



47: 202: 302 Data Analysis in Criminal Justice
3 Credits
Fall 2018

Mondays & Thursdays
1pm – 2:20pm

I. Course Information

Instructor Information:

Instructor: **Cristhian C. Altamirano**

Email: *crithia@scj.rutgers.edu*

Office Hours: *By appointment and via Google Hangouts (email to set up time)*

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.

Prerequisite:

Prerequisite: 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:

Course Learning Goals:

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. Understand 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:

Open Affordable Textbook: <http://vassarstats.net/textbook/>

Course Requirements:

Calculator and writing utensils at all times to practice statistics. Phones will not be allowed for calculator use for quizzes or exams.

Course Structure:

Discussion based with lecture. I expect students to do the reading before coming to class.

II. Course Schedule

Week	Topic(s)	Readings & Assignments
Week 1	Course logistics, Experimental Design and scales of measurements	Chapter 1
Week 2	Frequencies and histograms/polygons	Chapters 1 & 2 Quiz 1
Week 3	Distributions and Central Tendency	Chapter 2
Week 4	Correlation (Pearson r)	Chapter 3 Quiz 2
Week 5	Exam 1	Exam 1
Week 6	Sampling Distributions, Statistical Error, Degrees of Freedom and Hypothesis Testing	Chapter 9 Quiz 3
Week 7	[One Sample] Z-tests and standardized distributions	Chapter 9
Week 8	Independent & Dependent t -tests	Chapters 11 & 12 Quiz 4
Week 9	One sample t -test	Chapters 11 & 12
Week 10	Exam 2	Exam 2
Week 11	Chi-Squares	Chapter 8 Quiz 5
Week 12	Statistics & Physical, Economical and Social Life	In-class video
Week 13	One way ANOVA	Chapter 14 Letter
Week 14	Repeated-Measure ANOVA and Factorial Designs	Outside reading Quiz 6
Week 15	Wrap-up & Final Exam Review	
Finals Period	Final Exam (THURS, DEC 20 from 3 – 6pm)	Final Exam

III. Course Assessment and Grading

The final grade will be assessed based upon your performance on the following:

Grades will be broken down into the following categories: quizzes and exams. Grades are available to you via Blackboard throughout the semester. This course is offered to you at 3 credits, meaning you are expected to put in 3 hours of work in class, every week, and anywhere between 6-9 hours of work outside of class. As such, the work assigned for the class is reasonable. Remember, I am trying to make you a better graduate (prospective) student or scholar. Quantitative skills make or break applications/interviews.

Quizzes (40%): There will be 6 quizzes throughout the semester, presented every other week on Thursday. The quizzes are here to assess whether or not you are prepared for the lecture. Quizzes will be multiple choice and short answer, and will consist of 8 questions. Questions are not difficult nor meant to trick you, but rather test the basic skills and knowledge you should have extracted from the text. Your lowest quiz will be dropped, meaning that each quiz is worth 8% of your final grade. Quizzes will be given out at the beginning of the lecture and collected within 15 minutes on Thursdays. Coming in late will not benefit you. These quizzes will prepare you for the exams.

Exams (60%): Exam questions will be a mixture of short answer and open ended questions. I expect full sentences to be used where necessary. Open ended questions will challenge you critically to think and see how statistics could be applied. Each exam has a total of 30 questions (.5 point each). The final exam is

weighed more since it is your *final* exam (30 questions). The final exam will be cumulative. I will provide you with the exact topics that the final exam will cover. Exam 2 is not cumulative, however. Formulas provided at the end of the exam, always. No extra paper provided.

Once the first student finishes and hands in their exam, no one coming in late will be allowed to take the exam. I HAVE to do this to prevent cheating and must assign a 0 for your test grade. Be responsible and come on time.

(Exam 1 =15%, Exam 2 = 15%, Final Exam =30%)

- Attendance:

Missing 3 or more classes will result in automatic failure of the course.

The following grading scale will be used for this course:

A	90–100%
B+	85-89%
B	80-84%
C+	75-79%
C	70-74%
D	60-69%
F	<60%

Late or Missing Assignment Policy:

No quizzes or exams will be allowed to be made up. Come on time and take the assessments.

IV. Course Policies

Classroom Rules

I look forward to having an exciting, productive, and fun section through the partnership we will form as a team. In order for this section to run as effectively as possible, please take a moment to read the following rules:

1. **Cell phones and laptops:** We are in a day and age where technology plays an important part in our lives. While I do not ban cell phones and laptops, do not be on your phones, as it is very disrespectful to your peers and me. Laptops should be used for note-taking only. I reserve the right to ban laptops should I sense shenanigans.
2. Respect everyone in the section! I cannot stress enough how important it is to effectively listen and respond to your classmates appropriately. The key to this course is participation. You do not want to intimidate anyone from doing so because of your harsh criticism towards someone's opinion/answer. Any disrespectful comments will be dealt with immediately. Remember, we are here to learn and go over the material together.
3. Statistics is something that may frustrate some of you at times, but this is never an excuse for you to disrespect anyone or give up. To become a critical thinker, you have to tackle a question that to you may seem impossible. I am not asking you to spend all your time on my class, but if you face

challenges in my class, then get the necessary help needed to succeed rather than give up. Ask yourself, did you do all you possibly could before giving up?

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.

Students with Disabilities

Rutgers University is committed to providing equal educational opportunity for persons with disabilities in accordance with the Nondiscrimination Policy of the University and in compliance with § 504 of the Rehabilitation Act of 1973 and with Title II of the Americans with Disabilities Act of 1990. For additional information please visit the website <https://ods.rutgers.edu/> or contact the representative for the Newark Campus.

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Psychological and Counseling Services

If you experience psychological or other difficulties as a result of this course, or because of other issues that may interfere with your performance in the course, please contact the university's psychological and counseling service center (<http://www.counseling.newark.rutgers.edu>; 973-353-5805), which is located in Blumenthal Hall, room 101. The center offers a variety of free, confidential services to part-time and full-time students who are enrolled at Rutgers.

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/>

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