

01:202:307 Criminal Justice Research Methods
Program in Criminal Justice
Rutgers University
Syllabus, Spring 2010
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Professor

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Course Overview

This course introduces tools of quantitative reasoning and statistics that can be used to address problems in basic research and policy in criminology and criminal justice.

The primary objectives are:

- to build familiarity with ideas and concepts of empirical investigation and modeling;
- to develop technical skills for describing, analyzing, and presenting quantitative data;
- to appreciate the role of judgment in drawing inferences from data and analysis.

In comparison to other courses that satisfy the research methods requirement for the criminal justice major, this course provides more depth in statistics and probability at the sacrifice of some of the breath of coverage of qualitative research methods.

Prerequisites

This course is limited to degree students. It requires two separate prerequisites: introduction to criminal justice (01:202:201) and adequate math preparation (01:640:112 or 115 or Calculus I placement). The course does not assume any background in probability or statistics.

Course Expectations

There are two 80-minute classes each week: Monday and Wednesday 1:40-3:00pm in LCB – 102. You are expected to attend class, do the required reading, and complete the assigned homework. Many students find the material difficult the first time through, so it is essential to give yourself the opportunity to see the material more than once (e.g., read the book, attend lecture, review the book, work the homework and book problems). I have purposely kept the required reading list relatively short to allow you adequate time to work problems.

I encourage you to form a study group in which you can discuss the material and puzzle through problems. Small groups (four or fewer) seem to work best. Note that all work that you submit for credit must be your own work. This means that you are required to write up your work by yourself, not with your study group. If you are looking for a study group, send an email to me.

Readings

There is one required text for the course, available at the Livingston bookstore.

Statistics in Criminal Justice, David Weisburd and Chester Britt, 2007, 3rd edition, Springer, ISBN 0-387-34112-9.

You do not need to purchase any version that comes with software. Nor do I expect you to purchase any study guides. The book is the least expensive of the available options for this type of course. Other required readings will be available either by handouts or via electronic resources. Links or instructions for the latter will be provided on the course web site.

Course Website

Announcements will be posted on sakai.rutgers.edu. In addition, class handouts and other resources will be posted there for your reference. To log in, use your netid and password. If you are registered for the course, you should see a tab for the course. You are responsible for checking the web site weekly for announcements.

Course Requirements

- **Problem sets**: which are graded, will be announced in class and on the course website. Problem sets will provide practice with analytic techniques introduced in class. No late problem sets will be accepted. There will be 10 problem sets over the term, approximately one per week. To allow for unexpected circumstances, the lowest two problem set grades (including zeros) will be dropped.
- **Midterms**: 80-minute midterm exams will take place in class on February 22 and March 29.
- **Final**: A three-hour final exam will be given during the University-scheduled exam period, currently set for Tuesday, May 11 from noon – 3pm.

Exams must be taken on the assigned day unless you present a valid, written excuse *before* the exam or have an absence approved by the Dean's office and the professor. See <http://scheduling.rutgers.edu/springfinals.htm> for University rules about final exam scheduling conflicts.

Religious Holidays

If an exam is scheduled for a day on which you will be religiously observant (refraining from participating in secular activities), you must let me know in advance so that alternate arrangements can be made. Send me an email before February 5 to let me know of conflicts you will face this semester.

Software

Some problem sets contain exercises designed to teach the basics of using a spreadsheet for empirical analysis. The course will support Microsoft Excel spreadsheet software (though you are free to use other comparable software products). Any data distributed will be in Excel format on the course web site.

Grading

The overall grade for the course will be based on:

Problem sets	20%
1st Midterm	20%
2nd Midterm	25%
Final exam	35%

The calculation of the course grade will be made using the scores from each required assignment. That is, the grades of each assignment will not be averaged but the scores underlying the grades will be averaged (using the weights above). Therefore, if you earn a high B+ on one of the midterms, this may lead to a higher course grade than if you earn a low B+ on that midterm.

Office Hours

Office hours will be announced on the course website. You do not need an appointment to come to the regular office hours. If you have course or work conflicts with the regularly scheduled times, send me an email to schedule an appointment. I will also make myself available before every class session for matters that do not require long conversations.

Course Outline

Part I. Describing Data

Measurement & Study Design	WB chapter 2
Representing, and Describing Data	WB chapter 3
Central Tendency	WB chapter 4
Dispersion	WB chapter 5

Part II. Introduction to Probability

Sampling	WB chapter 6
Basic Probability & Compound Probability	readings to be announced
Conditional Probability	readings to be announced

Part III. Statistical Inference

Binomial Distribution	WB chapters 7 & 8
Chi-Squared Distribution	WB chapter 9
Normal Distribution	WB chapters 10 & 11
t- Distribution	WB chapters 10 & 11
Confidence Intervals	WB chapter 20

Part IV. Measures of Association

Correlation Coefficients	WB chapter 14
Bivariate and Multivariate Regression	WB chapters 15 & 16