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### SOCI 563.01: Social Data Analysis

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**Social Data Analysis**  
Sociology 563  
M, W: 11:00a-12:20p  
Social Science, Room 262  
Spring 2018

**INSTRUCTOR:**

- **Dusten Hollist**
- **Office: Social Science 321**
- **Office Hours: T 11:00a-12:00p, W 9:00a-10:00a; TH 3:00p-4:30p; by appointment**
- **Email Address: *dusten.hollist@mso.umt.edu***
- **Phone: 243-2843**

**COURSE OBJECTIVE**

The objective of this course is to expose you to the multivariate statistical methods 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 broader 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. 2013. *Using Multivariate Statistics 6<sup>th</sup> 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) that are assigned throughout the duration of the semester. ***A data analysis paper (120 points) is due in class the Monday before finals week (April 30<sup>th</sup>)***. In addition, each student will have the opportunity to earn 25 points for class participation. There are 215 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 215 points available in the course. Grades will be based on an average of the number of points each student 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 11:00a and will run until 12:20p. 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.

## **COURSE SCHEDULE**

MONDAY	WEDNESDAY

Jan 22 <sup>nd</sup> : Course Overview Tabachnick and Fidell Ch. 1 <b>Self Introduction Paper Due in Class</b>	Jan 24 <sup>th</sup> : Introduction to SPSS Tabachnick and Fidell Ch. 1
Jan 29 <sup>th</sup> : Philosophy of Science Tabachnick and Fidell Ch. 2	Jan 31 <sup>st</sup> : Measurement Issues Tabachnick and Fidell Ch. 2 (P)
Feb 5 <sup>th</sup> : Bivariate and Multivariate Techniques Tabachnick and Fidell Ch. 3	Feb 7 <sup>th</sup> : Data Screening Tabachnick and Fidell Ch. 4 <b>Last Day to Identify Secondary Data</b>
Feb 12 <sup>th</sup> : Scaling and Factor Analysis Tabachnick and Fidell Ch. 13 Mertler Ch. 9	Feb 14 <sup>th</sup> : Scaling and Factor Analysis Tabachnick and Fidell Ch. 13 (P)
Feb 19 <sup>th</sup> : <b>No Class-President's Day</b>	Feb 21 <sup>st</sup> : Scaling and Factor Analysis Tabachnick and Fidell Ch. 13 (P)
Feb 26 <sup>th</sup> : Scaling and Factor Analysis Tabachnick and Fidell Ch. 13	Feb 28 <sup>th</sup> : Scaling and Factor Analysis Tabachnick and Fidell Ch. 13
Mar 5 <sup>th</sup> : Regression Tabachnick and Fidell Ch. 5 Healey Ch. 15	Mar 7 <sup>th</sup> : Regression Tabachnick and Fidell Ch. 5 (P)
Mar 12 <sup>th</sup> : Regression Tabachnick and Fidell Ch. 5 Mertler Ch. 7	Mar 14 <sup>th</sup> : Regression Tabachnick and Fidell Ch. 5 <b>Research Approval for Term Paper Deadline</b>
Mar 19 <sup>th</sup> : Regression Tabachnick and Fidell Ch. 5 Healey Ch. 17	Mar 21 <sup>st</sup> : Regression Tabachnick and Fidell Ch. 5 (P)
Mar 26 <sup>th</sup> : <b>Spring Break</b> <b>No Classes</b>	Mar 28 <sup>th</sup> : <b>Spring Break</b> <b>No Classes</b>

Apr 2 <sup>nd</sup> : Regression Tabachnick and Fidell Ch. 5	April 4 <sup>th</sup> : <b>Project Work Day #1</b>
Apr 9 <sup>th</sup> : Analysis of Co-variance Tabachnick and Fidell Ch. 6 Healey Ch. 10	Apr 11 <sup>th</sup> : Analysis of Co-variance Tabachnick and Fidell Ch. 6 (P)
Apr 16 <sup>th</sup> : Analysis of Variance Tabachnick and Fidell Ch. 7 Mertler Ch's. 5,6	Apr 18 <sup>th</sup> : Analysis of Variance Tabachnick and Fidell Ch. 7 (P)
Apr 23 <sup>rd</sup> : Analysis of Variance Tabachnick and Fidell Ch. 7 Hair Ch. 6	Apr 25 <sup>th</sup> : <b>Project Work Day #2</b>
April 30 <sup>th</sup> : Course Wrap-up and Conclusions <b>Data Analysis Paper Due in Class</b>	May 2 <sup>nd</sup> : Data Analysis Paper Presentations
May 11 <sup>th</sup> : <b>Final Meeting Time (10:10a-12:10p)</b> Data Analysis Paper Presentations	

(P) Indicates a problem set will be handed out.

\*\* Schedule is subject to change.