1 Instructor Information

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Office Hours: T 2:00 pm–5:30 pm,  
W 12:00 pm–2:30 pm or by appointment

2 Course Description

This course is the final course in a sequence of courses intended to help students develop the skills necessary to design, critique and execute social science research. Each week, we discuss a set of readings and statistical concepts. Most weeks, we will also have a stats lab that incorporates Stata, a statistical analysis program. These labs will help prepare you for the exams as well as the final research paper. In the final two weeks of the course, we will have mock panels and simulate an academic conference experience. At these panels, students will present their research, receive feedback from a discussant, and field questions from the audience.

3 Student Learning Outcomes

Upon completion of this course, I expect that you will be able to:

1. Understand and apply basic statistical concepts
2. Use basic descriptive statistics to identify central tendency and dispersion of variables
3. Test hypotheses and construct confidence intervals
4. Estimate and interpret basic multivariate regression models
5. Perform original quantitative research

4 Course Format

Each week we discuss a series of readings. You are responsible for each reading. These readings will then serve as a basis for using the tools/concepts in statistical analysis. We then apply these tools in a directed lab setting using Stata. Following these labs, you will have an assignment or problem set that reinforces what we learned.

This course will require a great deal of reading and active participation on your part. If you are not prepared each day and do not engage in the discussions, labs, workshops, and other activities, you will not be successful.
5 Requirements

Required Books and Materials


A personal copy of Stata/IC (Version 12) for your laptop


The books are available at the bookstore and online. You can find it on Amazon.com or Addall.com at a reduced price.

Many of the articles for the class will be on reserve. You can also find most of the journal articles on JSTOR (www.jstor.org). I will also place readings on blackboard that are not available on JSTOR.

Assessment

1. **Attendance and Participation (10%)**—I expect that you will be prepared to discuss all of the readings each week. I will assign a grade for the participation each week based on the following scale:

   A (outstanding) your comments were insightful and contributed to collective understanding of the material across the readings
   
   A- (strong) your comments were sometimes insightful and sometimes average but were not consistent across the readings
   
   B+ (good) your comments demonstrated that you understood the material but did not extend the discussion or offer new insights
   
   B (average) you participated but did not seem to fully grasp the material
   
   B- (poor) you spoke, but your comments were not germane to the material
   
   C (unacceptable) you didn’t say anything...

2. **Exams (40%)**—There will be an in-class midterm and final. They are equally weighted and will be a mixture of concepts, essays, and problems to solve.

3. **Problem Sets (10%)**—Most weeks, I will assign you a problem set that implements concepts discussed and demonstrated in class. These problem sets are meant to reinforce the topic from the previous week and to prepare for the exams and the final paper.

4. **Conference Presentation (10%)**—At the end of the term, you will give a 10-15 minute presentation on your research. You will be on a panel of 3-4 papers with a chair and discussant. The presentation must include a powerpoint (or equivalent program) presentation. Later in the term, we will discuss how to present your research effectively. You will also be graded on how well you respond to questions from the discussant and audience.
5. **Research Paper (30%)**—The research paper must be 20-25 pages (including references, tables, graphs, etc). The quality of the paper, however, is more important than the quantity. The paper should have the format as outlined by Barry Weingast here:

http://www.stanford.edu/~weingast/caltech_rules.html

While this is not the *only* way to write a great paper, it is a *great* way.

These paper also makes useful suggestions for writing a graduate paper that is potentially publishable:


6 Course Policies

**Late Assignments**

I WILL NOT accept any late assignments. The final paper and problem sets are due in hard copy on the date assigned by the time the class begins or you will earn a 0 for the assignment. Since you are presenting your research and receiving feedback from a discussant, you have to be ready by the date of the “conference.”

**Syllabus Change Policy**

This syllabus is a guide for the course and is subject to change with advanced notice.

**Academic Integrity Code**

Students should be aware of of the contents of the AU Academic Integrity Code. I regard violations of this code seriously and will immediately refer the matter to Dean Meg Weekes, should such violations occur. Please see me if you have any questions about the academic violations described in the code either in general or as they apply to particular requirements of this course.

**Additional Support Services**

If you experience difficulty in this course for any reason, please do not hesitate to contact me. In addition to the resources of the department, a wide variety of services are available to help you in your efforts to meet the requirements of the course.

- Academic Support Center (x3360, MGC 243): offers study skills workshops, individual instruction, tutor referrals, and services for students with learning disabilities.

- Writing support is available in the ASC Writing Lab or in the Writing Center, Battelle 228.
- Counseling Center (x3500, MGC 214): offers counseling and consultations regarding personal concerns, self-help information, and connections to off-campus mental health resources.

- Disability Support Services (x3315, MGC 206): offers technical and practical support and assistance with accommodations for students with physical, medical or psychological disabilities.

If you qualify for accommodations due to a disability, please notify me in a timely manner with a letter from the ASC or DSS so that we can make arrangements to address your needs.

**Emergency Preparedness**

In the event of an emergency that leads to university closure, we will use an alternative method to hold class. I will communicate class-specific information via AU e-mail and Blackboard. You are responsible for checking AU e-mail regularly. In the event of a declared emergency, students should refer to the AU Web site (www.prepared.american.edu) and the AU information line at (202) 885-1100 for general university-wide information.

### 7 Tentative Course Schedule

**Statistical Thinking**

Jan. 16—What is statistical reasoning? How do I do it?

- Introductions
- Review of concepts
- Miethe and Gauthier Chapters 1 + 2
- Silver, Nate. 2012. *The Signal and the Noise* Chapter 8 (Bayesian statistical reasoning)

**Data**

Jan. 23—Data! Getting Data Ready for Analysis

- Miethe and Gauthier Chapter 3
- Kohler and Kreuter, Chapter 1 + 2
- Skim Chapter 1 of Pollock
- Stata Lab #1–Meet Stata

Jan. 30—More Data! Displaying Data

- Miethe and Gauthier Chapter 4
- Skim Chapter 2 + 3 of Pollock
- Stata Lab #2–Transforming Variables and Making Graphs
Feb. 6—Univariate data description: Means, Medians, Modes, Variation, and Dispersion

- Miethe and Gauthier Chapter 5 + 6
- Skim Chapter 2 of Pollock
- Stata Lab #3—Descriptive Stats and More Graphs

Feb. 13—Normal Curve and Sampling Distributions

- Miethe and Gauthier Chapter 7
- Skim Pollock Chapters 4 and 5
- Stata Lab #4—Making Comparisons and Controlled Comparisons

Feb. 20—Parameter Estimation and Confidence Intervals

- Miethe and Gauthier Chapter 8
- Exam #1 Review

Feb. 27—Exam #1

**Hypothesis Testing and Contingency Tables**

March 6—Hypothesis Testing

- Miethe and Gauthier Chapters 9 and 10
- Skim Pollock Chapter 6
- Stata Lab #5—Hypothesis Testing

March 13—SPRING BREAK

March 20—Contingency Tables, ANOVA

- Miethe and Gauthier Chapters 11 + 12
- Skim Pollock Chapter 7
- Stata Lab #6—Contingency Tables, Chi-square, and Measures of Association

**Regression**

March 27—Regression Analysis I

- Miethe and Gaulthier Chapters 13 + 14
- *Berry & Sanders, Chapter 2.
- Kennedy, p. 47-59
- Skim Pollock Chapter 8
- Stata Lab #7—Intro to Linear Regression
April 3—Regression Analysis II–Dummy Variables and Heteroscedasticity

-Gujarati, pp.297-306
-Skim Pollock Chapter 9
-Stata Lab #8–Dummy Variables and Heteroscedasticity

April 10—Regression Analysis III–Multicollinearity and Specification

-Gujarati, Chapter 10
-Kennedy, Chapter 11
-Stata Lab #9–Final Stata Models

April 17—Conference #1

April 24—Conference #2

Tues May 7th, 2:35-5:05 pm–FINAL EXAM