

University of Manitoba
Department of Sociology and Criminology

SOC 4570 A01
QUANTITATIVE SOCIAL ANALYSIS
Winter Term, January – April 2020

Instructor: Dr. Jason D. Edgerton
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Office: 323 Isbister
Office Hours: By appointment
Classroom: Isbister 202 – Wednesdays – 11:30am - 2:15pm
Credit Hours: 3
Required Text: Roberts, L.W., Edgerton, J., Peter, T. & Wilkinson, L. (2015). *Understanding Social Statistics: A Student's Guide to Navigating the Maze*. Oxford University Press.

Overview & Objectives

This is a course in quantitative analysis techniques. Obtaining both an understanding of various statistical techniques and the ability to interpret and apply these procedures to actual data is challenging. Mastery of the material requires commitment, effort, and practice. The course assumes that students have taken a course similar to SOC2290. We begin with the fundamentals of descriptive and inferential statistics. We then build systematically on this base, working our way toward an understanding and application of multivariate regression and path analysis. The course aims at enhancing your understanding of how to select, calculate, and interpret a variety of fundamental statistics, as well as how to utilize SPSS for these applications.

Tentative Schedule

The following is a tentative schedule identifying the weekly reading assignments. We reserve the right to adjust our schedule as appropriate.

Note: At the end of each chapter are several calculation and interpretation problems. The back of the text contains the answers to the problems. *Our class discussion will be confined to solving and interpreting odd-numbered problems.*

January

- 8 Orientation and review of fundamental concepts
- 15 Chapters 1 through 5
- 22 Chapters 6 through 8
- 29 Chapters 9 through 11

February

- 5 Chapter 12 through 14
- 12 Catch-Up & Review
- 19 No Class Mid-Term Break
- 26 Test 1

March

- 4 Chapters 15 & 16
- 11 Chapter 17
- 18 Chapters 18 & 19
- 25 Chapters 20 & 21

April

- 1 Path Analysis
- 15 Test 2

Class Organization

The textbook contains all the relevant material I will cover about the topics under, stated as clearly as I know how. From experience, I know the 5-step learning model is an effective way for you to master the material. In short, other than the topic of Path Analysis (which is not covered in the textbook), all the course material is articulated as clearly as I know how in the book. Given this situation, here is how we will proceed each week.

Quiz (approximately 15 minutes): Covering the readings and discussion in the *previous week*.

Knowing (approximately 60 minutes):

1. You are expected to read the assigned chapter(s) in advance of the class.
2. We will spend approximately one hour reviewing key points, ideas, and techniques related to the readings for the week. (We will discuss the expectations and format of this component in the orientation.)
3. As always, you are encouraged to ask questions to clarify your understanding.

Break (approximately 10 minutes)

Doing (approximately 60 minutes):

1. **Homework:** Each week I will ask you to submit, for grading, a hand-calculation or SPSS problem from the *previous week's* problem set.
2. **In class problems:** I will distribute two questions related to the previous week's work: (a) a hand-calculation and interpretation question, and (b) an SPSS-analysis and interpretation question. These will be submitted for grading.
3. The remaining time in each class will be devoted to supporting your work on either the hand-calculation or SPSS exercises associated with the current week's readings.

In summary, each class is organized so that, after you come prepared, I provide direction and support to your understanding and application. By the time you leave the class you should have a good start toward mastering that week's ideas, techniques, and interpretations.

Follow-Up: Your task is to complete the hand-calculation and SPSS-analysis questions associated with the chapters.

Course Requirements

Your grade in this course will be based on your mastery of the contents of the readings, class discussions, and statistical application exercises. Although you are personally responsible for mastering the course contents, I firmly believe that learning is a *social enterprise*. Therefore, I strongly encourage students to help one another both inside and outside of class.

The components of your final grade in this course include the following:

- *Weekly Quizzes & Calculation Problems – 20 percent.* Most weeks we begin the class with a short multiple choice quiz. The quiz covers the readings discussed *in the previous week*. Most weeks also include a homework submission and an in-class problem. Again, these exercises relate to the materials covered in the *previous week*.
- *Test 1 – 40 percent.* This will occur during the class period on **February 26**. It will cover the readings and related material covered up to that date. The test will focus on calculation and interpretation problems. See Note 2 below for some comments about the Unit Test and Final Exam.

- *Test 2 – 40 Percent.* This 3 hour exam is tentatively scheduled during the final exam period for **Wednesday, April 15, 2020 at 10:00 a.m.** The exam location will be announced later in the term. It will cover the readings and related material covered after the Test 1. Like the Test 1, Test 2 will focus on calculation and interpretation problems. Again, see Note 2.
- Students can expected to receive test and assignment grades a week after they are submitted.

Some Final Notes:

1. *Directed vs Interpretive Questions:* Each textbook chapter contains several hand-calculation and computer-analysis questions. The “answers” (as opposed to “solutions”) are contained in the back of the book. These questions are of the “directed” type – in the sense that you are told what to do. In real research, nobody tells you how to proceed; that is part of the problem. You must decide what statistical techniques are appropriate to the situation at hand and then proceed to apply them. These are “interpretive” questions – since your first task is to understand (interpret) what procedures are appropriate.
2. *Test Format:* Each test will be composed of both “directed” and “interpretive” types of questions. The “directed” questions on the tests will be *selected from the even-numbered questions at the end of the chapter.*

You may bring your textbook to the tests, but it must be a “clean” copy (i.e. without notes of any kind) and **pages 446 to 463 (Answer Key) must be sealed from use.** You may, however, bring a **single piece of paper with the numerical answers** (not calculations or interpretations) to the even-number questions.

3. *Consequences:* Only documented reasons (medical, emergency, or grief) are acceptable for not meeting course requirements, which includes class attendance (see the University of Manitoba Undergraduate Calendar). Students who provide acceptable documentation for a missed quiz or unit test will be permitted to write on separate day (*Thursday, April 9th, 9:30 a.m.*) *at the end of the term.* Weekly quizzes occur at the beginning of each class. Students who arrive late may be allowed to start, but will not be given extra time for completion. The calculation and interpretation problem(s) at the end of each class are time limited and must be submitted when the time is ended. Without proper documentation, if you fail to write a quiz or test, or complete end-of-class problems, you will receive a grade of zero on that component.
4. *Commitment:* Although I encourage students to help one another both inside and outside of class, at unit test and final exam time you are responsible for having mastered the course contents. Therefore, please commit yourself early to serious, sustained study of the course material.
5. *Voluntary Withdrawal:* Voluntary withdrawal deadline date: March 18, 2020.
6. *Academic Integrity:* Students should acquaint themselves with the University’s policy on plagiarism, cheating, exam personation, (“Personation at Examinations” (Section 5.2.9) and “Plagiarism and cheating” (Section 8.1) and duplicate submission by reading documentation provided at the Arts Student Resources web site at: http://umanitoba.ca/faculties/arts/student_resources/student_responsibilities_integrity.html. Ignorance of the regulations and policies regarding academic integrity is not a valid excuse for violating them.
7. *Making the Grade:* Students always ask how I translate the percentage grades received on tests, exams, and projects into the letter grades awarded at the end of the year. My procedure is straightforward. I weight each course component according to its contribution toward your final grade and add these weighted products. Then I use the following key:

Total Percentage	Letter Grade
90+	A+
80-89	A
75-79	B+
70-74	B
65-69	C+
60-64	C
50-59	D
0-49	F

8. Any term work not claimed by students will be held for four (4) months from the end of the final examination period for the term in which the work was assigned. At the conclusion of this time, all unclaimed term work will become property of the Faculty of Arts and be destroyed according to FIPPA guidelines and using confidential measures for disposal.

Detailed Class Schedule					
Week	Date	Reading and Lecture Material to be Covered in Class	Quiz	Text Practice Questions due for	In-class hand calculations & SPSS due for
1	January 8	Orientation	-	-	-
2	15	Ch 1-5	-	-	-
3	22	Ch 6-8	#1 Ch 1-5	Ch 1-5	Ch 1-5
4	29	Ch 9-11	#2 Ch 6-8	Ch 6-8	Ch 6-8
5	February 5	Ch 12-14	#3 Ch 9-11	Ch 9-11	Ch 9-11
6	12	Review & Catch-up	#4 Ch 12 -14	Ch 12-14	Ch 12-14
7	19	Reading Week			
8	26	*Test 1*			
9	March 4	Ch 15 & 16	-	-	-
10	11	Ch 17	# 5 Ch 15-16	Ch 15-16	Ch 15-16
11	18	Ch 18 & 19	# 6 Ch 17	Ch 17	Ch 17
12	25	Ch 20 & 21	# 7 Ch 18 & 19	Ch 18 & 19	Ch 18 & 19
13	April 1	Path Analysis	# 8 Ch 20 & 21	Ch 20 & 21	Ch 20 & 21
14	15	*Test 2*			