

**URPL 6225: Urban Policy Analytics**

Department of Urban and Regional Planning
College of Architecture and Planning
University of Colorado Denver

Instructor

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Course Logistics

Name: (URPL 6225) Urban Policy Analytics
Canvas: <https://ucdenver.instructure.com/courses/451085>
Term: Spring 2021
Class Meeting Days: Tuesday
Class Meeting Hours: 9:30AM - 12:15PM
Class Location: <https://ucdenver.zoom.us/j/94275403203>
Or, find your local number: <https://ucdenver.zoom.us/u/ajfCMFJEQ>

This course borrows from the syllabi of Dr. Jake Wegmann (CRP 381M, Fall 2018, UT Austin) and Dr. Erick Guerra (CPLN 501, Fall 2019, U Penn).

COURSE OVERVIEW**1. Welcome!**

We live in a world overflowing with data. These data can be qualitative (images, text, spoken words, etc.) or quantitative (numbers). A debate exists around what is considered robust – is the spoken word of a few individuals during a focus group more important than the survey data of hundreds? What might various forms of data enable you to decipher? As you go through your careers, you will be required to make judgments about the quality of data, how it can be (or was) collected, how representative is it, and what can data tell you. This course will help you identify various publicly available datasets and teach you methods to analyze numerical data. The overall idea behind this course is to make you data literate.

2. University Course Catalog Description

This course teaches quantitative analysis techniques to answer questions about Planning. Topics include population/economic forecasting, analysis of census data, research design, and survey design. Relying on the software R, students learn how to manage datasets and run bivariate/multivariate statistical analysis. Prereq: URPL 5010 - Planning Methods or instructor's permission. Max Hours: 3 Credits.

3. Course overview

This lab-based course will teach the statistical skills required to examine urban policy issues. Please see page 3 for a full list of topics. We will work with cross-sectional data and rely on R-Studio software. No prior experience with R-Studio is required. To succeed, you are required to keep up with the labs and homework, attend all lectures, and actively work with the instructor/s to develop your term paper.

4. Course Goals and Learning Objectives

Goals: The overall goal of this course is to make you data literate. You will build skills including advanced spreadsheet analysis and rigorous statistical testing. You will become familiar with publicly available datasets and learn how to operate preliminary statistical tools.

Learning Objectives: At the end of this course students will:

- Become familiar with multiple databases related to Planning
- Learn how to compute changes in the population and the economy
- Learn about survey/research design and sampling
- Conduct appropriate statistical tests
- Learn basic regression analysis
- Learn how to operate an open-source software (R-studio)
- Evolve a policy question that can be answered using publicly available data in a time-constrained setting

5. Course Prerequisites

Based on URPL 5010, you are expected to understand the basics of data, such as levels of measurement, database structures, etc.

6. Course Credits

3 Units

7. Required Texts and Materials

- Ewing, Reid H., and Keunhyun Park, eds. 2020. *Basic Quantitative Research Methods for Urban Planners*. APA Planning Essentials. New York, NY ; Abingdon, Oxon: Routledge. You have access to this book through Auraria Library at <http://skyline.ucdenver.edu/record=b4021584~S0>

8. Supplementary (Optional) Texts and Materials

- Wheelan, C. J. (2013). *Naked statistics: Stripping the dread from the data* (1st Edition). W.W. Norton.
- Best, J. (2008). *Stat-spotting: A field guide to identifying dubious data*. University of California Press.
- Lane, D. et al. (2019). *Online Statistics Education: An Interactive Multimedia Course of Study* (available free at <http://onlinestatbook.com/2/>)
- Venables, W., Smith, D., and R Core Team (2020). *An Introduction to R* (available free at <https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf>)

9. Course Schedule

Wk	Date	Topic (Chapter to read)	Term paper deliverables	La bs
1	19-Jan	Course introduction + Why study quantitative reasoned policy analysis?		1
2	26-Jan	Introduction to R-Studio + Measures of central tendency and dispersion (Guest: Erin Nobler) (Chapter 7)		2
3	2-Feb	Chi Square and Correlation (Chapters 8 and 9)	Initial term paper abstract due + Term paper discussion #1 (2 points)	3
4	9-Feb	t-Tests and ANOVA (Chapters 10 and 11)		4
5	16-Feb	Regression analysis for continuous outcome variables (e.g., building heights) (Chapter 12)		5
6	23-Feb	Regression analysis for binary outcome variables (e.g., Travel mode is bus versus rail) (Chapter 13)		6
7	2-Mar	An introduction to censuses	Term paper discussion #2 (3 points)	
8	9-Mar	Research design and methods (Chapter 3)		
9	16-Mar	Survey design		
10	23-Mar	Causal inference and sampling (Chapter 6)	Updated term paper abstract due + Term paper discussion #3 (4 points)	
11	30-Mar	Population forecasting		7
12	6-Apr	Computing economic change		8
13	13-Apr	Comparing places using publicly available data		9
14	20-Apr	Spring break (no class)		
15	27-Apr	Data representation	Term paper Analytics due + Term paper discussion #4 (5 points)	
16	4-May	Working session for term paper	Term paper DRAFT due	
17	11-May	Final term paper due by 12:15PM (Finals week – no class)		

EVALUATION

10. Assignments

Students enrolled in URPL 6225 are required to finish the labs/assignments and term paper individually. This class has no written exam but the workload requires students to budget around 6 hours weekly for the class, especially for lab assignments, term paper development, and paper writing. The laboratory exercises and assignments are integral parts of the course and help illuminate the principles of policy analysis.

Labs/Assignments: The course has nine (9) labs that are run during class, and nine (9) homework assignments associated with the labs that have to be submitted on Canvas as Microsoft Word documents. This format allows the instructor to grade and comment on your homework directly. All labs and assignments will be available on Canvas at start of class, and the assignments will be due at the start of the following week's class session. These labs constitute a bulk of the workload during class hours. Lab time is critical and gives an opportunity for one-on-one instruction. You will get most help during lab hours—both for your labs and the term paper (see below). Students cannot collaborate on labs or homework assignments. Plagiarism will not be tolerated. Your ability to use statistical tools and the quality of your term paper will benefit from attending and finishing each lab and assignment individually.

Term Paper: Students are encouraged to find policy-based stories to seek inspiration for the term project. The idea is to use data from one time point and find differences between groups. (Note that analyzing effects across multiple time points requires more advanced analytical techniques that are not covered in this course.)

You must identify one issue to focus on as a term paper. You are required to formulate an argument, relying on publicly available data, run analyses, and present the output as a term paper. The purpose of the term paper is to give you a chance to apply all of the tools you learn in the class to an area of your interest. You should start analyzing the datasets you will need and gaining some insights for your paper while completing the assignments. Soon after learning the tools each week, you are expected to take a lead on incrementally preparing your final paper analysis. The instructor will be available in class and during office hours to discuss issues. Further details about expectations for each deliverable will be provided during the course.

A focus on critical thinking with analysis must be evident in the work produced. Students are required to produce a 4,000-6,000 word single-spaced term paper. Further instructions will be provided during the semester.

Class Participation: In order to encourage you to share your thoughts and ideas with the class, 5% of your course grade will be determined by the quality and quantity of your participation in various course activities. You can earn participation credits by answering questions, asking questions, or commenting in class; or by posting to discussions on the class website. As a result, attendance/engagement will have an impact on your grade.

11. Basis for Final Grade

Assessment	Points Possible	Percent of Final Grade
Homework assignments	9 labs \times 7 points each = 63 points	63%
Term paper	4 discussions (14 points) + Final Paper (18 points)	32%
Attendance / Participation	5 points	5%
Total	100	100%

This course uses the grading scale of the university and the MURP Department:

Letter	Definition
A (94 to 100) A- (90 to 93)	Exceptional scholarship and superior work products that significantly exceed stated requirements in scope and/or quality
B+ (87 to 89) B (84 to 86) B- (80 to 83)	Commendable scholarship and accomplished work products that somewhat exceed stated requirements in scope and/or quality
C+ (77 to 79) C (74 to 76) C- (70 to 73)	Satisfactory scholarship and work products that meet or almost meet stated requirements in scope and/or quality
D+ (67 to 69) D (65 to 66) D- (60 to 63)	Inadequate scholarship and inferior work products that clearly fail to meet stated requirements in scope and/or quality
F (59 or lower)	Unacceptable scholarship and work product

12. Grade Dissemination

Graded tests and assignments in this course will be returned via the Canvas course shell. Please note that the total computed at each stage on Canvas is not the final total but rather reflects the percentage you have earned for the assignments graded until date. Importantly, your participation and attendance can affect the final grade significantly.

COURSE PROCEDURES**13. Course Policies**

Attendance Policy: The instructor has not designed this course to learn the material asynchronously. Students are expected to attend all sessions, participate in class, and finish all the assignments. Students are expected to arrive on time for all sessions and meetings. The instructor will note absences from class. If you have compelling reasons to be away from class, please let the instructor know of the reason and dates you will be away.

Late Work Policy: Late submissions will carry a penalty as follows:

After deadline but before 12 hours from deadline: Penalty is 25% marks

After 12 hours but before 24 hours from deadline: Penalty is 50% marks

After 24 hours but before 48 hours from deadline: Penalty is 75% marks

Your submissions will be online and date stamped by the server. No late submissions will be accepted after two days from deadline.

For an excused absence where the cause is religious belief, a student must contact the instructor within two weeks of the start of classes to request accommodation for the term. Instructor may request adequate documentation to substantiate the student request.

A student who cannot complete one of the course assignments due to incapacitating illness, severe domestic affliction, or other compelling reason should contact the instructor via e-mail as soon as possible. The weight of the missed assignment will be added to the term paper final deliverable.

A student who cannot submit the final term paper due to incapacitating illness, severe domestic affliction, or other compelling reason can apply to the instructor for an extension. Such an application must be made to the instructor within 24 hours of the missed deadline and must be supported by appropriate documentation. If an extension is granted, the term paper will be due on Friday 14th May, 2021 at 12:15PM. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted.

Grades of “Incomplete”: The current university policy concerning incomplete grades will be followed in this course. Incomplete grades are given only in situations where unexpected emergencies prevent a student from completing the course; students have up to one year (three semesters) to complete course requirements. The instructor is the final authority on whether you qualify for an incomplete. Incomplete work must be finished within the time allowed or the “I” will automatically be recorded as an “F” on your transcript.

14. Technology and Media

Email: If you have a question for the instructor you can email him at manish.shirgaokar@ucdenver.edu. Please state in the subject line URPL6225 and say briefly what the email is about. I will do my best to respond to an e-mail received from Monday morning through Friday morning within 24 hours, and by midday Monday morning for an e-mail received after Friday morning. The same goes for questions posed via Canvas.

Canvas: We will use Canvas for this course. All announcements, assignments, and discussions for this course are conducted via Canvas. Students are expected to log into the Canvas website at least once every 2-3 days to keep up with the class.

Recording course content: The course may not be recorded in audio or video format for any reason except with the explicit permission of the instructor. Due to the online nature of this course during Spring 2021, the instructor will record the lecture component of the sessions and share the recordings via OneDrive.

15. Student Expectations regarding Civility:

Students come from a wide variety of backgrounds and bring enormously varying life experiences, perspectives, and opinions with them. I pledge to strive to do my best to be cognizant and respectful of those differences, and I hope that you will join me in doing the same. You should always feel free to express your opinion, whether you agree or disagree with something that I or another student have said, or if you feel that something that has not been discussed needs to be said. Just remember the difference between disagreeing with someone and being disagreeable. With an open mind, hard work and a little bit of luck, we will all learn from each other, work together, and maintain the classroom as a place of civility and learning.

CU Denver Student and Community Counseling Center: The Student and Community Counseling Center is located in Tivoli 454 and provides cost-free and confidential mental health services to help students manage personal challenges that impact emotional or academic wellbeing. You can learn more at <https://www.ucdenver.edu/counseling-center> or by calling (303) 315-7270.

Professionalism: In an off-campus environment, some level of disruption is normal but please try to keep yourself muted if you expect noise in your work environment. I do not expect you to keep your cameras on unless you want to.

UNIVERSITY POLICIES

16. Access

Disability Access: The University of Colorado Denver is committed to providing reasonable accommodation and access to programs and services to persons with disabilities. Students with disabilities who want academic accommodations must register with Disability Resources and Services (DRS) in the Student Commons Building, Suite 2116, Phone (303) 315-3510, Fax (303) 315-3515, or via email DisabilityResources@ucdenver.edu. See <https://www.ucdenver.edu/offices/disability-resources-and-services>. I will be happy to provide approved accommodations once you provide me with a copy of DRS's letter.

17. Academic Honesty

Student Code of Conduct: Plagiarism is the use of another person's ideas or words without acknowledgement. The incorporation of another person's work into yours requires appropriate identification and acknowledgement. Examples of plagiarism when the source is not noted include: word-for-word copying of another person's ideas or words; the "mosaic" (interspersing your own words here and there while, in essence, copying another's work); the

paraphrase (the rewriting of another's work, while still using their basic ideas or theories); fabrication (inventing or counterfeiting sources); submission of another's work as your own; and neglecting quotation marks when including direct quotes, even on material that is otherwise acknowledged.

UC Denver has a license agreement with Turnitin.com, a service that helps detect plagiarism by comparing student papers with Turnitin's database and Internet sources. Students who take this course agree that all required papers may be submitted to Turnitin. While students retain copyright of their original course work, papers submitted to Turnitin become part of the Turnitin's reference database for the purposes of detecting plagiarism.

18. Nondiscrimination and Sexual Misconduct

The University of Colorado Denver is committed to maintaining a positive learning, working and living environment. University policy and Title IX prohibit discrimination on the basis of race, color, national origin, sex, age, disability, pregnancy, creed, religion, sexual orientation, veteran status, gender identity, gender expression, political philosophy, or political affiliation in admission and access to, and treatment and employment in, its educational programs and activities.

University policy prohibits sexual misconduct, including harassment, domestic and dating violence, sexual assault, stalking, or related retaliation. If you have experienced some sort of sexual misconduct or discrimination please visit the Office of Equity/Title IX web site to understand the resources available to you or contact the Office of Equity/Title IX Coordinator (303) 315-2567.

19. Important Dates to Remember

Academic Calendar: Please review the academic calendar for important dates available at https://www1.ucdenver.edu/docs/librariesprovider122/academic-calendars/spring-2021-printable-11182020.pdf?sfvrsn=57184b9_2

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