

**47: 202: 302 Data Analysis in Criminal Justice**

**3 Credits  
Fall 2024**

1. **Course Information**

**Meeting Information**

Tuesdays & Thursdays 10:00am – 11:20am

240 Smith Hall

**Instructor Information:**

*Instructor*: Dr. Jason Silver

*Email*: [jason.r.silver@rutgers.edu](mailto:jason.r.silver@rutgers.edu)

*Office*: CLJ 579D

*Office Hours*: Thursdays 12pm - 2pm (in office) or by appointment (Zoom)

*TA*: Ryan Smith

*Email*: [ras510@scarletmail.rutgers.edu](mailto:ras510@scarletmail.rutgers.edu)

*Office Hours*: Tuesdays 2pm – 4pm (location TBA)

**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 statistical findings. Policy implications of data will also be discussed. To receive extra credit for reading the syllabus, finish reading the whole thing, then send me an email listing the dates of the three exams.

**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**

### Define the main characteristics of research designs.

### Distinguish the levels of measurements and types of variables.

### Choose, apply, and correctly interpret summary measures.

### Visualize distributions of continuous and categorical variables.

### Calculate and interpret measures of association.

### Explain the principles of statistical inference.

### Test hypotheses using bivariate analytic techniques.

### Conduct basic statistical analyses by hand and using computer software.

### Required Readings

None.

Optional course resources will be posted to Canvas.

**Course Structure**

# Course material will be delivered via lectures with in-class activities. Knowledge of course material will be assessed through three exams and one assignment. Optional practice problem sets will be available on Canvas.

# Course Schedule

|  |  |  |
| --- | --- | --- |
| Date | Topic | Assignments and Exams |
| Week 11/211/23 | Introduction  Data Analysis Basics | Course Survey Due THURS 1/23 |
| Week 21/281/30 | Organizing Data  Visualizing Data |  |
| Week 32/42/6 | Measures of Central Tendency IMeasures of Central Tendency II |  |
| Week 42/112/13 | Measures of VariabilityExam 1 Review |  |
| Week 52/182/20 | EXAM 1 Probability | EXAM 1 on TUES 2/18 |
| Week 62/252/27 | Probability Distributions  Normal Distributions |  |
| Week 73/43/6 | Z-Scores and AUC  Sampling |  |
| Week 83/113/13 | Sampling Distributions  Confidence Intervals |  |
| Week 93/183/20 | **NO CLASS** | SPRING BREAK :-) |
| Week 103/253/27 | Confidence Intervals II  Exam 2 Review |  |
| Week 114/14/3 | **EXAM 2**  Logic of Hypothesis Testing | EXAM 2 on TUES 4/1 |
| Week 124/84/10 | One Sample T Test  Two Sample T Test (Virtual) |  |
| Week 134/154/17 | ANOVA  Chi Square Tests |  |
| Week 144/224/24 | Correlations  Exam 3 Review |  |
| Week 154/295/1 | **End of Class Assignment Workshop**  **EXAM 3** | Bring a laptop!EXAM 3 on THURS 5/1: Bring a laptop, tablet, or phone! |
| FINALS WEEK5/8 – 5/14 | **NO CLASS**  **NO FINAL EXAM** | End of Class Assignment Due THURS 5/8 |

# Note: Dates are subject to change as needed.

1. **Course Assessment and Grading**

Grades are based on 500 possible points:

* Course survey (1 x 10 points = 2% of total grade)
* Three exams (2 x 100 points and 1 x 90 points = 58% of grade)
* In-class participation (15 x 10 points each = 30% of total grade).
* End-of-class assignment (1 x 50 points = 10% of total grade)

**Course Survey (2% of total grade)**

You will be asked to complete a 5-minute survey in the first week of class and to submit a code to Canvas confirming your completion of the survey. This survey will be used to gather data about your attitudes and experiences, which will be used throughout the class to show examples of data analysis. The survey is totally anonymous, and all questions are voluntary.

**Exams (58% of total grade)**

Understanding of course material will be assessed through three exams. Exams will include multiple choice questions and short answer/ calculation questions. All exams will take place in class. Exam dates are noted on the schedule above (**2/18**, **4/1**, and **5/1**). Exams 1 and 2 are each worth 20% of the grade. Exam 3 is worth 18% of the grade.

Exams 1 and 2 are “semi-open note.” Students may bring one 8x11 sheet of paper (i.e., regular printer-size paper) with notes for the exam. **Notes for Exams 1 and 2** **must be handwritten**.

Exams 3 is fully open-note, open-book, and open-internet. Students are encouraged to bring laptops or tablets to class to complete Exam 3. The only restrictions on what you may use for Exam 3 are that you are not allowed to use AI (e.g., ChatGPT) or talk to your friends.

Prior to each exam, there will be an exam review day during which you will have an opportunity to work through a practice exam from a previous semester.

**In-Class Participation Activities (30% of total grade)**

The rest of the points in the course will come from **participation in** **AT LEAST fifteen classes** throughout the semester, not counting exams or exam review. If you look at the schedule… this means **you can miss up to** **seven classes** and still get full credit for participation (no questions asked, no excuses required).

In-class participation activities will differ from week to week, but may include: statistical analyses, identification of misleading statistics, discussion questions, exam review, eating M&M’s, and more. Each class period will include **10 points** worth of activities. You must participate in all of the participation activities for a particular class in order to receive full participation credit for that day. Participation is graded on effort.

**IMPORTANT NOTE ABOUT “EXCUSED ABSENCES”:**

Because you can miss up to seven classes throughout the semester (almost a full month of class!) and still get full a participation score, I typically do not “excuse” missed participation on a case-by-case basis. There are many valid reasons to miss class and I would rather give everyone seven free passes than decide which reasons count and which don’t each time. If you miss a day of class for any reason, you don’t need to tell me about it—just plan on going to class on a different day.

Think of the days you can miss like sick days: they are for you to use as needed. Just keep in mind that if you do use them for non-emergency reasons, you may run out. In other words, if you skip seven classes because you had better things to do, your eighth absence won’t be “excused” even if you really are sick or your car broke down or your job called you in or whatever. If you are concerned about having enough excused absences throughout the semester, don’t skip class.

The exception to this rule is that if you **expect to miss a month or more of class (i.e., eight or more classes)**, you may come to me to work out an alternative plan for scoring participation. You **MUST** clear this with me first. I will not excuse absences beyond the seven “pre-excused” absences if you do not discuss your need for an alternative participation plan with me first.

**End of Class Assignment (10% of total grade)**

Application of the course material will be assessed through one end of class assignment, which will take the form of an in-class activity. Most students should be able to complete and submit the assignment within the allotted class period (**4/29**). The assignment will be due during Finals Week (**5/8**). Unlike the regular participation activities, which are effort-based, the end of class assignment will be graded on accuracy.

In the assignment, you will be asked to analyze data and write up a short explanation of your findings. Additional details will be provided later in the semester. **Note: You will need a laptop for the end of class assignment. If you are not sure whether you’ll have access to a laptop on 4/29, please let me know ASAP so I can make sure you are covered.**

**Extra Credit**

There are **three (!!!)** ways to get extra credit in this course:

* ***Find the syllabus point***. There is **1 point** of extra credit hidden in the syllabus. Read the whole thing and see if you can find it. This extra credit option expires on Tuesday, **1/28**.
* ***Be the “scribe” in group activities***. Always having to write out the answers in group activities is annoying and makes engaged students hate group work. That’s why you’ll get extra credit if you do! Whoever served as a scribe in a particular group activity will receive **1 point of extra credit** for that day. This option will **max out at 5 points** over the course of the semester.
* ***Find a mistake in the lecture materials (2 points per mistake).*** I am bad at many things, including writing and talking at the same time and proofreading. This means you may spot mistakes in the course materials. The first person to point out a particular mistake to me, either in class or by email, will receive **2 points of extra credit**. Mistakes must be relevant to the substantive course material (i.e., not that I misspelled “Tuesday”). There is **no limit** to the number of extra credit points you can get for finding mistakes.

**Grading Scale**

|  |  |  |
| --- | --- | --- |
| **Grade** | **Percent Score** | **Points** |
| A | 90% - 100% | 448 – 500 points |
| B+ | 87% - 89% | 433 – 447 points |
| B | 80% - 86% | 398 – 432 points |
| C+ | 77% - 79% | 383 – 397 points |
| C | 70% - 76% | 348 – 382 points |
| D | 60% - 69% | 298 – 347 points |
| F | 0% - 50% | 0 – 297 points |

### IV. Course Policies

### Late or Missing Assignment Policy

**Late Work.** One assignment can be turned in late without any penalty. Additional late assignments will be penalized by one letter grade (10%) for each day they are late. The penalty will max out at 5 days, meaning that the most you can lose for late work is 50%.

**Missed Work.** Absences resulting in missed exams will be excused for personal or family emergencies. Note that I may ask you to provide documentation. Makeup work or extended deadlines will be provided as needed.

**Email and Technology Requirements**

Your Rutgers email account is the official form of communication for this class and you should check it regularly. You are responsible for all information about the class sent to that email address. Please **only use your Rutgers email**. My hungry hungry spam filter eats emails from non-Rutgers email addresses. **As a general rule, I will respond to emails within 24 hours (and usually sooner)**. If you don’t hear from me within that time frame, try again.

Most days, you are not required to bring any technology to class, though you are welcome to. There are two exceptions: **you will need a laptop, tablet or phone for Exam 3; and you will need a LAPTOP SPECIFICALLY for the End of Class Assignment**. Note that if needed, you can get a laptop for the academic year through the **Rutgers Student Technology Loan Program**: <https://dev-ru-newark-tls.pantheonsite.io/node/188>

You have read this far. Well done. To actually receive for reading the syllabus, ignore the instructions from the Course Overview section. Instead of sending me the dates of the exams, tell me either your favorite movie or something fun you did over the winter break.

**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. The use of artificial intelligence (e.g., ChatGPT) is not allowed. Violations of the university’s policy will result in appropriate action.

**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 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). 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) 353-5063 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 Students requesting a letter of verification should submit information using the following link: https://go.rutgers.edu/Verification.

**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: https://go.rutgers.edu/RUNReportingForm.

**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: https://go.rutgers.edu/RUNReportingForm or emailing careteam@newark.rutgers.edu.

**For Psychological Support (Stress, Mood, Family Issues, Substance Use concerns and other personal challenges)**: The Rutgers University-Newark Counseling Center provides individual therapy and support groups for students dealing with psychological issues. To schedule an appointment, email counseling@newark.rutgers.edu or call (973) 353-5805. Additional support is available through Uwill services:

* Uhelp: Crisis support at 833-646-1526 (available 24/7/365).
* Urise: Wellness-based video collection with a free account.
* Umatch: Teletherapy with flexible scheduling, starting with a free account.

Access Uwill@RUN at https://my.rutgers.edu using your netid. Services are confidential and free. For emergencies, call 911 or Rutgers University Police Department at (973) 353-5111.