PS 0825: Quantitative Methods in Social Science

Main Campus

Fall Semester 2013

Monday 2-3:40 Anderson 19

Wednesday 2-3:40 Engineering 719

Professor Michael Hooper
Office: 446 Gladfelter Hall
E-mail: mhooper@temple.edu
Office Hours: MWF 8:45-9:45, MW 12:45—1:45, or by appointment

Course Description

The subject of this course is introductory applied statistics for the social sciences. The goal of the course is to develop a basic understanding of the elements of applied social statistics and the beginning of a facility in their use. These goals are important because statistics are all around us. You can’t open a newspaper, much less a social science journal, without seeing them. Statistical analysis and inference is one of the major recent advances in human knowledge (the study of probability didn’t begin in earnest until the 17th century). It has proven quite useful in helping us understand our world, and is an indispensable scientific tool. However, statistics are quite often abused and misused. This course will provide you with an introduction to applied social statistics that will enable you to more critically examine and evaluate statistical results and to begin to use statistical tools where relevant to your purposes. We will work on acquiring the basic building blocks necessary to be a competent consumer and beginning user of statistical analysis. We will explore the basic concepts and statistical methods that underlie research design, measurement, descriptive analysis, and causal inference.

The core of the course consists of lectures/recitations on the topics of introductory applied social statistics. All procedures will be illustrated with practical examples. There will be take home assignments to help gain understanding of the various procedures covered. These assignments will be handed out as we move through the various statistical procedures and will be discussed in class. Performance will be evaluated by a series of exams, three during the semester and a final. The schedule for the exams is as follows:

1st exam: Wednesday 9/25

2nd exam: Wednesday 10/30

3rd exam: Wednesday 11/20

Final: Monday 12/9 1:00 pm—3:00 pm, in Monday classroom
Each exam during the semester will count 20% of the grade while the final will count 40%. Consideration will be given to performance that increases in quality over the semester. If a student misses an exam, a make-up will administered only if the student presents a verifiable written excuse from an individual in a position of authority such as a physician, lawyer, court officer, University official, etc.

Course Requirements

Math Skills. Take a deep breath and relax. Our focus will be on the logic of statistical analysis. The course will mostly be taught at a conceptual level. So there will be little or no reliance on genuine mathematical techniques such as proofs. I assume that you have done no prior work in statistics. Mathematical knowledge at the level of first year high school algebra only is expected along with an ability to do basic arithmetic.

Problems. Learning statistics is somewhat like learning a foreign language. It takes time, repetition, and copious amounts of practice. Consequently, this will be a hands-on class. You will be asked to complete a number of problems. These assignments will give you an opportunity to apply (and even extend) concepts discussed in class.

Exams. The topics learned in this class build on one another – understanding early material will be essential for grasping later material. For this reason, there will be three exams over the semester and a final exam. Regular assessments will give you a chance to hone your skills as well as identify your areas of strength and weakness.

In-Class Problems. Occasionally, I will present the entire class with a problem that can be answered by reflecting on material covered in previous classes. You may use your class notes to help answer these problems and we will go over the answer in class.

Course Policies

Attendance. I expect students to attend lectures, complete reading assignments before class, and turn in assignments on time. If you miss a class, it is your responsibility to get notes and assignments from a fellow student. Because this is a four-credit course, the workload will be heavier than most of your other courses. If you want to do well, please allot a sufficient amount of time to understand the material and complete your work.

Don’t be shy. Please feel free to ask questions during class. I know it’s a cliché, but it’s true that if you are confused about something, others may be as well. Please don’t assume you’re the only one not getting it. So contribute to the public good and your private gain by asking a question. Also, feel free to visit me during office hours if you need help (or make an appointment if you can’t make it during my office hours).

Electronic devices. Please shut off all electronic communication devices and put them away while in class. Allowable exceptions are computers when used for note taking, calculators, and recording devices when used to record class discourse.
**Academic Integrity.** Plagiarism and cheating are among the most severe infractions you can commit in academia. Ideas are the currency of the academy and plagiarism is tantamount to stealing. Quotes should be placed around phrases and sentences that come from another source (published or unpublished) and the author(s) should be cited in both the text and in a reference section at the end in any submitted material. If you paraphrase the words or ideas of another person, you should also attribute credit to the source by citing it in the text and in the references.

**Special Accommodations**

Any Student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. Contact Disability Resources and Services at 215.204.1280 in 100 Ritter Annex to coordinate accommodations for students with documented disabilities.

**Required Course Texts available in Main Campus Book Store:**


**Course Calendar:**

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings</th>
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<tbody>
<tr>
<td>W 8/28</td>
<td>Basic Concepts</td>
<td>254-255</td>
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<tr>
<td>M 9/2</td>
<td><strong>Labor Day, no class</strong></td>
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<tr>
<td>W 9/4</td>
<td>Basic Concepts</td>
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<tr>
<td>M 9/9</td>
<td>Basic Concepts</td>
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<tr>
<td>W 9/11</td>
<td>Basic Concepts</td>
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<tr>
<td>M 9/16</td>
<td>Frequency Distributions And Descriptive Statistics</td>
<td>Joy of Stats: pp. 55-86, 255-257,</td>
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<tr>
<td>W 9/18</td>
<td>Frequency Distributions And Descriptive Statistics</td>
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M 9/23: Frequency Distributions
And Descriptive Statistics

W 9/25: 1st exam

M 9/30: Probability and Statistical Inference
Joy of Stats: pp. 87-152, 257-259,

W 10/2: Probability and Statistical Inference

M 10/7: Probability and Statistical Inference

W 10/9: Probability and Statistical Inference

M 10/14: Probability and Statistical Inference

W 10/16: Probability and Statistical Inference

M 10/21: Probability and Statistical Inference

W 10/23: Probability and Statistical Inference

M 10/28: Probability and Statistical Inference

W 10/30: 2nd hour exam

M 11/4: Statistical Association

W 11/6 Statistical Association

M 11/11: Statistical Association

W 11/13: Statistical Association

M 11/18: Statistical Association

W 11/20: 3rd hour exam

M 11/25: Statistical Association, least squares

W 11/27: no class Thanksgiving schedule adjustment

M 12/2: Statistical Association, least squares

W 12/4 Statistical Association, least squares, review