RUTGERS UNIVERSITY
PROGRAM IN CRIMINAL JUSTICE

01:202:307 Criminal Justice Research Methods
Fall 2013

Class Hours: Mondays and Thursdays, 10:20am – 11:40pm
Classroom: 102 Livingston Classroom Building
Instructor: Professor Anne Piehl
              407 New Jersey Hall or A345 Lucy Stone Hall
              apiehl @ economics.rutgers.edu

Course Description: 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. No background in statistical analysis is assumed. The topics of research design and ethical behavior are discussed throughout the course. While students are required to work problems "by hand" and in Excel to develop understanding of the methods, the emphasis of the course is on identifying settings in which data is illustrative, learning about the attributes of various sources of data on crime and justice and how they can be analyzed empirically, and understanding statistical inference. 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.

Learning Outcomes: This course aims to help students achieve learning goal (1c) of the program in Criminal Justice to develop competence in research methods. It also helps students achieve learning goal (2) by developing critical thinking, and is essential predicate for learning goal (3), the production of independent scholarship. (For the full description of the program's learning goals, see http://nbcjm.rutgers.edu/academics/program-info/learning-goals.)

The specific goals for this course 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.

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.

Method of Evaluation: Course grades will be determined as follows:

Active Participation:		
Homework	15%	
Participation in class discussions	10%	
Exams:		
In class on October 17	25%	
In class on November 25	25%	
Project:		
Presentation (last two weeks of semester)	10%	
Written project due by 11am December 23	15%	

If you anticipate missing an exam due to the observance of a religious holiday (refraining from secular activities that day) or other foreseeable event, you must notify me by October 1 to arrange to take the exam on another date. If you do not notify me by October 1 you must take the exam as scheduled. If you miss an exam due to illness or a family emergency, you must contact me within 24 hours of the exam to inform me of your situation. Please e-mail me directly; do not rely on the absence reporting system if you miss an exam. Failure to contact me in a timely manner may result in a grade of zero for the exam.

Textbook and readings: There is one required text for the course.

> *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. You may purchase this at the bookstore or from any other sources or you may rent it (it is available via Amazon). Older versions can be used, but note that they have more typos in the text and solutions, which may make it a bit tedious to use.

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.

Software: Some homework will 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.

Course Website: Announcements will be posted on Sakai (http://sakai.rutgers.edu). In addition, class handouts and other resources will be posted there for your reference. You are responsible for checking the web site weekly for announcements. I will post my office hours on the course website, but note that you can always meet with me immediately after class for quick questions or to arrange a meeting.

Homework assignments: Homework assignments will be posted on the course website. These assignments will collectively count for 15% of your course grade. I will drop your two lowest homework scores. All other problem sets will receive equal weight.

Academic integrity: Any attempt to cheat on an exam or course assignment will be prosecuted according to the University's Academic Integrity policy (http://academicintegrity.rutgers.edu).

Course Expectations: I expect you to attend both class sessions each week in their entirety. If you have an unavoidable conflict, please sit close to the exit to minimize the disruption to your classmates. During class, I expect full participation. Do not use electronics for any activity other than taking notes or working problems.

The material in this course cumulates, and your performance will be stronger with consistent attention to the work. 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.

Small study groups (four or fewer) 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.

Tentative Course Schedule

Dates	Topic	Readings
	Part I. Describing Data	
Sept 9	Measurement & Study Design	WB chapter 2
Sept 12	Representing and Describing Data	WB chapter 3
Sept 16	Central Tendency	WB chapter 4
Sept 19	Dispersion	WB chapter 5
Sept 23	Data Sources	to be announced
	Part II. Probability	
Sept 26 & 30	Basic & Compound Probability	to be announced
Oct 3 & Oct 7	Conditional Probability	to be announced
Oct 10	Sampling & Inference	WB chapter 6
Oct 14	Binomial Distribution	WB chapter 7
Oct 17	**In-class Exam**	
	Part III. Statistical Inference	
Oct 21	Binomial Test	WB chapter 8
Oct 24	Chi-Squared Test	WB chapter 9
Oct 28 & 31	Normal Distribution & Test	WB chapters 10
Nov 4	Two-sample and Paired-sample Tests	WB chapter 11
Nov 7	Research Designs	to be announced
Nov 11	Confidence Intervals	WB chapter 20
	Part IV. Measures of Association	
Nov 18	Correlation Coefficients	WB chapter 14
Nov 21	Bivariate and Multivariate Regression	WB chapters 15 & 16
Nov 25	**In-class Exam**	
	Part V. Group Projects	
Nov 26 – Dec 9	Presentations	