introduction to Data Visualization**  R4DS Chap 3  **Week 5: Descriptive Statistics**  R4DS Chap 5  **Unit 3: Data Management**  **Week 6: Importing Datasets**  R4DS Chaps 10-11  **Week 7: Managing Datasets**  R4DS Chaps 12-13  **Week 8: Advanced Data Types**  R4DS Chaps 14-16  **Week 9: Communicating with Data**  Readings TBD  **Unit 4: Data Visualization**  **Weeks 10 and 11: Types of Data Visualizations**  FDV Part 1  Graphics Cookbook, as assigned  **Weeks 12 and 13: Principles of Data Visualization**  FDV Part 2  Graphics Cookbook, as assigned  **Unit 5: Beyond the Fundamentals**  **Weeks 14 Forward: Flex Weeks** |