PADP7120: Data Applications in Public Administration

Spring 2021, Section 44502

Classroom: Calldwell Hall 305 (Distanced Capacity: 14)

Thursdays 7:00-9:45

Format: Hybrid Synchronous

INSTRUCTOR

Dr. Alex Combs

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Office Location: Baldwin Hall 278

Office Hours: By appointment

> "We should have aggressive and wild ambitions that are only anchored by plans, not by doubts."
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> - Stacey Abrams
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> "Plans are worthless, but planning is everything."
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> - Dwight D. Eisenhower

COURSE DESCRIPTION

Applications of data analysis techniques to problems in public management and policy. Special attention is devoted to instilling familiarity with software packages to solve public sector problems. Topics involve the entire data analysis workflow, including the collection and cleaning of data, description of data numerically and visually, and drawing conclusions from statistical inference using cross-tabulation, difference of means testing, and regression analysis.

COURSE OBJECTIVES

This course contributes toward the following MPA program competencies: 1) To participate in the Public Policy Process, 2) To analyze, synthesize, think critically, solve problems, and make decisions, and 3) Communicate with a diverse workforce and citizenry. By the conclusion of this course, students should be able to:

1. Analyze policy alternatives using quantitative tools to evaluate decisions and explain potential ramifications for diverse constituencies
2. Use various methods and analytical tools to analyze and interpret data to provide effective reasoning for decision making and policy creation
3. Concisely inform the public and other stakeholders of decision and initiatives through the presentation of data and research findings
4. Produce policy papers involving the synthesis of information, evaluation, and analysis of critical questions or problems currently facing the field of public administration and policy
5. Execute specific strategies to enhance equity within and representativeness of the public workforce to ensure all people with a government's jurisdiction are well served

TOPICAL OUTLINE

Data types and structures
Measurement validity & reliability
Data description
Data visualization
Regression analysis
Causation & bias
Sampling
Surveys & evaluations
Forecasting
Panel analysis

REQUIRED COURSE MATERIALS

There is a wealth of free material teaching statistics and statistical software. All required materials for this course are free. All readings and materials except software will be provided via eLC. Students who plan to use their own computers need to download the following software:

- R
- RStudio

Written instructions for downloading R and RStudio are available on eLC. Video tutorials are easily accessible on YouTube.

COURSE AVAILABILITY

This is a **hybrid synchronous** course. The UGA Registrar describes a hybrid synchronous course as, "A certain number of students (as determined by the classroom capacity) join the instructor on a rotating basis for socially-distanced, face-to-face instruction during each class session, with remaining students joining synchronously through Zoom (or some other secure platform) during assigned class hours. The class will meet at the regularly scheduled days/times, with some students attending in person on campus and some students attending via Zoom or remotely."

For each class meeting, as many students as our classroom can accommodate will be *invited* to attend face-to-face (F2F). If the number of students wanting to attend F2F regularly exceeds the capacity of the classroom, invitations will be made on a rotating basis. Students not in F2F attendance are encouraged to join synchronously via Zoom. However, synchronous attendance is optional throughout the semester. All graded components can be completed online without attending class synchronously so as to minimize any disadvantage students with insufficient internet connections may face. Class meetings will be designed to reinforce course concepts and skills covered in online materials through discussion, activities, and supervised software practice.

COURSE EXPECTATIONS & POLICIES

Disclaimer

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

Attendance & Late Work

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Students are encouraged to attend and participate in all class meetings either F2F or synchronously via Zoom, but doing so is not a requirement. Absences do not need to be excused. All graded components can be completed online without attending class meetings, though class meetings will facilitate successful completion of graded assignments. Assignment deadlines will be enforced regardless of attendance. Late work without any known, acceptable excuse will receive no credit. If circumstances arise that prevent you from submitting work on time, let me know as soon as possible, and I will work with you to arrive at a solution that is as fair to you, me, and other students as possible.

R Chapters

Most weekly reading assignments will involve an R Chapter. Each R Chapter provides instructions on how to apply concepts and skills in R that are relevant to that week's topic, then asks you to answer a few practice questions. R Chapters will be graded pass/fail based on whether you submit a good faith effort prior to the class period to which the R Chapter was assigned. The primary purpose of R Chapters is to provide you an opportunity to self-evaluate your understanding of R. Once you upload your answers, sample answers will become available at R Chapter Answers (/d2l/common/dialogs/quickLink/quickLink.d2l?ou=2215854&type=content&rcode=usgq-20280318). You are encouraged to compare your answers to my answers prior to class. If your answers deviate from my own and you do not understand why, ask a question about it during class.

R Labs

Most class meetings will include a lab component that covers applied skills in R. I will provide instructions, prompts for you to practice the skill, and assistance when needing to troubleshoot. R Labs will be graded pass/fail. If you attend class and participate in the R Lab, you will receive full credit regardless of accuracy and completeness. If you choose not to attend class, you are welcome to complete and submit R Labs for full credit if done

accurately and uploaded to eLC by the end of the day.

Problem Sets

Students are expected to complete three problem sets during the semester. Problem sets will include a combination of conceptual and applied questions that require the use of R. Up to three students may work together on problem sets. Groups are encouraged to work together synchronously rather than remotely on separate parts. If you are worried about your capacity to learn R, I encourage you to partner with those who consider learning R a potential strength of theirs as long as all agree each member can make a sufficient contribution. Problem sets will be graded on a 0-100 scale.

Exams

Students are expected to complete a midterm and final exam during the semester. The exams will focus entirely on concepts covered in the course, not use of R. The exams will evaluate students on their understanding of theory and correct practices regarding data description and inference, as well as their ability to interpret and communicate statistical information and make decisions.

DataCamp Chapters (Optional/Extra Credit)

Students of this course receive a free account to DataCamp (https://www.datacamp.com). DataCamp contains numerous interactive exercises that can help you build conceptual understanding of statistics and skills in R. The course schedule provides a list of DataCamp chapters that are relevant to the topics covered each week. The DataCamp chapters are optional but worth extra credit. To see how this extra credit will be applied, go here: DataCamp Chapter Logistics (/d2l/common/dialogs/quickLink/quickLink.d2l?

ou=2215854&type=content&rcode=usgq-18629252).

Academic Honesty

As a University of Georgia student, you have agreed to abide by the University's academic honesty policy, "A Culture of Honesty," and the Student Honor Code. All academic work must meet the standards described in "A Culture of Honesty" found here (http://honesty.uga.edu/). The Academic Honesty Policy can be found here (https://honesty.uga.edu/Academic-Honesty-Policy/).

Accommodations Due to Disability

Students who seek special accommodations due to a disability should contact me during the first week of the semester or as soon as the need for the accommodation is discovered. I will work with the Disability Resource Center (706-542-8719, http://drc.uga.edu/ (http://drc.uga.edu/)) to provide appropriate accommodations.

Mental Health and Wellness Resources

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) or crisis support (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) 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.

FERPA Notice

The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar's explanation here (https://osas.franklin.uga.edu/ferpa-and-privacy). FERPA allows disclosure of directory information (name, address, telephone, email, date of birth, place of birth, major, activities, degrees, awards, prior schools), unless the following form (https://reg.uga.edu/_resources/documents/imported/FERPARequestForRestriction.pdf) is submitted to the Registrar's Office.

COVID-19 Resources

Both UGA and SPIA have developed resources useful for our community on topics ranging from newly configured bus routes (https://tps.uga.edu/bus) to SPIA Dean Auer's COVID safety video to students, viewed here (https://youtu.be/MOrebZ7M5Sk). The most comprehensive campus information resource related to COVID is accessible here (https://coronavirus.uga.edu/). Everyone has a critical role to play as we work together to protect the health and safety of every member of the Bulldog Nation. Become familiar with the following regarding how we can all be responsible citizens and navigate the fall semester as safely as possible:

- **Face Coverings:** Effective July 15, 2020, the University of Georgia—along with all University System of Georgia (USG) institutions—requires all faculty, staff, students and visitors to wear an appropriate face covering while inside campus facilities/buildings where six feet social distancing may not always be possible. Face covering use is in addition to and is not a substitute for social distancing. Anyone not using a face covering when required will be asked to wear one or must leave the area. Reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons. Students seeking an accommodation related

to face coverings should contact Disability Services (https://drc.uga.edu/).

- **DawgCheck:** Please perform a quick symptom check each weekday on DawgCheck (https://dawgcheck.uga.edu/)—on the UGA app or website—whether you feel sick or not. It will help health providers monitor the health situation on campus.
- **What do I do if I have symptoms?** Students showing symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5 p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see crisis support (https://www.uhs.uga.edu/info/emergencies).
- **What do I do if I am notified that I have been exposed?** Students who learn they have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for 10 days consistent with Department of Public Health (DPH) and Centers for Disease Control and Prevention (CDC) guidelines. Please correspond with your instructor via email, with a cc: to Student Care & Outreach at sco@uga.edu (mailto:sco@uga.edu), to coordinate continuing your coursework while self-quarantined. If you develop symptoms, you should contact the University Health Center to make an appointment to be tested. You should continue to monitor your symptoms daily on DawgCheck.
- **How do I get a test?** Students who are demonstrating symptoms of COVID-19 should call the University Health Center. UHC is offering testing by appointment for students; appointments may be booked by calling 706-542-1162. UGA will also be recruiting asymptomatic students to participate in surveillance tests. Students living in residence halls, Greek housing and off-campus apartment complexes are encouraged to participate.
- **What do I do if I test positive?** Any student with a positive COVID-19 test is required to report the test in DawgCheck and should self-isolate immediately. Students should not attend classes in-person until the isolation period is completed. Once you report the positive test through DawgCheck, UGA Student Care and Outreach will follow up with you.

ASSIGNMENTS

Your final grade will be based on the following (DataCamp extra credit excluded):

Assignment	Percent Weight
R Chapters (9)	10
R Labs (10)	10
Problem Sets (3)	40
Midterm Exam	20
Final Exam	20

Grading Scale

Letter Grade	Percentage
A	93-100
A-	90-92
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	73-76
C-	70-72
D	65-69
F	64 and below
I	Incomplete