2016-17
Day and Time of Classes: Monday, 7-9pm
Class Location: KTH/B135

Instructor: Marisa Young
Ext.: 23621
Office Hours: Monday 5-6pm
Location: KTH/640
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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. Students will also have an opportunity to apply the techniques learned in class to actual data. 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://cll.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 the student's 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. In addition to attending all lectures, students are expected to attend weekly tutorials/computer labs. The time and location of your specific tutorial/lab group has been assigned by the Registrar's Office. Tutorials/labs are led by TA's and provide an opportunity for students to engage more directly with the material from class by (a) working on assigned homework problems; and, (b) applying learned techniques to *actual* data using a specialized computer program. All the necessary requirements and resources for homework and computer lab assignments will be distributed during class, and/or posted on *Avenue to Learn* for students to access. I will provide additional details about tutorial/lab dates, 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.

TUTORIALS
Tutorial times and locations are listed below.

Section	Day	Start	End	Location
Tutorial 1	Monday	18:00	19:00	BSB/241
Tutorial 2	Monday	18:00	19:00	KTH/B121
Tutorial 3	Monday	18:00	19:00	KTH/B123
Tutorial 4	Monday	21:00	22:00	BSB/241
Tutorial 5	Monday	21:00	22:00	KTH/B121
Tutorial 6	Monday	21:00	22:00	KTH/B123

*You are NOT allowed to change your tutorial section. In extremely exceptional circumstances, you may talk to the Registrar's Office about switching tutorial sections. I am unable to schedule these accommodations myself.

COURSE TEXT & MATERIALS
Required: Levin, Jack, James Alan Fox, and David R. Forde. 2014. *Elementary Statistics in Social Research*, 12th edition. Pearson Education. (***Available at McMaster Titles Bookstore***)
Optional: Kirkpatrick, Lee A. and Brooke C. Feeney. 2015. *A Simple Guide to IBM SPSS Statistics for Version 23.0.* Wadsworth Cengage Learning. (***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, tutorial exercises, mid-terms, and final examinations. 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.

COMPUTER SOFTWARE
Students can access the required computer software during tutorial/lab time. We will be using the *Statistical Package for the Social Sciences* (SPSS); a popular program among social scientists, public organizations, and private businesses. You are not required to buy this program for your personal computer; however, the bookstore has student versions available for purchase if you so desire. Details about how to use SPSS are provided in the course text. I will also post reference resources and learning aids on Avenue to Learn for those students who prefer additional instruction of SPSS.

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 during tutorial/lab time 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 *ten* homework assignments over the entire year to receive full credit (i.e., 1% per completed homework assignment). Students are encouraged to complete all homework exercises, but will only receive credit for ten at the end of the course.

Students will also be evaluated by two assignments that require answering specific research questions though the application of statistical techniques to actual data. Additional details about assignment content and submission will be provided the first few weeks of classes.

There are a total of four tests throughout the duration of the course (two mid-terms; two term-final exams). Tests will be cumulative by term, only (i.e., the December Term 1 Final Exam will cover material from all of Term 1. The April Term 2 Final Exam will cover material from all of Term 2). A breakdown of all course requirements is listed below.

Assignment 1	10%
Assignment 2	10%
Homework	10%
Term 1 Test	15%
Term 2 Test	15%
December Final Exam	20%
April Final Exam	20%

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

Date	Topic	Readings
Sept. 12	Introduction & Course Overview	
Sept. 19	Purpose of Social Research and Levels of Measurement	Levin et al., Chapter 1 (additional reading posted on *Avenue*)
Sept. 26	Math Review, Organizing the Data and Introduction to SPSS	Levin et al., Chapter 2 & Appendix E
Oct. 3	Measures of Central Tendency and Variability	Levin et al., Chapter 3 & 4
Oct. 10	*Thanksgiving: No Classes*	
Oct. 17	Mid-Term Review	
Oct. 24	***Term 1 Test***	
Oct. 31	Applications in Research	Reading posted on *Avenue*
Nov. 7	Probability Theory	Levin et al., Chapter 5 (additional reading posted on *Avenue*)
Nov. 14	Areas Under the Normal Curve	Levin et al., Chapter 5 pp. 153-172; Chapter 6 pp. 173-187
Nov. 21	Samples & Populations, Introduction to Confidence Intervals	Levin et al., Chapter 6 (pp. 188-210)
Nov. 28	Confidence Intervals, T-Distribution and Assignment Review	Levin et al., Chapter 6 (pp. 190-210) (additional reading posted on *Avenue*)
Dec. 5	Term Review & Exam Preparation	
	Final Exam: Term 1*	
Jan. 9	Hypothesis Testing with One Sample	Levin et al., Chapter 7
Jan. 16	Hypothesis Testing with Two Samples	Levin et al., Chapter 7
Jan. 23	One-Way Analysis of Variance	Levin et al., Chapter 8
Jan. 30	Bivariate Statistics for Nominal & Ordinal Data	Levin et al., Chapter 9
Feb. 6	Chi-Square Test (Continued) and SPSS Applications	Levin et al., Chapter 9; Reading posted on *Avenue*
Feb. 13	*Reading Break: No Classes*	
Feb. 20	Mid-Term Review	
Feb. 27	***Term 2 Test***	
Mar. 6	Bivariate Correlation	Levin et al., Chapter 10
Mar. 13	Regression Analysis: Part 1	Levin et al., Chapter 11
Mar. 20	Regression Analysis: Part 2	Levin et al., Chapter 11 (additional reading posted on *Avenue*)
Mar. 27	Multiple Regression	Reading posted on *Avenue*
Apr. 3	Advances in Regression Analyses, Term Review & Exam Preparation	Levin et al., Chapter 13
	Final Exam: Term 2*	

Dates and times for the December and April exams will be set by the Registrar's Office.

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.