Sociology 328A: Social Statistics (3.0 Credits)

Department of Sociology, University of British Columbia
Winter Term I, Sep 03 – Nov 28, 2013

Location: Wesbrook 201	**Time:** 3:30 – 5:00 pm Tu/Th
Instructor: Andrew C. Patterson	**Email:** andrew.patterson@alumni.ubc.ca
Office Location: ANSO 3118	**Office Hours:** 3:30-5:00 pm M/W (and by appointment)
Teacher Assistant: Titan (Junrong) Du	**Email:** titandu@alumni.ubc.ca

Course Description and Objectives:

Statistics provide one way for social scientists to understand the world around them. Statistical facts are subject to our own interpretations and they rarely offer any "proof," but they do provide an important kind of evidence researchers can use to support their claims. This course will acquaint students with the quantitative frame of thinking in the social sciences with some emphasis on sociological methods in particular. The main goal is to introduce some basic statistical concepts and to show students how to use those concepts. A second goal is to help them become comfortable in reading the quantitative literature in sociology. A third goal is to introduce some software students can use to conduct their own research.

Everyone is expected to grasp the rationales and concepts taught in his course. With a rigorous study habit and reliance on the help of others, however, this class need not be any more difficult than any other 300-level course in sociology. Students can accomplish stronger marks by meeting with the instructor, working through the readings with their peers, in-class group activities, or consulting other sources such as the wealth of help available online. Students are strongly encouraged to seek help if they should struggle at all. Although high-school-level algebra is assumed as a prerequisite, students will not be held responsible for complex equations and calculations.

Sometimes there is more than one explanation for why things are the way they are. This is especially true in sociology, which makes heavy use of regression using multiple variables. This technique will be taught towards the end of the course, building on all of the prior coursework, but an intuitive understanding of how multiple explanations can play out in a research project will be emphasized earlier on. Altogether, students should leave the course feeling confident about asking quantitative questions and seeking statistical answers.

Grading Summary:

Online homework	10%	Due on most class dates by 3:00 PM
Written homework	5%	Due on most Tuesdays before classtime
Mid-term exam	25%	**October 15**
Lab assignment	10%	Due **November 8** by 4:00 pm
Article crtique	20%	Due **Monday, November 18** by 4:00 pm
Final exam	30%	Date and time TBA

Reading and Materials:

Healey, J., & Prus, S. (2013). Statistics: A tool for social research (2nd ed.). Scarborough, ON: Nelson Education.

Students must purchase an account at www.nelsonbrain.com using the course key from the instructor and the access code given in the insert to their copy of the above book.

Bambra, C. (2005). Health status and the worlds of welfare. *Social Policy and Society,* 5(1), 53-62.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and informational social influences upon individual judgment. The Journal of Abnormal and Social Psychology, 51, 3, 629-636.

Gerring, J., Thacker, S. C., & Alfaro, R. (2012). Democracy and human development. The Journal of Politics, 74, 1, 1-17.

Karim, S. A., Eikemo, T. A., & Bambra, C. (2010). Welfare state regimes and population health: Integrating the East Asian welfare states. *Health Policy, 94,* 45-53.

Savikko, N., Routasalo, P., Tilvis, R. S., Strandberg, T. E., & Pitka, K. H. (2005). Predictors and subjective causes of loneliness in an aged population. *Archives of Gerontology and Geriatrics, 41,* 223-233.

The above are peer-reviewed journal articles that demonstrate the use of statistical routines discussed in this course. Students are required to download and read them by visiting www.library.ubc.ca, clicking on the "Journal Titles" tab, entering the name of the journal, etc.

Course Rules and Procedures:

*Ettiquette and Decorum.*The use of cell phones and internet during class is distracting to your fellow students and – importantly – yourselves. Students who feel the need to use their laptops during the course may do so provided that they sit at the back of the classroom. Otherwise, the use of cell phones and laptops during class is probited. Please turn these off and stow them away upon entering the classroom. In every other way students must use a professional and respectful demeanour during class discussions, verbal exchanges, and written communications. This includes any and all communication with with the instructor, teacher assistants, and fellow students before, after, and during class sessions. Students are also expected to be give their respectful attention during lectures and to eliminate any disruption of the attention of their classmates.

Academic Dishonesty, Cheating, and Plagiarism. It is the responsibility of all students to acquaint themselves with the University's policies pertaining to academic honesty as well as conduct during examinations. **Instances of plagiarism, cheating, claiming credit for**

other people's work or for work submited for another course, and other cases of academic dishonesty will be reported to the University for disciplinary action and will result in a grade of zero. Additional consequences may apply, such as a grade of zero for the course, suspension, or expulsion from the University. Students may also be asked to submit a copy of their work electronically so that it can be used against professional services that check for plagiarism. Please view the University's policies on academic misconduct and student conduct during exams here:

http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,54,111,959
http://www.calendar.ubc.ca/vancouver/index.cfm?tree=3,41,90,0#199

*Written Assignments.*You must retain an electronic copy of all written assignments. This includes the lab assignment and the article critique but may apply to other tasks. You must also properly cite all published work and all ideas other than your own since failure to do so is **plagiarism**! You may not use work submitted to another course. In addition, the following guidelines are required for each written assignment:

- Times New Roman font.
- 12-point font
- Page numbers at the top right of each page.

Deposit the article critique and lab assignment in the dropbox across from the Anthropology departmental office in the ANSO building. **You must timestamp your paper by the deadline** using the timestamp machine located on the counter of the dropbox. As an alternative to using the dropbox, you may also bring the paper to the class that occurs prior to the due date and submit it there instead.

Late assignments. Failure to present on the due date **will result in a grade of 0 (zero) for the assignment**. Changes will only be granted for medical and other such excused absences (**bone fide documentation is required**). If you require an exception to this rule for reasons pertaining to physical, mental, or family health, you may contact the Faculty of Arts Academic Advising Office (Buchanan D111; 604-822-4028).

Missed and Rescheduled Exams. Exam times begin for everyone at the dates and times specified in this syllabus and will not be extended for those arriving late. Missed exams will receive a mark of zero. Exceptions for missed exams may be made only with a letter from the Arts Advising Office (Buchanan D111; 604-822-4028). Requests for a rescheduled exam in cases of medical emergencies must be made in advance and must include a detailed doctor's note or other legal documentation that validates the student's reasons for making the request. Makeup exams may have a different format and may contain different content covering the course material than the original exam.

Course Requirements:

*Exams.*The midterm exam will occur during the regular location and class session for the date specified above. The date, time, and location for the final exam will be determined by the University. All exams will consist of a combination of multiple choice, fill-in-the-blank, and short-answer questions.

Homework assignments. Submission of regular homework assignments is required. There are two types. Online assignments must be submitted through the website associated with the text, www.nelsonbrain.com. These comprise multiple-choice questions and some short answers. Written assignments comprise a small selection of even-numbered problems at the back of each chapter. Submissions may be either handwritten or typed, but soft copies are not acceptable. On the written homework please include your name, student number, the course and section number, the name of the instructor, and the date.

Lab assignment. The lab assignment will acquaint students with software commonly used in social-statistical research, i.e., SPSS, Excel, and a word processing application that can incorporate output from these. Students are asked to carry out the project on their own time by accessing stations on campus that make the software available, such as the labs in the ANSO building or in the Buchanan complex (e.g., B101 and B121).

Article critique. Each student must choose a peer-reviewed research article from a professional academic journal that uses quantitative research methods. Students are then asked to summarize the article, assess the author's or authors' rationale for using the methods in question, and discuss the persuasiveness of the conclusions the authors have drawn based on those methods. As this assignment is meant to assess the statistical reasoning learned in this course, please **do not** use qualitative, historical, or mixed-methods research articles for this project. Please include your name, student number, the course and section number, the name of the instructor, and the date on a cover page. Further explanation of the assignment will be provided in advance.

Course Schedule and Required Readings

September 3: [Imagine Day – No class]

September 5: Introductions, primer in algebra and probabilities

September 10: A context for social statistics, academic honesty, software demonstrations
Required reading: Healey & Prus, Prologue + Chapter 1
Due: Chapter 1 online homework

September 12: Basic descriptive statistics
Required reading: Healey & Prus, Chapter 2
Due: Chapter 2 online homework

September 17: Measures of central tendency and dispersion
Required reading: Healey & Prus for Chapter 3
Due: Chapter 3 online homework
Due: Answers to problems # 1.8(a, e, g), 2.2

September 19: The normal distribution
Required reading: Healey & Prus, Chapter 4
Due: Chapter 4 online homework

September 24: Introduction to inferential statistics
Required reading: Healey & Prus, Chapter 5
Due: Chapter 5 online homework
Due: Answers to problems # 3.2, 3.4, 3.7, 4.4(b, c, d, f)

September 26: Estimation procedures, confidence, and confidence intervals
Required reading: Healey & Prus, Chapter 6
Due: Chapter 6 online homework

October 1: Introduction to hypothesis testing and T-tests
Required reading: Healey & Prus, Chapter 7
Due: Chapter 7 online homework
Due: Answers to problems # 6.4, 6.6. (*Ignore instructions regarding the 'error bar.'*)

October 3: Hypothesis testing, cont'd, and sample article
Required reading: Deutsch & Gerard (1955)

October 8: Two-sample T-tests
Required reading: Healey & Prus, Chapter 8
Due: Chapter 8 online homework
Due: Answers to problems # 7.2, 7.4

October 10: Midterm review

October 15: **MIDTERM EXAM**

October 17: Analysis of variance
Required reading: Healey & Prus, Chapter 9
Due: Chapter 9 online homework

October 22: Chi-square
Required reading: Healey & Prus, Chapter 10
Due: Chapter 10 online homework
Due: Answers to problems # 8.2, 9.6

October 24: Statistics in the social science literature
Required reading: Karim et al. (2010), Savikko et al. (2005)

October 29: Introduction to bivariate association
Required reading: Healey & Prus, Chapter 11
Due: Chapter 11 online homework
Due: Answer to problem # 10.2

October 31: Linear regression models
Required reading: Healey & Prus, Chapter 13
Due: Chapter 13 online homework

November 5: Linear regression, cont'd
Due: Answers to problems # 11.8 (as it refers to # 11.7, Table "e")**,** 13.2(b, c, d, e, f).

November 7: Multiple regression
Required reading: Healey & Prus, Chapter 14
Due: Chapter 14 online homework

November 8: [Friday – No class]
Due: Lab Assignment at 4:00 PM

November 12: Multiple regression, cont'd

November 14: Reading the literature in sociology
Required reading: Gerring et al. (2012); Bambra (2005)

November 18: [Monday – No class]
Due: Article critique at 4:00 PM

November 19: Measures of association for ordinal variables
Required reading: Healey & Prus, Chapter 12
Due: Chapter 12 online homework
Due: Answer to problem # 14.2(a, c, e). (*You are welcome and encouraged to use any of the software packages available to you, e.g., SPSS and Excel, to solve this problem.*)

November 21: Measures of association for ordinal variables, cont'd

November 26: Conclusions and revew
Due: Answer to problem # 12.8

November 28: Conclusions and review, cont'd

Final exam: Date, time, and location TBA. The exam will be scheduled to occur anytime between December 4 and December 18.