

University of Manitoba
Department of Sociology

SOC 4570 A01
QUANTITATIVE SOCIAL ANALYSIS
September - December 2010

Instructor: Dr. L.W. Roberts
Telephone: 474-6941
Email: Lance_Roberts@umanitoba.ca (Identify SOC4570 in subject line)
Office: 321 Isbister
Office Hours: By appointment
Classroom: 335 Isbister
Credit Hours: 3
Required Text: Joseph Healey & Steven Prus 2010 *Statistics: A Tool for Social Research*. 1st Canadian Edition. Thomson Wadsworth.

Overview

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 related techniques. 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 and calculation assignments.

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

September

- 15 Orientation and discussion of fundamental concepts
- 22 Chapters 1, 2, 3 *Note:* Quiz will only cover Chapter 1
- 29 Chapters 4, 5

October

- 6 Chapters 6, 7
- 13 Chapters 8, 9
- 20 Chapters 10, 11
- 27 Unit Test

November

- 3 Chapters 12, 13
- 10 Chapters 14, 15

November 17 & 24, December 1 & 8 The contents of these dates are currently flexible. At a minimum, they will cover Chapters 16 and 17, as well as path analysis. The readings for these dates will be announced in class.

Course Organization

Typically, our weekly work in this course will be organized as follows. Each week you will be assigned a chapter or chapters from the book. For the assigned readings it is your responsibility to complete two tasks: (1) *study* (not just read) the assigned readings and (2) complete the calculation and interpretation problems.

This study and practice is essential to your mastery of the material, so please develop your work plan accordingly.

Our time during the class period will be spent as follows. First, we shall review the readings for the week. This review shall occur through discussion, not a formal lecture. Therefore, it is essential that you come to class prepared to discuss the reading material, identify areas of misunderstanding, help one another clarify problematic points, etc. Our goal in this component of the class is to provide the support you need to understand the ideas and perform the calculations covered in the readings. In the second part of our class we shall review solutions to selected calculation and interpretation problems.

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 – 20 percent.* Each week we shall begin the class with a short quiz, composed primarily of multiple choice questions. The quiz will cover the readings discussed *in the previous week*.
- *Unit Test – 30 percent.* This will occur during the class period on October 27th. It will cover the readings and related material covered up to that date. The test will focus on calculation and interpretation problems. See Note 1 below for some comments about the Unit Test and Final Exam.
- *Computer Application Assignments – 20 percent.* The weekly calculation and interpretation problems will be done “by hand”. Through this form of “working the problem” you become engaged in a way that provides a thorough understanding of the technique. The drawback of this approach is that it relies on unrealistically small sample sizes. During the course you will learn how to use the SPSS software package to perform statistical analyses on larger data sets. Your understanding of the application of this statistical package to larger data sets will be tested through computer application problems. Details of these computer application exercises, including their due dates, will be distributed in a separate handout.
- *Final Exam – 30 Percent.* This 3 hour exam will be scheduled during the final exam period. It will cover the readings and related material covered after the Unit Test. Like the unit test, the exam will focus on calculation and interpretation problems. Again, see Note 1.

Some Final Notes:

- 1) *Unit Test and Final Exam:* The textbook contains two kinds of questions. First, there are problems at the end of every chapter; second, at the end of a collection of chapters, there are “cumulative exercises”. The difference between these types of questions is worth emphasizing. For the most part, the chapter problems are “directed”, in the sense that they tell you what statistics to calculate and interpret. The cumulative exercises are different in that they give minimal directions and, instead, challenge you to select and calculate appropriate statistics. These questions are “interpretive”.

Both the unit test and the final exam will be composed of both “directed” and “interpretive” types of questions. The “*directed*” questions on the test and exam will be *selected from the even-numbered questions at the end of the chapter*. The “*interpretive*” questions on the test and exam will be *similar to (but not selected from) the ones contained in the text*.

You may bring your textbook to the test and exam, but it must be a “clean” copy (i.e. without notes of any kind). You may also bring a single sheet of paper which has the **final answers** to the even-numbered textbook problems. Note, however, this sheet *cannot*

contain the steps used in solving any problem, or any other notes about solving the problems.

- 2) *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). Late submission of the computer application assignments will *not be accepted*. Students who provide acceptable documentation for a missed quiz or unit test will be permitted to write on separate day *at the end of the term*. Weekly quizzes occur at the beginning of each class. Students who arrive late may be allow to start, but will not be given extra time for completion.
- 3) *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.
- 4) *Voluntary Withdrawal:* Voluntary withdrawal deadline date: November 17, 2010.
- 5) *Academic Integrity:* As a cautionary note, students should know that the University of Manitoba strictly enforces its policy with respect to academic dishonesty. Students should acquaint themselves with the University's policy on 'Personation at Examinations (Section 4.2.8) and 'Plagiarism and Cheating (Section 7.1) found in the Undergraduate Calendar.
- 6) *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