

SOCIOLOGY 3FF3: INTRODUCTORY STATISTICS FOR SOCIOLOGY

Winter 2018
Day and Time of Classes: Wednesday, 9:30-11:20am
Class Location: BSB/106

Instructor: Marisa Young
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COURSE DESCRIPTION

This course provides an introduction to the basic principles and techniques of statistics used in social science research. My approach involves extensive use of examples from real research to illustrate ideas, applications, and interpretations of statistics. I should emphasize up front that this is NOT a mathematics course. Students are expected to understand the basic rules of math, but the focus will be on selecting, applying, and interpreting statistical techniques for data analyses. Overall, this course is intended to get students *thinking* about why statistics are important to social science research and when and how to apply relevant statistical techniques to answer specific questions.

COURSE OBJECTIVES

By the end of the course, you will:

- Develop an understanding of the importance of statistics in the social sciences.
- Be able to effectively present and interpret basic descriptive statistics.
- Be familiar with the concept of statistical inference, and comprehend the reasoning behind hypothesis testing using survey data.
- Understand which statistical test is appropriate for your data and specific research question.
- Be more familiar with published research in the social sciences utilizing quantitative techniques.

LEARNING OUTCOMES

This course addresses several University Undergraduate Degree Level Expectations (see, <http://ccl.mcmaster.ca/COU/pdf/Undergraduate%20Degree%20Level%20Expectations.pdf>).

- Sociologists rely on a range of analytical tools to test hypotheses and answer research questions about the social world. Gaining knowledge of these diverse approaches will expand the student's depth and breadth of knowledge.
- Different research questions require different types of data analyses. Students will learn to evaluate the appropriateness of different approaches to answering research questions.
- This course will teach students the application of established techniques to analyze a range of data, as well as interpret and critically reflect upon research using quantitative methods.
- This course will further develop students' communication and writing skills through various evaluative tools.

COURSE OUTLINE

The course comprises in-class lectures where I will explain and illustrate the basic principles and techniques of social statistics. We will begin by discussing basic descriptive statistics, and move towards statistical inference and application of statistical techniques to various research problems. All the necessary requirements and resources for homework and the assignment will be distributed during class, and/or posted on *Avenue to Learn* for students to access. I will provide additional details about course content, and expectations in the first few weeks of classes. An updated schedule and outline of expectations will also be posted on *Avenue to Learn* at that time.

COURSE TEXT & MATERIALS

Required: Levin, Jack and James Alan Fox. 2010. *Elementary Statistics in Social Research: The Essentials*, 3rd edition. Pearson Education. (*Available at McMaster Titles Bookstore*)

Note: I will draw from additional research articles and learning aids to help explain and illustrate material from the required text. References for all supplementary readings/learning aids will be posted on *Avenue to Learn*, along with the necessary information of how to access these sources.

Students will need a standard calculator to complete in-class calculations, homework, mid-terms, and final examination. The McMaster Standard Calculator (Casio Rx-991) is recommended, but other makes and models will be permitted. Please check with myself or the TA's if you are unsure whether your calculator meets the course requirements.

METHOD OF EVALUATION

To effectively learn statistics, one must *use* statistics. For that reason, I require that students complete weekly homework questions. Homework is to be submitted in person the following week, unless instructed to do otherwise. There will be homework exercises assigned most weeks. Students are required to complete and hand in at least ***eight*** homework assignments over the entire semester to receive full credit. Students are encouraged to complete all homework exercises, but will only receive credit for eight at the end of the course.

Students will also be evaluated by one assignment. Additional details about assignment content and submission will be provided the first few weeks of classes.

There are a total of three tests throughout the duration of the course (two mid-term tests; one final exam). A breakdown of all course requirements is listed below.

Homework	15%
Assignment	15%
Term Test 1	20%
Term Test 2	20%
December Final Exam	30%

LATE ASSIGNMENTS & MISSED TESTS

Late assignments will be deducted 5% per day starting immediately after the designated due date and time has passed. Students who miss a test or assignment deadline due to *extremely special circumstances* must contact their tutorial TA at least 48 hours prior by email and provide formal documentation as outlined below under Departmental/University Policies.

ACADEMIC DISHONESTY:

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and 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 kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at <http://www.mcmaster.ca/policy/Students-AcademicStudies/AcademicIntegrity.pdf>

The following illustrates only three forms of academic dishonesty:

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

Students will be required to submit their work electronically and in hard copy so that it can be checked for academic dishonesty.

COURSE SCHEDULE

<u>Date</u>	<u>Topic</u>	<u>Readings</u>
Jan. 10	Introduction & Course Overview	
Jan. 17	Organizing Data and Levels of Measurement	Levin & Fox, Chapter 1 & 2 (Appendix A)
Jan. 24	Measures of Central Tendency and Variability	Levin & Fox, Chapter 3 & 4
Jan. 31	Probability and The Normal Curve	Levin & Fox, Chapter 5
Feb. 7	Samples and Populations	Levin & Fox, Chapter 6
Feb. 14	<i>Term Test 1</i>	
Feb. 21	<i>Mid-Term Recess</i>	
Feb. 28	Hypothesis Testing with One & Two Samples	Levin & Fox, Chapter 7
Mar. 7	Bivariate Statistics for Nominal & Ordinal Data	Levin & Fox, Chapter 9
Mar. 14	<i>Term Test 2</i>	
Mar. 21	One-way Analysis of Variance (ANOVA)	Levin & Fox, Chapter 8
Mar. 28	Bivariate Correlation	Levin & Fox, Chapter 10
Apr. 4	Regression Analysis	Levin & Fox, Chapter 11
	<i>Final Exam</i> *	

** This is a tentative schedule and may be subject to change depending on extraneous circumstances. Dates and times for the December exam will be set by the Registrar's Office.*

DEPARTMENTAL/UNIVERSITY POLICIES:

Do NOT fax assignments. Please see your instructor for the most appropriate way to submit assignments.

The Sociology staff do NOT date-stamp assignments, nor do they monitor the submission or return of papers.

The McMaster Student Absence Form (<http://www.mcmaster.ca/msaf/>) is a self reporting tool for Undergraduate Students to report absences that last up to 3 days and provides the ability to request accommodation for any missed academic work. Please note, this tool cannot be used during any final examination period.

You may submit a maximum of 1 Academic Work Missed request per term. It is YOUR responsibility to follow up with your instructor immediately regarding the nature of the accommodation.

If you are absent more than 5 days, exceed 1 request per term, or are absent for a reason other than medical, you MUST visit your Associate Dean's Office (Faculty Office). You may be required to provide supporting documentation.

This form should be filled out when you are about to return to class after your absence.

Students should check the web, the white board and the Undergraduate Bulletin board outside the Sociology office (KTH-627) for notices pertaining to Sociology classes or departmental business (e.g. class scheduling information, location of mailboxes and offices, tutorial information, class cancellations, TA job postings, etc.).

Computer use in the classroom is intended to facilitate learning in that particular lecture or tutorial. At the discretion of the instructor, students using a computer for any other purpose may be required to turn the computer off for the remainder of the lecture or tutorial.

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.

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.

Religious, Indigenous and Spiritual Observances (RISO)

The University recognizes that, on occasion, the timing of a student's religious, Indigenous, or spiritual observances and that of their academic obligations may conflict. In such cases, the University will provide reasonable academic accommodation for students that is consistent with the Ontario Human Rights Code.

Please review the [RISO information for students in the Faculty of Social Sciences](#) about how to request accommodation.