SOCIOLOGY 300:

APPLICATIONS OF QUANTITATIVE METHODS IN THE SOCIAL SCIENCES

Blair Wheaton

Department of Sociology

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Web Site: Blackboard.

Time and Place:

Class: Monday 1-3 SS1084

Tutorials: Thursday 1-3 FE36.

T.A.s **Athena Engman (Athena.engman@utoronto.ca)**
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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.

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, as a make-up class, and before the term test.

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. 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, or to T.A.'s during office hours they arrange for this purpose.

Provisional due dates for required work are as follows:

Work	Date	Weights
1. First Assignment	Friday, October 5	20%
2. Term Test	Thurs, October 16	20%
3. Second Assignment	Monday, Nov. 24th	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. Papers 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:

Text:

Statistical Methods for the Social Sciences, Fourth Edition. Alan Agresti and Barbara Finlay. Upper Saddle River, NJ: Pearson Prentice-Hall (at U of T Bookstore).

Important Note: I will also produce class notes for this class. They can be purchased at The Copy Place, on the west side of Spadina, in the block south of Bloor.

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 assignment deadlines 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. The U. of T medical form is available from www.healthservice.utoronto.ca/pdfs/medcert.htm

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. who graded the test or assignment ***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

Two Monday classes will be missed over the course of the semester due to holidays. One of these will be replaced by a tutorial, and the other will be added on Wednesday, December 3rd.

Date	Day	Topic / Work	Readings
September 8	Monday	**1. Overview** **Review of Descriptive Statistics**	**Agresti and Finlay: Ch 2.2 to 3.4** **Notes: pp. 1-12**
September 15	Monday	**2. Probability and Inference**	**Agresti and Finlay: Ch 4.1 to 4.5;** **5.1 to 6.7** **Notes: pp. 12-44**
September 18	Thursday	***Intro to SAS***	
September 22	Monday	**3. Cross-Classification** **Studying Association in Tables**	**Agresti and Finlay: Ch 8** **Notes: Cross-Classification**
September 25	Thursday	***SAS Procedures and Class Data***	
September 29	Monday	**4. Multivariate Tables**	**Agresti and Finlay: Ch 10.2 – 10.3** **Notes: Multivariate Tables**
October 6	Monday	**5. Introduction to Correlation and Regression**	**Agresti and Finlay: Ch 9.** **Notes: Intro to Correlation and Regression**
October 9	Thursday	***Test Review***	
October 16	Thursday	***Term Test***	
October 20	Monday	**6. Multiple Regression**	**Agresti and Finlay: Ch 11.1 – 11.4, 11.6-11.8, 14.1-14.4** **Notes: Multiple Regression**
October 27	Monday	**7. An Introduction to Models**	**Agresti and Finlay: Ch 10.1, 10.4.** **Notes: Specifying and Interpreting Models**
November 3	Mondays	**8. Dummy Variables in Regression**	**Agresti and Finlay: Ch 13.1-13.2** **Notes: Dummy Variables in Regression**
November 10	Monday	**9. Regression Extensions:** **Interactions**	**Agresti and Finlay: Ch 11.5, 13.3-13.5** **Notes: Interactions in Regression**
Date	*Day*	*Topic / Work*	*Readings*
November 24	Monday	**10. Regression Extensions:** **Nonlinear Regression**	**Agresti and Finlay: Ch 14.5 – 14.6** **Notes: A Short Intro to Nonlinear Regression.**

December 1	Monday	**11. Intro to Logistic Regression I**	**Agresti and Finlay: Ch 15.1 – 15.3** **Notes: Logistic Regression**
December 3	Wednesday	**12. Logistic Regression II** **Exam Review**	**Notes: Logistic Regression**