

**SOCIOLOGY 300H1F:
APPLICATIONS OF QUANTITATIVE METHODS IN THE SOCIAL SCIENCES**

**Blair Wheaton
Department of Sociology
Fall, 2015**

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Web Site: Blackboard.

Time and Place:

Class: Thursday 1-3 ES4001

Tutorials: Wednesday 12-2 (NOT weekly) FE36.

T.A. **Matthew Parbst** (matt.parbst@mail.utoronto.ca)

Calendar Description

Provides students with the opportunity to develop an understanding of the logic of multivariate analysis by applying various strategies for the analysis of complex multivariate data.

Prerequisites:

SOC202H1 or equivalent and one SOC course at the 200+ level. Students without this/these prerequisite/s will be removed at any time discovered and without notice.

Overview

This course is a follow-up to a first methods course that includes some introduction to descriptive and inferential statistics and the logic of multivariate analysis. We begin by going back to go forward, reviewing some material on the fundamental building blocks of statistical theory and statistical inference.

We will look at tables to establish the nature of association and the logic of controlling for variables, and then introduce regression and correlation, and multiple regression. Multiple regression is a universal technique used in most disciplines that apply quantitative data: it is very flexible, and accommodates most styles of thinking and theorizing.

Near the end of the course, we will consider the extensions of this model that reflect its flexibility, including interaction effects between variables (intersections), nonlinear relationships, and logistic regression for dichotomous outcomes.

Required Work

There will be two computer assignments, in which you will analyze data I provide. The first

assignment will be on cross-classification and tables; the second will use multiple regression. I will teach the use of SAS and the data you can analyze in scheduled tutorials. *We will not hold tutorials every week.* Tutorials will be held in the second and third week of class, before the term test, and the week before due dates for assignments. This year, the computer lab in Sociology (FE36, in the basement) will be open to students in this course at scheduled hours so that students can work on assignments independently.

Assignments are written up as short papers meant to analyze a specific research question, following the requirements of the question(s) in the assignment. Results from your computer analyses can be embedded into your assignment as tables.

There will be an in-class term test, and a final exam during the scheduled exam period. The term test will focus on problems, including some calculation and/or interpretation, but will also include some conceptual questions. *This test will be held in the tutorial room.* The final is non-cumulative, and will include material only from the section on correlation and regression forward.

Due Dates and Weights for Required Work:

Physical copies of assignments will be handed in on the due date before 5 pm at the Department of Sociology, at 725 Spadina. These assignments are not to be handed in to departmental staff, or by email, but should be handed in by deposit in appropriate boxes in Room 225 designated for course work, using the date/time stamp machine, or to the T.A. during office hours they arrange for this purpose.

Provisional due dates for required work are as follows:

Work	Date	Weights
1. First Assignment	Thursday, October 15	20%
2. Term Test	Wednesday, October 28	20%
3. Second Assignment	Thursday, November 26 th	30%
4. Final Exam	exam period	30%

Please note: Late assignments will be given a 10% reduction in the grade immediately. This means that the assignment will be given a weight equal to .90 of the assigned weight. This increases to 20% if the assignment is late more than 3 days. Assignments will not be accepted if they are more than a week late. Your grade will be zero on that part of the course.

Blackboard

Blackboard will be used in this course primarily for two purposes: 1) I will post data, assignments, SAS examples, and other course materials there; textbook there; and 2) I will post most lecture Power Point materials there – when they are presented in class.

Required Reading:

There is set of notes covering all topics in this class that will be sold through The Copy Place, on the west side of Spadina, in the block south of Bloor.

Texts:

These texts will be at the book store but can also be accessed online from a University of Toronto IP address:

Michael S. Lewis-Beck. Applied Regression: An Introduction. Beverley Hills, CA: Sage Publications. 1980.

Larry D. Shroeder et al. Understanding Regression Analysis: An Introductory Guide. Beverley Hills, CA: Sage Publications. 1980.

Student Accommodations

Please see me if you have a disability or other need that requires accommodation or classroom modification. I will be glad to help you in whatever way I can.

Missed Deadlines or Tests

Medical Issues: Please note that requests for medically based exemptions for the assignment deadline must be accompanied by a U. of T. medical form, signed in legible handwriting and completely filled out with address and CPSO registration number. The original form must be given to me in person, within 7 business days, with the opportunity for me to make a Xerox copy. Forms that are scanned or xeroxed will not be accepted.

In case of *illness*, you must supply a duly completed Verification of Student Illness or Injury form (available at www.illnessverification.utoronto.ca). A doctor's note is not acceptable. The form must be placed in a sealed envelope, addressed to the instructor, and submitted with your work at class or to your TA during their office hours. This should be submitted to me or a T.A. within 5 business days after the period of illness noted in the form.

If a *personal or family crisis* prevents you from meeting a deadline, you must get a letter from your college registrar. The letter must be placed in a sealed envelope, addressed to the instructor, and submitted with your work at class or to your TA during their office hours.

Term Test

If you miss the term test, you must follow one of the procedures above to qualify for a make-up test. The T.A. will not run a make-up test separately for each individual. There will be one sitting arranged for all qualified students for a make-up test.

Academic Integrity

Students are expected to know and adhere to the University's principles of academic integrity. Any act of plagiarism or other unethical behavior will be addressed in accordance with University guidelines. Students should be aware that turning in an old paper, or large parts thereof, for credit in a second course, is considered an academic offense. Please see the "Code of

Behaviour on Academic Matters"

(<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) for specific information on academic integrity at the U of T.

Appointments

I generally do not hold specific office hours. I encourage you to email or phone me using the number on the first page and arrange an appointment at any time. I am in my office on most days. But, in general, I will be in my office from 3-5 on Mondays after this class, if you want to stop by.

I will designate special office hours in the weeks before assignments are due – to be announced later.

Re-marking

We will use specific marking keys for both assignments and tests. Those keys define the universe of possible answers and possible variations in those answers. In a course such as this, the only issue that may come up is a mistake in applying the key to the answers in specific cases. If there is a mistake in an assignment or test you get back, you should see the T.A. *within two weeks of your receipt of the test or assignment*. In general, we will not consider work for re-grading after feedback on a later test or assignment, unless it is in this two week period.

Class Schedule and Readings

<i>Date</i>	<i>Day</i>	<i>Topic / Work</i>	<i>Readings</i>
September 17	Thursday	1. Overview Review of Descriptive Statistics	Online: Descriptive Statistics Notes: Descriptive Statistics
September 24	Thursday	2. Probability and Inference	Online: Statistical Inference Notes: Statistical Inference and Tests of Hypotheses
September 30	Wednesday	Tutorial: Intro to SAS	Notes
October 1	Thursday	3. Cross-Classification Studying Association in Tables	Online: Cross-Classification Notes: Cross-Classification
October 7	Wednesday	Tutorial: SAS Procedures, Class Data Assignment #1	Notes
October 8	Thursday	4. Multivariate Tables	Online: Cross-Classification Notes: Multivariate Tables
October 15	Thursday	5. Introduction to Correlation and Regression	Lewis-Beck: ch. 1 and 2. Schroeder ch. 1 and 3. Notes: Intro to Correlation and Regression
October 21	Wednesday	Tutorial: Test Review	
October 22	Thursday	6. Multiple Regression	Lewis- Beck pp 47-56, 63-66. Schroeder ch 2. Notes: Multiple Regression
October 28	Wednesday	Term Test	
October 29	Thursday	7. An Introduction to Models	Online: TBA Notes: Specifying and Interpreting Models
November 5	Thursday	8. Dummy Variables in Regression	Lewis-Beck pp 66-73. Schroeder pp. 54-58. Notes: Dummy Variables in Regression
November 12	Thursday	9. Regression Extensions: Interactions	Schroeder pp. 58-65 Notes: Interactions in Regression
November 18	Wednesday	Tutorial: Assignment 2	
November 19	Thursday	10. Regression Extensions: Nonlinear Regression	Online: TBA Notes: A Short Intro to Nonlinear Regression.
November 26	Thursday	11. Intro to Logistic Regression I	Online: TBA Notes: Logistic Regression
December 3	Thursday	12. Logistic Regression II Exam Review	Notes: Logistic Regression

