Spring 2-1-2016

SOCI 563.01: Social Data Analysis

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Social Data Analysis

Sociology 563
T, TH: 2:10p-5:00p
Social Science, Room 262
Spring 2016

INSTRUCTOR:

- **Dusten Hollist**
- **Office: Social Science 321**
- **Office Hours: W 4:00p-5:00p, TH 2:00p-3:00p; by appointment**
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- **Phone: 243-2843**

COURSE OBJECTIVE

The objective of this course is to expose you to the multivariate statistical methods that are commonly used in the professional practice of sociological research. In contrast to a course that focuses on an in depth treatment of a single technique, our objective will be a more broad treatment of multiple methods. We will examine the assumptions that these techniques make about the data and what types of research questions that they are intended to address. Attention will be divided between understanding the logic behind the techniques and the application and interpretation of them.

LEARNING OBJECTIVES

Upon completion of the course, you will be able to:

- Use SPSS (Statistical Package for the Social Sciences) to conduct multivariate tests based on factor analysis, regression and analysis of variance.
- Understand scaling and measurement of variables.
- Learn to recognize the types of research questions that can be examined with these tools.
- Learn strategies for evaluating the assumptions.
- Gain proficiency on how to interpret, write-about, and present the results to a professional audience.

EXPECTATIONS

Each of you will walk out of this class with a preliminary analysis of “real world” data. If you apply yourself accordingly and choose a topic that is meaningful to you, the term paper that you complete can very easily be worked into a thesis proposal or perhaps even a peer review manuscript. I want to challenge you to do more than what is needed to simply satisfy the basic requirements for completion of the course. Keep in mind that you are working for yourself and embrace this as an opportunity to build the foundation for a full-scale research project. At the graduate level I expect students to become contributors to the disciplines in which they are being trained, not simply consumers of the knowledge this is already contained within them.

TEXT

- Tabachnick, Barbara G. And Linda S. Fidell. 2007. *Using Multivariate Statistics 5th Edition*. Allyn and Bacon: New York.

COURSE REQUIREMENTS

Students are expected to attend class each time we meet. We will be covering issues pertaining to the theory behind the various methods that we will cover. We will also spend a substantial amount of time actually using SPSS to perform multivariate statistics and interpreting the results. There will be a total of seven problem sets (ten points each) and two analysis of secondary data exercises (twenty points each) that are assigned throughout the duration of the semester. ***A data analysis paper (120 points) is due in class the Tuesday before finals week (May 3rd).*** In addition, each student will have the opportunity to earn 25 points for class participation. There are 255 total points available in the course.

PROBLEM SETS

The problem sets will regularly be given. These will involve a variety of things pertaining to calculating and interpreting statistical data. Each member of the class is required to submit the problem sets. However, many of them are such that they can be worked on in groups with each individual member writing and submitting his/her own draft of the assignment.

RESEARCH PAPER

The data and topic of the research paper need to be approved before you start. I have secondary data sources that may be of interest to you and your research paper. I will speak at length about these data sources during class time. The paper should follow standard journal article formatting, but may be lighter on the theoretical background and literature review. The last session of the semester and the final meeting time will be devoted to student presentations of their work. These presentations should be conference quality and approximately fifteen minutes long.

STATISTICAL SOFTWARE

We will be using SPSS to conduct multivariate statistical tests. SPSS is a data processing program that unlike STATA and SAS (other popular data analysis packages) does not require extensive computer programming. If you have the ability to navigate a windows point and click operating system, the knowledge needed to navigate the SPSS program should be easily obtained. SPSS will be provided to you in the lab. Often however, students elect to purchase the program for use on their home computer.

GRADES

As mentioned above, there are a total of 255 points available in the course. Grades will be based on an average of the number of points each students earns in relation to the total points available. Grades will be distributed along the following cut-offs:

Letter Grade	Grade Percent
A	90-100 percent
B	80-89 percent
C	70-79 percent
D	60-69 percent
F	59 percent or below

CLASS POLICIES AND ISSUES

Class will begin each time we meet at 2:10p and will run until 5:00p. At this level it is expected that students come prepared to work. Each of us will be working at different levels of proficiency toward a common goal. Disrespecting either other students or the instructor will not be tolerated. Comments and questions are encouraged. In order to maintain this we need a classroom environment where people feel comfortable addressing issues. Common courtesy for one another will go a long way in aiding this goal.

DISABILITY ACCOMMODATIONS

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students (DSS). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with DSS, please contact DSS in Lommasson Center 154 (243-2243). I will work with you and DSS to provide an appropriate accommodation.

ACADEMIC HONESTY AND INTEGRITY (UM OFFICIAL STATEMENT):

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the university. All students must be familiar with the Student Conduct Code. The code is available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.

A FINAL NOTE

Feel free to come and see me if you need to discuss the course material or anything else related to your academic concerns. Our relationship will work best if we are able to openly discuss issues. I am committed to your progress and will remain responsive to issues and concerns that arise.

WEEKLY COURSE SCHEDULE

Unit One: Introduction and Variable Measurement **Week 1 (January 25th – January 29th)** Tabachnick and Fidell Ch. 1 A: Course Overview B: Introduction to SPSS
Week 2 (February 1st – February 5th) Tabachnick and Fidell Ch. 2 A: Philosophy of Science B: Measurement Issues ***** Self Introduction Paper Due Tuesday, February 2nd*****
Week 3 (February 8th – February 12th) Tabachnick and Fidell Ch's. 3, 4 A: Bivariate and Multivariate Techniques B: Data Screening ***** Problem Set One Due Tuesday, February 9th*****
Unit Two: Scaling and Factor Analysis **Week 4 (February 15th – February 19th)** Mertler Ch. 9; Tabachnick and Fidell Ch. 13 *****Last Day to Identify Secondary Data*****
Week 5 (February 22nd – February 26th) Tabachnick and Fidell Ch. 13 ***** Problem Set Two Due Tuesday, February 23rd*****
Unit Three: Regression **Week 6 (February 29th – March 4th)** Healey Ch. 15; Mertler Ch. 7 ***** Problem Set Three Due Tuesday, March 1st*****
Week 7 (March 7th – March 11th) *****Research Work Week, No Class***** ***** Secondary Analysis One Due Tuesday, March 8th*****
Week 8 (March 14th – March 18th) Tabachnick and Fidell Ch. 5 ***** Problem Set Four Due Tuesday, March 15th*****

Week 9 (March 21st – March 25th) Tabachnick and Fidell Ch. 5; Healey Ch. 17 *****Research Approval for Term Paper Deadline*****
Week 10 (March 28th – April 1st) Tabachnick and Fidell Ch. 5 ***** Problem Set Five Due Tuesday, March 29th*****
Week 11 (April 4th – April 8th) ***Spring Break, No Classes***
Unit Four: Analysis of Variance **Week 12 (April 11th – April 15th)** Healey Ch. 10; Tabachnick and Fidell Ch. 6 ***** Secondary Analysis Two Due Tuesday, April 12th*****
Week 13 (April 18th – April 22nd) Mertler Ch's. 5,6; Tabachnick and Fidell Ch. 7 ***** Problem Set Six Due Tuesday, April 19th*****
Week 14 (April 25th – April 29th) Tabachnick and Fidell Ch. 7; Hair Ch. 6 ***** Problem Set Seven Due Tuesday, April 26th*****
Week 15 (May 2nd – May 6th) Course Wrap-up, Conclusions, and Course Evaluations ***** Data Analysis Paper Due on Tuesday, May 3rd*****
Week 16 (May 9th – May 13th) Finals Week **Final Meeting Time is Monday, May 9th (1:10p to 3:10p)**