ESP 178 Applied Research Methods

SYLLABUS

Winter 2017

Lectures: TTh 4:40 – 6:00 pm
Bainer 1132

Sections: F 9:00 – 9:50 in Wellman 235
F 10:00 – 10:50 in Wellman 235

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Course Objectives

Of the millions who watch sports events, a vanishingly small percentage can play any of the games they watch with anything approaching professional skill, yet virtually all understand the rules well enough to appreciate what they see. The public must then, in the same way, understand science if it is to react intelligently. They must at least be capable of following the game, even if they can’t play it.

- Isaac Asimov, 1980.

The purpose of this course is to train students in the fundamentals of research design in the social sciences. Many students will take jobs after graduation where they will, occasionally or frequently, oversee the research process – developing problem statements, issuing calls for proposals, evaluating proposals, choosing a research team, monitoring the research process, using research results in the policy process. Some students will return to graduate school, where they will receive further training in the scientific research process, and may choose a career in research in one field or another. Whatever job students take, they are likely to make use of research produced by others to understand problems and evaluate potential solutions. In fact, all students are consumers of research, whether they realize it or not, throughout their daily lives. With the understanding of research design that students gain through this course, they can be more critical and more effective as both consumers and producers of social science research.

The first third of the course will provide an introduction to the concepts and structure of scientific inquiry. You will develop an understanding of the fundamental distinction between inductive and
deductive reasoning, the processes of conceptualization and measurement, the concepts of validity and reliability, and the basic elements of research design. In other words, this part of the course will teach you how to turn a general research question into valid measures of the real world. The remainder of the course will provide an introduction to ways of collecting, analyzing, and presenting data. You will learn the basics of sampling, survey design, qualitative field research, and using census data and other secondary sources, and you will gain experience in analyzing both quantitative and qualitative data. By the end of the course, you will be conversant in the language of social science research and know what questions to ask of yourself and others in the design of research projects and the use of research results.

Assignments and Grading
You will complete three kinds of activities on which you will be graded: in-class exercises, a research proposal, and two midterms. Lectures, readings, and discussion sections are designed to help you successfully complete these activities – the more that you do, the more that you’ll learn, and the better grade you’ll earn. Assignment prompts are posted on the class website, and completed assignments will be submitted via Canvas.

In-Class Exercises:
For the most part, Tuesday sessions will be devoted to lectures, and Thursday sessions will be devoted to in-class exercises. The purpose of these exercises is to improve your understanding of the concepts you are reading about in the textbook and to give you hands-on experience with applying these concepts. In these exercises, you will work in small groups of three to four students to complete an assigned task during a portion of the class period.

For each exercise, the members of the group will choose specific roles, as described in a separate handout: facilitator, recorder, and reporter. At the end of the period, the reporter for each group will give a brief summary of her group’s results, and the class will discuss issues that arose during the course of the exercise. The recorder for each group will turn in his notes, with the names on the group members, to the instructor at the end of the class. You will be graded on the percentage of exercises in which you participate.

Research proposal:
You will prepare a research proposal over the course of the quarter. The purpose of the research proposal is to give you experience in developing a research question, designing a study to address that question, and clearly and concisely describing the proposed study. This assignment will be divided into five stages, designed to help you work towards the final proposal and to enable feedback from me along the way. The assignment is described in more detail in a separate handout, available on the class website. Each stage of the assignment will be separately graded.

Midterms:
Two midterms will also be given. The purpose of these exams is to ensure that you have acquired an adequate understanding of the material covered in the class. The first midterm will be given in the fifth week of the quarter and will cover material from Week 1 through Week 5. The second midterm will be given during the last class session of the quarter and will cover the material from Week 6 through Week 10 of the course as well as material covered on the first midterm.
Sections:
Attendance at sections is mandatory. Activities during sections will aim at two goals: reviewing course materials from the previous week and helping you develop different aspects of your research proposals. In a couple instances, selected readings from journal articles will be assigned before discussion section and made available on the class website or on Canvas. On these days, please bring copies of articles to your discussion section.

Grading:
The breakdown in grading for these assignments is as follows:

- In-class exercise participation: 10%
- Section participation: 10%
- Research proposal:
  - Question and background: 5%
  - Literature review: 10%
  - Design and measures: 10%
  - Data collection and budget: 10%
  - Proposal: 20%
- Exams:
  - Midterm 1: 10%
  - Midterm 2: 15%

Papers should be submitted via Canvas. Late papers will NOT be accepted for full credit except with acceptable documented reason, prior permission, or because of a medical emergency. A late paper without an acceptable written excuse will lose one grade step per day for each day it is late. Rewrites will not be accepted; you have time to meet with us for clarification and/or explanation prior to the assignment due date and you should avail yourself of this opportunity.

Readings
The course textbook is available here:
http://scholarcommons.usf.edu/cgi/viewcontent.cgi?article=1002&context=oa_textbooks
This text will be your key reference for the fundamental concepts of research that we’ll be covering in the first half of the course. Lecture notes will be an important supplement to the textbook and will be posted on the class website, along with any Powerpoint presentations we use. We will also be assigning other readings that will be posted on the class website or on Canvas.

Expectations
We expect you to attend class, read assigned chapters and articles, participate in in-class exercises and discussion sections, and submit an original proposal that reflects your own original work. Plagiarism, the intentional or inadvertent use of someone else’s work without appropriate credit, will not be tolerated! Cutting and pasting material from the web and claiming it as one’s own is a serious offense that merits disciplinary action. Lots of useful websites are available to help you determine when citations are appropriate and to avoid accidental plagiarism (e.g., this site at UCD: http://sja.ucdavis.edu/avoid.htm). We encourage you to discuss your work with your classmates in discussion sections and outside of class, but the work you submit must be your own.
Learning is ultimately your responsibility, but we have an obligation to facilitate that learning by providing a coherent guide to the course material and assigning activities that give you an effective opportunity to apply that material. You can expect us to provide clear direction and timely feedback on assignments and to provide adequate response to questions and concerns. You can expect us to be fully prepared for class sessions and available during office hours.

Students who require special accommodations because of disabilities should visit the Disability Resource Center (http://drc.ucdavis.edu/) at the beginning of the quarter. We will not be able to provide for special accommodation unless the student has first gone through the process required by the DRC. Students who will be missing class or cannot meet assignment deadlines for religious or medical reasons or for essential family business should let us know as far ahead as possible and must provide written documentation if we request it.

Schedule

The schedule for the course is outlined below. Classes will alternate between lectures and in-class exercises. We expect you to complete assigned readings before each class. Discussion sections will focus on reviewing the material covered in class that week, preparing for the midterms, and building the skills necessary to complete the proposal assignment. Due dates for the five stages of the proposal assignment are evenly spread at two week intervals across the 10 weeks of the quarter. The first midterm is scheduled for February 14th, and the second midterm is scheduled for March 16th. Changes in the schedule will be announced in class and posted on the class website:

## ESP 178 Schedule - subject to change

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Topics</th>
<th>Readings</th>
<th>Proposal Due Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/10</td>
<td>Tues</td>
<td>Introduction (video + quiz)</td>
<td>Cul-de-sacs proposal</td>
<td></td>
</tr>
</tbody>
</table>
| 1/12 | Thurs | Conceptualization and Operationalization | Chapter 1 thru p. 6  
Chapter 2  
Chapter 3 p. 20-24  
Chapter 4 thru p. 28  
Chapter 6 thru p. 47  
Chapter 7 p. 55-61 |                    |
| 1/13 | Fri   | "What is science?"                   |                                                                         |                    |
| 1/17 | Tues  | Exercise: Conceptualization and Operationalization | Schneider article (in Canvas "Files" folder) |                    |
| 1/19 | Thurs | Research design and causality criteria | Chapter 5  
Schutt reading 1 |                    |
| 1/20 | Fri   | Discussion of topics                 |                                                                         |                    |
| 1/24 | Tues  | Exercise: Research design and causality | Ecological Fallacy explanation from UC Berkeley;  
“The ecological fallacy rides again” | 1. Question and background |
| 1/26 | Thurs | Experiments                          | Chapter 10 (stop after block designs);  
Schutt reader 2;  
An additional reading TBA;  
Read Proposal Stage 2 assignment! |                    |
| 1/27 | Fri   | Conducting a literature search       |                                                                         |                    |
| 1/31 | Tues  | Exercise: Experiments                |                                                                         |                    |
| 2/2  | Thurs | Sampling                             | Chapter 8;  
Course handouts |                    |
| 2/3  | Fri   | Reading articles                     | Lubell et al, 2009                                                      | 2. Literature review|
| 2/7  | Tues  | Exercise: Sampling                   |                                                                         |                    |
| 2/9  | Thurs | Survey research                      | Chapter 9 (skip "interview survey" section);  
Chapter 16;  
Schutt handout on pros and cons of survey methods |                    |
<p>| 2/10 | Fri   | Review for midterm                   |                                                                         |                    |
| 2/14 | Tues  | <strong>Midterm 1</strong>                        |                                                                         |                    |</p>
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<tr>
<th>Date</th>
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<th>Topic and Notes</th>
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| 2/16  | Thurs | Exercise: Survey design  
Fowler, 1992;  
Dillman, 1991;  
Dillman and Bowker, 2001 |
| 2/17  | Fri   | Human subjects and the  
IRB |
| 2/21  | Tues  | Exercise:  
Scales  
See the following for  
examples of scales:  
Grob, 1995;  
Bixler and Floyd, 1997;  
Gatersleben et al, 2002;  
Nordlund and Garvill, 2002 |
| 2/23  | Thurs | Quantitative analysis (pt.  
1)  
McElreath Ch. 1 (sections 1.1  
and 1.2);  
Gelman and Hill Ch. 2 (section  
2.1 - skip multivariate normal  
and log-normal - and sections  
2.2 and 2.5);  
Gelman and Hill Ch. 3  
(sections 3.1, 3.2, and 3.6) |
| 2/24  | Fri   | Reading articles  
TBD |
| 2/28  | Tues  | Quantitative analysis (pt.  
2)  
Gelman and Hill Ch. 5 (section  
5.1) and 6 (section 6.2  
through p. 113 and 6.3  
through p. 117) |
| 3/2   | Thurs | Exercise: survey workshop |
| 3/3   | Fri   | Exercise:  
data analysis |
| 3/7   | Tues  | Observations, secondary  
data, and case studies  
Chapter 11 |
| 3/9   | Thurs | Qualitative research and  
analysis  
Chapter 9, p. 78-80  
Chapter 12, p. 106-111  
Chapter 13 |
| 3/10  | Fri   | Exercise:  
Census data |
| 3/14  | Tues  | Course wrap-up and  
review  
Article for midterm |
| 3/16  | Thurs | Midterm 2 |
| 3/17  | Fri   | Proposal review |
| 3/24  | Fri   | Proposal due 6pm  
5. Full proposal |