

Data Analysis in Criminal Justice
Course: CJ-302

School of Criminal Justice
Rutgers University
Fall 2018
Tuesday & Thursday
2:30pm to 3:55pm

Professor: Dr. Colleen Berryessa
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COURSE DESCRIPTION

This course will provide a theoretical background and practical experience to statistics and data for criminal justice. This course examines descriptive, inferential and multivariate statistics employed in criminal justice research about the nature of crimes, criminals, and the criminal justice system. Basic hand style calculations are employed in the course to aid students in the proper understanding and interpretation of statistical techniques often employed in the field.

OBJECTIVES

At the conclusion of the course, each student will 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.

TEXT

Required: Gau, J. (2018). *Statistics for Criminal Justice* (3rd Ed.). Thousand Oaks, CA: SAGE. (You can also get the 2nd Edition from 2015 if it's cheaper for you!). I encourage you to thoroughly read the chapters in the book that are assigned each week, as many test questions will come directly from these chapters AND you'll get to use the book for tests. 😊

METHODS OF EVALUATION

Your grade for this class will consist of four tests and seven problem sets.

****All the tests will be open book tests (but NOT open note)****

Test 1 (15% of grade): Test 1 will include information learned from the first 5 chapters of the book (Chapters 1 to 5; Weeks 1 to 3). The test will comprise of multiple choice, true/false questions, and/or problems (similar to those on the homework) that can be completed by hand and calculator. Test 1 will be given in class on **September 20th**.

Test 2 (15% of grade): Test 2 will include information learned from Chapters 6 to 8; Weeks 4 to 5). The exam will comprise of multiple choice, true/false questions, and/or problems (similar to those on the homework) that can be completed by hand and calculator. Test 2 will be given in class on **October 4th**.

Test 3 (25% of grade): Test 3 will include information learned from Chapters 9 to 12; Weeks 6 to 9). The exam will comprise of multiple choice, true/false questions, and problems (similar to those on the problem sets) that can be completed by hand and calculator. Test 2 will be given in class on **November 6th**.

Test 4 (25% of grade): Test 4 will include information learned from Chapters 13 to 14 and Weeks 10 to 14 (Let's Talk about Experiments! Parts 1 and 2). The exam will comprise of multiple choice, true/false questions, and problems (similar to those on the problem sets) that can be completed by hand and calculator. Test 4 will be given in class on **December 11th**.

Problem Sets (20%): You will have seven problem sets that are assigned to you throughout the semester that must be completed by the beginning of each class in which one of the problem sets are due. Problem sets will be a mix of different types of exercises.

PROBLEM SET DUE DATES

Problem Set #1: September 11th (Chapters 1 – 2)

Problem Set #2: September 25th (Chapters 3 – 5)

Problem Set #3: October 9th (Chapters 6 – 8)

Problem Set #4: October 23rd (Chapters 9 – 10)

Problem Set #5: November 8th (Chapters 11 – 12)

Problem Set #6: November 20th (Chapter 13)

Problem Set #7: December 6th (Chapter 14)

COURSE SCHEDULE

<u>Week</u>	<u>Date</u>	<u>Topic</u>	<u>Chapter in Book</u>
Week 1	September 4 th	Introduction to the Use of Statistics in Criminal Justice & Criminology	Chapter 1
	September 6 th	Types of Variables and Levels of Measurement	Chapter 2
Week 2	September 11 th	Organizing, Displaying, and Presenting Data	Chapter 3
	September 13 th	Measures of Central Tendency	Chapter 4
Week 3	September 18 th	Measures of Dispersion	Chapter 5
	<u>September 20th</u>	<u>Test 1</u>	
Week 4	September 25 th	Probability	Chapter 6
	September 27 th	Population, Sample, and Sampling Distributions	Chapter 7
Week 5	October 2 nd	Point Estimates and Confidence Intervals	Chapter 8
	<u>October 4th</u>	<u>Test 2</u>	
Week 6	October 9 th /11 th	Hypothesis Testing: A Conceptual Introduction	Chapter 9
Week 7	October 16 th /18 th	Hypothesis Testing with Two Categorical Variables: Chi-Square	Chapter 10
Week 8	October 23 th /25 th	Hypothesis Testing with Two Population Means or Proportions Hypothesis	Chapter 11
Week 9	October 30 th / November 1 st	Testing with Three or More Population Means: Analysis of Variance	Chapter 12
Week 10	<u>November 6th</u>	<u>Test 3</u>	
	November 8 th	Correlation – Part 1	Chapter 13
Week 11	November 13 th	Correlation – Part 2	Chapter 13

NO CLASS
November 15th

Week 12 **November 20th** Let's Talk about Experiments! (Part 1)

NO CLASS
November 22nd –
Thanksgiving

Week 13 **November 27th** Introduction to Regression Analysis – Part 1 Chapter 14

November 29th Introduction to Regression Analysis – Part 2 Chapter 14

Week 14 **December 4th** Introduction to Regression Analysis – Part 3 Chapter 14

December 6th Christine Guest Lecture

Week 15 **December 11th** Test 4