

47:202:302: Data Analysis in Criminal Justice

Fall 2022

COURSE INFORMATION

Instructor Information:

Instructor: Professor Valerio Baćak, PhD

Email: valerio.bacak@rutgers.edu

Office Hours: Wednesdays, 3-4pm on Zoom* and in person.

Meeting Times: The course will be taught online and asynchronously.

Teaching Assistant: Sarah Marks

Email: sm2478@scarletmail.rutgers.edu

Virtual Office Hours: Tuesdays, 2-3pm on Zoom†.

How to ask Questions?

When you have comments, concerns, or questions about the course, Canvas, assignments, or anything else related to the course, first write your question on the discussion forum. This way other students can see the answer from the instructor, or they can help you find the answer. It is also an opportunity to engage in discussion with your peers.

Our Commitment as Partners in Learning:

In this course, we will be inclusive in terms of race, ethnicity, disability, gender identity, sexual orientation, socioeconomic status, national origin, or political affiliation. We learn best when we are curious about and respect perspectives and experiences different from our own.

Course Overview:

This course examines the various types of data used within criminal justice and the fundamentals of statistics and analysis. It also provides an analysis of the appropriate use of data, the limits of various methods, how data is collected, and how to interpret findings. Policy implications of data will also be discussed.

* <https://rutgers.zoom.us/j/95186542942?pwd=enpXLzNPREVJVWNFTnU4Y080dDV6dz09> (password: da2022)

† <https://us04web.zoom.us/j/2721212892?pwd=QTUvNDYzaid6dk1HMmVYR2FsVkc2UT09> (password: Q8RmsM)

Credits: 3

Prerequisites: 21:62:202:301 and the basic undergraduate math requirement.

B.S., Criminal Justice Program Learning Goals: Upon completion of the B.S. in Criminal Justice at Rutgers University-Newark, students should be able to:

1. Describe the development and functions of major criminal justice institutions (e.g., police, courts, corrections, and juvenile justice), the activities of actors within these institutions, and how they relate to one another as well as the broader social, political, and economic world.
2. Describe the mechanisms, correlates, theoretical underpinnings, and situational contexts of crime, criminal behavior and opportunity, and techniques for prevention and treatment.
3. Apply and analyze theories related to the policies and practices of the criminal justice system and its major institutions.
4. Demonstrate the ability to gather, explain, and apply empirical research in the field of criminal justice.
5. Obtain a comprehensive knowledge about the process of conducting criminal justice research, and develop the skills to conduct criminal justice research with appropriate methodologies.

Course Learning Objectives:

Upon completion of this course, you should be able to:

1. Define the main characteristics of research designs
2. Distinguish the levels of measurements and types of variables
3. Choose, apply and correctly interpret summary measures
4. Visualize distributions of continuous and categorical variables
5. Calculate and interpret measures of association
6. Explain the principles of statistical inference
7. Test hypotheses using bivariate analytic techniques
8. Conduct basic statistical analyses by hand and using computer software.

Required Readings:

Gau, J. (2016). [Statistics for Criminology and Criminal Justice](#). London: SAGE Publications.

We will use the second edition, but any edition is acceptable. You can buy a used copy or rent one online; prices start at \$7.25. Chapters for the first two weeks will be available for download on Canvas as PDF files. Additional reading materials will be made available on Canvas.

Computing:

We will use the free software for statistical analysis R via RStudio, but you don't have to install these programs until we start using them in Module 6 (week 7 of the semester).

Download R: <https://mirror.las.iastate.edu/CRAN/>

Download R Studio: <https://www.rstudio.com/products/rstudio/download/#download>

To help you with installing R and R Studio on your personal computers, see these instructions:

<https://rstudio-education.github.io/hopr/starting.html>

If you have trouble installing R and R Studio on your personal computers, you can use R and R Studio for online on the website below, without installing anything on your computer. You just need to open a free account and upload the data that you will be analyzing.

<https://rstudio.cloud/>

Course Structure:

The course will be taught online and asynchronously. All course materials will be posted on Canvas on a weekly basis as modules. The modules will be made available by noon on Monday of each week. Lectures will be pre-recorded and posted on Canvas.

Course Schedule (subject to change)

Week	Class Topic	Readings
1	Statistics and data analysis in criminal justice and criminology	Chapter 1
2	Data, variables, levels of measurement, causality	Chapter 2
3	Organizing, displaying, and presenting data	Chapter 3
4	Averages or measures of central tendency	Chapter 4
5	Variation in the data or measures of dispersion	Chapter 5
6	Introduction to R and data analysis	TBA
7	Graphs and charts	TBA
8	Data visualization in R	TBA
9	Data management in R	TBA
10	Hypothesis testing: A conceptual introduction	Chapter 9
11	Hypothesis testing with two population means or proportions	Chapter 11
12	Hypothesis testing with two continuous variables: Correlation	Chapter 13
13	Introduction to regression analysis	Chapter 14
14	Correlation and regression analysis in R	TBA

Course Assessment and Grading

The final grade will be assessed based upon your performance on weekly quizzes and homework assignments. Because there will be fewer homework assignments, and because they will require more work and effort, homework assignments will carry more weight in grading than the quizzes.

Weekly quizzes (50%):

You are expected to do the readings and watch lectures regularly—on a weekly basis. Knowledge of these materials will be tested using weekly quizzes on Canvas.

The quizzes will have to be completed by Sunday at midnight the week during which the module was released. That means you have a week to complete the quiz.

Homework assignments (50%)

There will be three or four homework assignments during the semester. You are allowed to work in pairs or in small groups on the assignments. While joint results may be reported, each student must provide his or her own interpretations of the findings. The assignments will be significantly more challenging than the quizzes; they will include programming (writing code) to analyze real data using R and R Studio software.

The following grading scale will be used for this course:

A	4.0	90-100%	Outstanding
B+	3.5	87-89%	
B	3.0	80-86%	Good
C+	2.5	77-79%	
C	2.0	70-76%	Satisfactory
D	1.0	60-69%	Poor
F	0.0	<60%	Failure

Late or Missing Assignment Policy:

Late assignments will not be accepted unless you have given prior notification and approval has been granted by the instructor or the teaching assistant.

You can notify the instructor, or the teaching assistant, that you will be late with the assignment or quiz by sending them an email or a Canvas message.

You can miss one quiz (not homework assignment) without asking for approval—this quiz will not be counted toward your grade.

COURSE POLICIES

Academic Integrity

As a member of the Rutgers University community you are not to engage in any academic dishonesty. You are responsible for adhering to basic academic standards of honesty and integrity as outlined in the Rutgers University Policy on Academic Integrity for Undergraduate and Graduate Students <http://studentconduct.rutgers.edu/academic-integrity>

Your academic work should be the result of your own individual effort, you should not allow other students to use your work, and you are required to recognize and reference any material that is not your own. Violations of the university's policy will result in appropriate action.

COVID-19 Protocols:

Face coverings: Face coverings are required in all indoor teaching spaces, libraries, and clinical settings. Compliance is mandatory.

Vaccines and boosters: All students and employees are required to be fully vaccinated, obtain a booster when eligible, and upload records to the university vaccine portal.

Accommodation and Support Statement

Rutgers University Newark (RU-N) is committed to the creation of an inclusive and safe learning environment for all students and the University as a whole. RU-N has identified the following resources to further the mission of access and support:

For Help with Technology. You can find resources and help to prepare yourself for technological aspects of taking an online course here: <https://runit.rutgers.edu/technology-launch-pad/>.

For Individuals Experiencing Disability: The Office of Disability Services (ODS) works with students with medical, physical, and/or mental conditions who encounter disabling barriers in order to determine reasonable and appropriate accommodations for access. Students who have completed the process with ODS and have approved accommodations are provided a Letter of Accommodation (LOA) specific to each course. To initiate accommodations for their course students must both provide the LOA to and have a conversation with the course instructor about the accommodations. This should occur as early in the semester as possible. More information can be found at the [RU-N ODS website \(ods.newark.rutgers.edu\)](https://ods.newark.rutgers.edu). Contact ODS at (973) 353-5375 or via email at ods@newark.rutgers.edu.

For Individuals who are Pregnant: The Office of Title IX and ADA Compliance is available to assist with any concerns or potential accommodations related to pregnancy. Students may contact the Office of Title IX and ADA Compliance at (973) 353-1906 or via email at TitleIX@newark.rutgers.edu.

For Short-term Absence Verification: The Office of the Dean of Students can provide assistance for absences related to religious observance, emergency or unavoidable conflict (illness, personal or family emergency, etc.). Students should refer to [University Policy 10.2.7](#) for information about expectations and responsibilities. The Office of the Dean of Students can be contacted by calling (973) 353-5063 or emailing deanofstudents@newark.rutgers.edu.

For Individuals with temporary conditions/injuries: The Office of the Dean of Students can assist students who are experiencing a temporary condition or injury (broken or sprained limbs, concussions, or recovery from surgery). Students experiencing a temporary condition or injury should submit a request using the following link: <https://temporaryconditions.rutgers.edu>.

For Gender or Sex-Based Discrimination or Harassment: The Office of Title IX and ADA Compliance can assist students who are experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking. Students can report an incident to the Office of Title IX and ADA Compliance by calling (973) 353-1906 or emailing TitleIX@newark.rutgers.edu. Incidents may also be reported by using the following link: tinyurl.com/RUNReportingForm. For more information, students should refer to the University's Title IX Policy and Grievance Procedures located at <https://uec.rutgers.edu/wp-content/uploads/60-1-33-current-1.pdf>

For support related to Interpersonal Violence: The Office for Violence Prevention and Victim Assistance (VPVA) can provide any student with confidential support. The office does not have a reporting obligation to Title IX. Students can contact the office by calling (973) 353-1918 or emailing run.vpva@rutgers.edu. There is also a confidential text-based helpline available to students; students can text (973) 339-0734 for support. Students do not need to be a victim/survivor of violence; any student can receive services, information and support.

For Crisis and Concerns: The Campus Awareness Response and Education (CARE) Team works with students in crisis to develop a plan of support plan and address personal situations that might impact their academic performance. Connect with the CARE Team by using the following link: tinyurl.com/RUNCARE or emailing careteam@rutgers.edu.

For Stress, Worry, or Concerns about Well-being: The Counseling Center has confidential therapists available to support students. Students should reach out to the Counseling Center to schedule an appointment: counseling@newark.rutgers.edu or (973) 353-5805. If students are not quite ready to make an appointment with a therapist but are interested in self-help, check out *Sanvello* for an easy, web-based approach to self-care and support. Visit <https://my.rutgers.edu/>, click on Sanvello: Wellness @ RUN, and log in with your netid to begin your journey toward wellness.

For emergencies, call 911 or contact Rutgers University Police Department (RUPD) by calling (973) 353-5111.

If you are interested in finding out more about

- Accelerated Master's Program (B.S. /M.A.)
- Criminal Justice National Honor Society (Alpha Phi Sigma)

Please refer to the School of Criminal Justice website <http://rscj.newark.rutgers.edu/>

Follow us, to stay up to date! @SCJ_apps



