

56:834:535

# Research Methods

Christopher B. Goodman, Ph.D.

[christopher.goodman@rutgers.edu](mailto:christopher.goodman@rutgers.edu)

Fall 2014. Business & Science Building 134.  
Wednesdays 6:00pm–8:40pm.

Office Hours: By appointment.

## COURSE DESCRIPTION

Decision-making supported by quantitative analysis is becoming increasingly important in the public and non-profit sectors. As a result, managers are expected to be fluent in quantitative analytical skills. This course is a graduate level, introductory statistics and research methodology course. It will focus on applied quantitative analysis for public management and policy. The goal of the course is to train you to apply the concepts presented and use them to inform real world decision-making in the public and non-profit sectors.

## COURSE OBJECTIVES

Upon successful completion of this course, students should be able to:

1. Identify and define key theories and concepts of research design, descriptive and inferential statistics, multiple regression.
2. Design and execute an analytical research project.
3. Demonstrate proficiency regarding data collection, analysis, and evaluation.
4. Critically evaluate research designs and methods presented in applied and academic sources.
5. Correctly select and apply the appropriate analytical tool for the problem and data at hand.
6. Understand and evaluate the ethical issues surrounding data collection, analysis, and evaluation.

Student progress on these learning objectives will be measured through a combination of examinations, homework assignments, and class discussion.

## REQUIREMENTS

### ATTENDANCE

Attendance is not mandatory; however, it is strongly recommended. If you miss a class, it is your responsibility to obtain the information you missed from a classmate. **I do not have a policy to take roll, but your absence from class will noted. It will be difficult to achieve above a C in this course if you miss**

**more than 2 classes.** I expect everyone to be on time and ready to being class at 6:00pm. There are important announcements made at the beginning of each class, and a late arrival is disruptive to the class. Do not be late.

## HOMEWORK

Homework will consist of conceptual and data-based exercises assigned from the Berman & Wang exercise book. While not graded, homework is essential to success on the quizzes. Additionally, the homework will form the conceptual basis for the two examinations. Homework will be posted to [Sakai](#), and I will take *specific* questions regarding the homework at the end of each lecture. It is encouraged that you work on these exercises in groups.

## QUIZZES – 30%

Three (3) “pop” quizzes will be assigned at random throughout the semester. Each quiz will require you to respond to combination of true/false, multiple choice, and fill-in-the-blank questions. You may refer to your **personal notes**—but not the text—when taking each quiz. I will drop your lowest quiz grade, including a zero for a missed quiz. Please note that I will not drop more than one score; no exceptions will be made.

## MID-TERM EXAM – 30%

You will sit for a closed-note/closed-book mid-term exam. The exam will consist of problems requiring calculation and interpretation as well as true/false, multiple-choice, and fill-in questions. **You may bring to the exam your calculator and one 4-by-6-inch index card of notes – but you may not share them.** I will collect your notecard with your completed exam.

## FINAL EXAM – 40%

You will sit for a non-cumulative, closed-note/closed-book final exam. Due to the nature of this topic, knowledge from prior to the midterm will be essential to success on the final. The exam will consist of problems requiring calculation and interpretation as well as true/false, multiple-choice, and fill-in questions. **You may bring to the exam your calculator and one 4-by-6-inch index card of notes – but you may not share them.**

## READINGS

The main texts of this course are available at the bookstore. The first two books are sold is a package at the bookstore. However, these books likely can be obtained cheaper elsewhere (primarily online).

Berman, Evan M. and Xiaohu Wang. 2012. *Essential Statistics for Public Managers and Policy Analysts*, Third Edition. CQ Press. ISBN: 978-1608716777.

Berman, Evan M. and Xiaohu Wang. 2012. *Exercising Essential Statistics*, Third Edition. CQ Press. ISBN: 978-1608716760.

Clark, Lawrence P. 1979. *PS 11 - Designs for Evaluating Social Programs*, First Edition. Rowman & Littlefield Publishers, Inc. ISBN: 978-0936826004.

## COURSE METHODOLOGY & POLICIES

Class presentations will be conducted through a combination of lecture, class discussion, and small group work. Students are strongly encouraged to participate in class discussion and to ask questions. Everyone in class brings a unique perspective, and I believe that perspective is a valuable addition to the course. Please come to class prepared and ready to participate.

I will be teaching this course as an introductory graduate course in statistics and research methodology that combines theoretical and conceptual topics with practical application. It is my assumption that students have limited undergraduate or graduate exposure to the topics covered in this course. As such, there is a large amount of material to cover in this course, and we will be moving quickly. The lectures I will present in class are not directly from the assigned reading and often contain information supplemental to the readings. Do not fall behind in the reading. It will be difficult to catch up.

### COMMUNICATIONS

Course announcements will be made via email so it is imperative that you check your e-mail daily. "I didn't get the email" is never a valid excuse. The most effect method of communicating with me is using email; however, you are also encouraged to schedule office hours or a phone call.

### LAPTOP COMPUTER USE

The use of laptop computers in my classroom is a privilege and not a right. Laptop computers may not be used at any time in my classroom to check email, surf the Internet, instant message with friends, update your Facebook status, post to Twitter, read the newspaper, or for any other purpose not explicitly related to course material. ANY instance of unapproved use of your laptop computer in my classroom will result in your laptop privileges being revoked for the remainder of the semester. There are NO EXCEPTIONS to this policy.

### CALCULATORS

It is **required** that you have a calculator with square root functionality for this class. **You may not use a graphing calculator, cell phone, PDA, portable PC, or laptop computer.** We will likely not use a calculator in every class; however, it is difficult to predict when you might need to use it. As such, please plan on bringing a calculator to each class. You will be able to use a calculator on the exam(s).

### MAKEUP WORK & EXAMS

Late assignments **WILL NOT** be accepted without a valid Rutgers University excuse. I **WILL NOT** give a make up exam without prior permission and a valid Rutgers University excuse. If you have a schedule conflict on any day an assignment is due or an exam is scheduled, please see me beforehand to make arrangements for turning in your assignment early or taking the exam prior to the scheduled time.

### STUDENTS WITH DISABILITIES

If you have or believe you have a disability that may impede your learning, please contact the Disability Services Office. I will make every effort to accommodate you in accordance with Rutgers University's policy, procedures, and College Coordinator recommendations. Additional information can be found at <http://studentaffairs.camden.rutgers.edu/disability.html>.

## ACADEMIC HONESTY

Principles of academic integrity require that every Rutgers University student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of unsanctioned materials or unsanctioned collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to insure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.

More information on the Rutgers University Academic Integrity Policy can be found at <http://academicintegrity.rutgers.edu/>.

**Please note that I will seek the most severe of possible sanctions in all cases when the policy on academic integrity is violated. It is your sole responsibility to understand the policy.**

### Course Outline

<b>Date</b>	<b>Topic</b>	<b>Reading</b>
September 3	Introduction & Research Design	B&W 1& 2, Clark
September 10	Design, Conceptualization & Measurement	B&W 3, Clark
September 17	Data Collection	B&W 5
September 24	Central Tendency & Dispersion	B&W 6 & 7
October 1	Contingency Tables	B&W 8
October 8	<b>Lab Session</b>	
October 15	<i>Mid-Term Exam</i>	
October 22	Hypothesis Testing with Chi-Square ( $\chi^2$ )	B&W 10
October 29	Measures of Association and T-Tests	B&W 11 & 12
November 5	ANOVA	B&W 13
November 12	Simple Regression	B&W 14
November 19	Multiple Regression	B&W 15
November 26	<i>No Class</i>	
December 3	<b>Lab Session</b>	
December 10	Advanced Topics in Public Policy Analysis	B&W 16, 17, 18
December 17	<i>Final Exam</i>	

Quizzes will be assigned at random throughout the semester. However, it will be almost assured that one quiz will fall before the midterm and two will fall after the midterm.