

SOCIOLOGY 6Z03 INTRODUCTION TO SOCIAL STATISTICS

Fall 2020

Instructor: [Paul Glavin]
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Lecture: [Wednesday 1130-230]
Room: [Online]

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Course Description

Sociology 6Z03 is a social-statistics course designed to introduce students to the fundamentals of statistical reasoning and to the role of statistical methods in sociological research. By the end of the course you should be able to read and interpret sociological research that uses statistical methods. You should also be able to conduct bivariate and multivariate data analyses to test theory as part of a quantitative inquiry. The course will cover foundational statistical concepts and topics that will allow students to take intermediate and advanced courses in social statistics—in particular, Sociology 740. Sociology 6Z03 may be taken as a review, or by students who have no previous exposure to statistics.

Course Objectives

By the end of the course students should be able to:

- summarize statistical data using univariate statistics, graphs and charts
- look for relationships in data using bivariate and multivariate statistical techniques
- understand and apply the principles of statistical inference to real-world applications
- operationalize concepts of interest and derive hypotheses that can be tested using survey data.
- use statistical software to perform statistical analyses of quantitative data
- find, download and analyze public use microdata
- read, interpret and critique social science research using quantitative analyses

Required Materials and Texts

- Haan, Michael and Jenny Godley. 2017. An Introduction to Statistics for Canadian Social Scientists. 3rd edition. Oxford University Press.

- Software: The course will use the statistical software package STATA. You are strongly recommended to install a copy of STATA on your laptop or computer. Course instruction will be provided using STATA syntax. A 6-month version of STATA is available to download for \$48 (US) at:
<https://www.stata.com/order/new/edu/gradplans/student-pricing/>
- Optional: Acock, Alan C. 2018. A Gentle Introduction to Stata. Sixth Edition. Stata Press.

Course Evaluation – Overview

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| 1. Take-home exercises (3*10 points) | = 30 |
| 2. Research proposal | = 10 |
| 3. 1 st draft of research paper | = 20 |
| 4. Final draft of research paper | = 40 |

Course Evaluation – Details

TAKE-HOME EXERCISES (10% * 3 = 30%)

Exercise #1 distributed Sept 30th and **due Oct 21st**

Exercise #2 distributed Oct 28th and **due Nov 4th**

Exercise #3 distributed Nov 18th and **due Nov 25th**

RESEARCH PAPER ASSIGNMENTS:

The main requirement of this course is a quantitative sociological research paper that uses univariate, bivariate, and multivariate analyses. Your research paper must be of quality (theoretically and methodologically) that can be eventually accepted to and presented in an academic sociology conference (e.g. Canadian Sociological Association annual meetings, annual Jane Sygne Memorial Conferences).

1) Research paper proposal (10%): DUE October 14th

Prepare a 2-page (double-spaced) overview of your proposed research paper project. Your proposal should outline the research questions, hypotheses, context, and rationale for the research, as well as the data, sample, and independent (2) and dependent (1) variables of your interest. Detailed instructions will be provided in class.

2) First Draft of Research Paper (20%): DUE November 18th

This 10-page (double-spaced) paper will use quantitative methods to examine the sociological research questions and hypotheses you have identified in the research proposal. Building on your research proposal, you must identify your own research questions/hypotheses, conduct a brief literature review, and analyze the data of your choice using appropriate univariate and bivariate analyses (to answer your questions). The paper should resemble a basic quantitative journal article with the following main headings: Introduction; Background/Literature Review; Data & Methods; Results; Conclusion/Discussion. Detailed instructions will be provided in class.

4) Final Research Paper (40%): DUE December 20th

This will be the final version of the research paper outlined above. In addition to what you have done in the first draft, you must conduct a multivariate analysis (e.g. OLS regression) to answer your research questions. The paper should be no less than 20 pages (double-spaced). Detailed instructions will be provided in class.

Weekly Course Schedule and Required Readings

Week 1 (16/9) Review of basic concepts in quantitative analysis

Readings: H&G Chaps. 1-2

Week 2 (23/9) More descriptive statistics, measures of central tendency and spread. Graphical display of distributions

Readings: H&G Chaps. 3, 6 Acock: p7-11; 33-40; 57-72; 77-93;100-117

Introduction to Stata software. Stata coding skills and calculation of descriptive statistics, measures of central tendency and spread.

Week 3 (30/9) The normal curve, z-scores, estimating probabilities

Readings: H&G Chaps. 4, 5, 7

Week 4 (7/10) Hypothesis testing for one and two samples

Readings: H&G Chaps. 9, 10-11; Acock: 157-159; 164-169; 175-178

Week 5 (14/10) NO CLASS

Week 6 (21/10) One-way ANOVA

Readings: H&G Chap. 15 ; Acock 221-228

Week 7 (28/10) Crosstabulation and Chi-square test

Reading: H&G Chaps. 12-13; Acock: 124-128;

Week 8 (4/10) Correlation

Reading: H&G Chap. 14; Acock 205-209

Week 9 (11/11) Regression I: Simple, multiple regression

Reading: H&G Chap. 16; Acock 210-215; 277-281

Week 10 (18/11) Regression II: Regression diagnostics. Dummy variables, nonlinearity, interaction effects

Reading: H&G Chaps. 18

Week 11 (25/11) Regression III: Multiple regression in STATA

Reading: TBA + Acock: 283-289-296; 308-315; 316-324

Week 12 (2/11): Logistic Regression & Applications

Reading: H&G Chap. 17; Acock 349-357; 364-367

Week 13 (9/12): Final class

Reading: TBA

Course Policies

Submission of Assignments

Assignments will be submitted on the avenue to learn website

Late Assignments

Late assignments will be penalized 5% per day after the assignment deadline

Absences, Missed Work, Illness

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work".

Avenue to Learn

In this course we will be using Avenue to Learn. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Turnitin.com

In this course we will be using a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. Students will be expected to submit their work electronically either directly to Turnitin.com or via Avenue to Learn (A2L) plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty. Students who do not wish to submit their work through A2L and/or Turnitin.com must still submit an electronic and/or hardcopy to the instructor. No penalty will be assigned to a student who does not submit work to Turnitin.com or A2L. All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, other software, etc.). For more information please refer to the [Turnitin.com Policy](#).

University Policies

Academic Integrity Statement

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various types of academic dishonesty please refer to the [Academic Integrity Policy](#).

The following illustrates only three forms of academic dishonesty

- Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- Improper collaboration in group work.
- Copying or using unauthorized aids in tests and examinations.

Academic Accommodation of Students with Disabilities

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's [Academic Accommodation of Students with Disabilities](#) policy.

Academic Accommodation for Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students requiring a [RISO](#) accommodation should submit their request to their Faculty Office normally within 10 working days of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Conduct Expectations

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, whether in person or online.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Copyright and Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

Faculty of Social Sciences E-mail Communication Policy

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

Course Modification

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check his/her McMaster email and course websites weekly during the term and to note any changes.

Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

Grades

Grades will be based on the McMaster University grading scale:

MARK	GRADE
90-100	A+
85-89	A
80-84	A-
77-79	B+
73-76	B
70-72	B-
67-69	C+
63-66	C
60-62	C-
57-59	D+
53-56	D
50-52	D-
0-49	F