Quantitative Methods
SOC202H1S (LEC0301)

Course Instructor:	Maria Majerski, Ph.D. (cand.)
Email:	majerski@chass.utoronto.ca
Office:	Room 397
Office Hours:	2-3:00pm on Thursdays, and by appointment on Fridays

Lecture Sessions
10am-12:00pm on Thursdays in SS-1085

Teaching Assistants
Atsushi Narisada (a.narisada@mail.utoronto.ca)
Laura Upenieks (laura.upenieks@mail.utoronto.ca)

TAs' Office Hours
2-3:00pm on Tuesdays and 11am-12:00pm on Wednesdays in FE 36
4-5:00pm on Monday January 26th and Monday March 30th in Room 225B

Tutorial Sessions
L0301 – 1-2:00pm on Tuesdays in FE 36 with Atsushi Narisada
L0302 – 10-11:00am on Wednesdays in FE 36 with Laura Upenieks

Course Description
SOC202H1 is an introductory social statistics course. While this course does include some very basic arithmetical calculations and you will require a pocket calculator, the course is designed to be arithmetically straightforward. The principal goal of this course is to introduce students to the fundamentals of statistical reasoning and to the role of quantitative methods in social science research. Emphasis will be placed on theoretical understanding, not number crunching. At the end of the course students will be able to read sociological research that uses basic statistical methods, to undertake elementary data analysis, and to take more advanced courses in social statistics.

Learning Objectives
- Students will be able to understand statistics used in professional social science literature
- Students will be able to differentiate between descriptive and inferential statistics and the various levels of measurement while understanding the importance of this distinction
- Students will be able to select an appropriate statistic for a given purpose and given set of variables and correctly interpret results in simple language
- Students will be able to retrieve, describe, graph, and analyze survey data with SDA, a web-based software for the analysis of quantitative data at – http://sda.chass.utoronto.ca/sdaweb/sda.htm

Prerequisite
The prerequisite to take this course is SOC101Y (or SOC102H and SOC103H) and SOC200H1. Students without this prerequisite will be removed at any time and without notice.

LEARNING COMPONENTS

Required Textbooks

Healey, J. F. and Prus, S. G. 2013. *Statistics: A Tool for Social Research*, 2nd Canadian Ed. Nelson Education Ltd.

With the purchase of the text, students will receive an electronic access code for the online accompaniment to the textbook. This code will be necessary for completing homework assignments.

Gagne, L., Tedds, L., Sullivan, J. and Berniaz, K. 2008. "An Introduction to the UT/DLS: Microdata Analysis Subsetting (SDA@UofT)." *School of Public Administration:* University of Victoria.

An electronic copy is available at http://sda.chass.utoronto.ca/sdaweb/doc/SDAtutorial2008.pdf

Required Supplies

You require a basic 10-digit display calculator for the duration of the class. If you do not already have exclusive access to a calculator, I recommend that you be frugal in your purchase. All you need is a very simple calculator – basic mathematical functions (addition, subtraction, multiplication and division) and a square root function. The calculator should not cost you more than $7. Avoid calculators that say "8 digit".

Lab/Tutorial Sessions

The course has weekly tutorials to assist in your learning and to provide an opportunity to apply your statistical skills to actual data.

The goal of these weekly tutorial sessions is two-fold. First, tutorials will provide an opportunity to dialogue with teaching assistants and with fellow classmates about concepts that are unclear to you. If this is your first time learning statistics, I recommend you complete your homework and lab assignments during the 2-hour period that the TA is available to assist you in person. Be mindful that most homework questions will be inappropriate to ask TAs via email. This additional time has been reserved for those of you who are novice statistics students and need the additional help, so take advantage of it!

Second, tutorials will primarily serve as computer labs where teaching assistants will guide you through statistical exercises using SDA (Survey Documentation and Analysis) found in the introductory manual by Gagne et al (2008), help you interpret the results and begin your computer lab assignments. You will be required to analyze data with SDA.

There are a number of online resources available to help you with analyzing quantitative data with SDA web-based analytic software including, but not limited to:

- Frequency/Crosstabulation tutorial (http://www.icpsr.umich.edu/files/SAMHDA/tutorial/t-tables.htm)
- Control variables (https://usa.ipums.org/usa/resources/sda/sdainstructions.pdf)
- F-tests and t-tests https://www.icpsr.umich.edu/SDAHELP/helpan.htm#means
- On-line help files for SDA users (http://sda.berkeley.edu/manh/uindex.html)

The lab/tutorial sessions immediately preceding mid-term tests (i.e., sessions on January 27th/28th and March 3rd/4th) will be used exclusively as a review session. Students are encouraged to ask questions about concepts that will be featured on the test or exam. Since winter-term classes conclude on the last day of lecture, April 2nd, the in-tutorial review sessions for the final exam will occur in advance of our final lecture (i.e., sessions on March 31st/April 1st) when the second lab assignment is due.

There will be no lab/tutorial during weeks in which a test is given. That is, **there will be no lab on Feb. 3rd/4th or March 10th/11th.**

GRADING SUMMARY AND COURSE REQUIREMENTS

	Number of occasions	Percent value	Total percent of final mark
Participation/ Lab work	4	1% each	4%
Homework assignments	4	1.5% each	6%
Lab assignment 1	1	5%	5%
Lab assignment 2	1	10%	10%
Mid-term tests	2	22.5% each	45%
Final exam	1	30%	30%
			100% (total)

Participation/ Lab work

A participation mark of 4% is based on in-lab participation/attendance. TAs will need to see the lab work you completed during the tutorial (e.g., output) at a minimum of four weekly labs (1% each). Note that, unless you have already completed and handed in your lab assignment, showing up late or leaving lab early will result in partial credit.

Homework Assignments

To reinforce course material, students will be required to complete four homework assignments during the duration of this course. To complete the homework, students must log in to the course website associated with this textbook: http://login.cengagebrain.com/cb/entitlement.htm?code=E-X7FGTZYD6NWHQ. After answering the questions, you will receive immediate feedback as to how you did on the questions. You will then be given a second opportunity to correct answers that you did not answer correctly the first time. Your mark for the assignment will be based on the percentage of correct answers on this second round. The aim of the homework exercises is to aid students in preparing for their tests and identify areas where you may require some additional help prior to the test.

Note that you must attend the tutorial session in which you are registered. At the end of lab, the TA will give you a password to access homework assignments for their tutorial section. If you are not registered in their session, this password will not work for you. These assignments will then be due the following week before the start of the next lab/tutorial. *If you missed a homework assignment, you have the option to complete a make-up homework assignment in week 10.*

Lab Assignments

There are two short lab assignments that aim to introduce students to the analysis of real sample and population data with SDA, a web-based software for data analysis. Upon completion, these assignments will serve as a study guide for the final exam and in-class tests.

The principal goal of the first lab assignment is to review descriptive statistics. Students will select and report appropriate descriptive statistics and graphs, based on the types of variables involved, using data from the 2006 Canadian Census and 2011 National Household Survey. By the end of this assignment, students should be able to differentiate between Canadian population and sample data and the various levels of measurement.

The principal goal of the second lab assignment is to review inferential statistics. By the end of the assignment, students should be able to select appropriate hypothesis tests, based on the types of variables involved, analyze and correctly interpret results in simple language.

Students must hand in a hard copy of the lab assignment on its due date. I realize that personal, medical, and miscellaneous events that prohibit students from turning work in on time do arise, and since this class is comprised of responsible adults, I have no desire to monitor reasons for late lab assignments. A 50-hour grace period will be granted once per semester to any student needing to take advantage of this policy. You are under no obligation to explain the circumstances to me, and the grace period can only be utilized once during the course of the semester. Late assignments will not be accepted beyond this grace period. A subsequent late assignment will also receive a grade of zero, unless prior approval for an extension has been granted. **Note that only very serious reasons can justify late submission of these lab assignments, since you should be able to complete these in lab/tutorial.**

All late assignments must be deposited (in hard copy) in Rm. 225 with the date and time stamp; you must e-mail your TA that the assignment is in the box so that it can be retrieved.

In-Class Tests and Final Exam
There are two in-class tests and one final examination for this course. The first in-class test will cover the topic of descriptive statistics including frequency distributions, measurement of central tendency and dispersion (spread), and basic introduction to probabilities and the normal curve. The second in-class test will cover the topic of inferential statistics including hypothesis for one sample and two samples. The final exam is cumulative and will cover all materials taught in the class including, F-tests and Chi -square (χ^2) tests of significance, correlation and regression.

IMPORTANT DATES

Component	Due Dates
Homework	
Homework Assignment 1	Due before tutorial on the 20th or 21st of January, 2015
Homework Assignment 2	Due before tutorial on the 27th or 28th of January, 2015
Homework Assignment 3	Due before tutorial on the 24th or 25th of February, 2015
Homework Assignment 4	Due before tutorial on the 3rd or 4th of March, 2015
Lab Assignments	
Lab Assignment 1	Due in tutorial on the 27th or 28th of January, 2015
Lab Assignment 2	Due in tutorial on the 31st of March or 1st of April, 2015
In-Class Tests	
Test 1	January 29, 2015
Test 2	March 5, 2015
Final Exam	TBA

COURSE POLICIES AND PROCEDURES

Classroom Etiquette
Full and complete attendance is required for learning the material in this course. Students are expected to arrive at class on time. By remaining in the course, you are signaling your commitment to attend class (on time) and satisfy all requirements. I realize that many students work or have other obligations. However, if you have a scheduling conflict, I encourage you to consider other course options to avoid such conflicts. Please note that if you have paid employment, you must make the necessary job-related scheduling arrangements to meet this course's requirements—including meetings with TA during scheduled office hours to review course materials and tests. It is your responsibility to arrive to class on time. Your mobile devices must be turned off during class. Excessive lateness and other problematic behaviour will not be tolerated and may result in mark penalties (5% per offense) or possible punitive action at the discretion of the instructor. Any offensive or inappropriate content on tests will result in the mark of a zero (0) for the entire test and may also result in possible additional punitive action at the discretion of the instructor.

Academic integrity
The University of Toronto treats cases of academic misconduct very seriously. Academic integrity is a fundamental value of learning and scholarship at the UofT. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that your UofT degree is valued and respected as a true signifier of your individual academic achievement. The University of Toronto's Code of Behaviour on Academic Matters outlines the behaviours that constitute academic misconduct, the processes for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to: Using or possessing any unauthorized aid, including a cell phone; misrepresenting your identity; looking at someone else's answers or letting a classmate view your answers; submitting an altered test for re-grading; and/or, falsifying institutional documents or grades.

Electronic communication and electronic learning technology
The University of Toronto Blackboard system will contain the course syllabus, assignments, discussion board, and course announcements. Students are responsible for the content of all course materials and for checking their official utoronto.ca email address regularly. Emails sent to the utoronto.ca email address on file are deemed to have been received. Discussion boards will be enabled on the course web site. Students using these boards must behave respectfully.
You are encouraged to use email to enhance your learning and experience in the course. With that said, it is essential that you follow a few rules:

- *All questions related to the course material should be addressed to your tutorial leader first. Other email queries should be addressed to the course instructor (e.g., grade appeals, missed tests, needed accommodations, and etc.).*
- *All course communication should be conducted through Blackboard or your Utormail account.*
- *All emails must include the course code SOC202 in the subject line, and be signed with the student's full name and student number.*
- *Students are expected to adhere to proper email etiquette. Emails that are impolite or incoherent do not warrant a response. Emails that ask questions that are answered in the course syllabus or website (e.g., "how much is assignment X worth") will not receive a response.*

You are encouraged to post questions to the discussion board prior to emailing your TA. If the TA believes that their response to your emailed question is useful for the rest of the class, the TA reserves the right to ask you to post your question(s) to the discussion board so that he/she can respond to you there. Emails from students will generally be answered within 48 hours of receipt. If you have urgent questions regarding the test material, it is generally not a good idea to wait until the day before your test to ask them via email. The TAs might not be able to respond to you in time for your test, depending on the number of emails they receive that day. Ask questions in tutorial or office hour on Tuesday or Wednesday before Thursday's test and try to utilize the discussion board as much as possible!

In-class Tests
Each in-class test will consist of multiple-choice questions and open-ended questions. The two tests will be held in class during regularly scheduled classes (see the list of dates above). You will have 1 hour and 50 minutes to complete the test. Students will require a basic pocket calculator. Cellular phones are not permitted to use as calculators. Please bring your student identification and a black ink pen. **Pencil is only acceptable for answering multiple-choice questions. ALL other in-class test questions must be answered using a <u>Black Ink Pen</u>.** If you do use pencil for the written portion of your test, please note that appealing your test grade will be difficult. Also note that if you finish early, you may leave up until the final 10 minutes of the test at which time you must stay seated quietly until the end of the test. You may leave once all the tests have been collected and we announce that you may leave. This is to protect your test from getting mishandled or lost.

Final Exam
A final exam will be given during the final exam period in April. The final exam is cumulative. The final exam will consist of multiple-choice and open-ended questions. You will have 3 hours to complete the final exam. Once again, please bring a calculator—but not a phone—and your student identification. **Note: You must bring your student card to all tests and examinations.**

Grade appeals
The instructor and teaching assistants take the marking of assignments very seriously, and will work diligently to be fair, consistent, and accurate. Nonetheless, mistakes and oversights occasionally happen. If you believe that to be the case, you must adhere to the following rules:

- *For mathematical errors simply alert the TA of the error.*
- *In the case of more substantive appeals, you must wait at least 24 hours after receiving your mark. If you wish to appeal, you must submit to the instructor a written explanation of why you think your mark should be altered. Please note statements such as "I need a higher grade to apply to X" are not compelling. Also, please note that upon re-grade your mark may go down, stay the same, or go up.* **You have 30 days after receiving a mark to appeal it.**

Policy Regarding Late Submission and Make-up Tests
If you have acceptable reasons concerning things beyond your control, you may apply for permission to write a make-up test or submit your assignments late. You must have a compelling reason, and you must be able to document it. The privilege of taking a make-up test will only be granted in cases where there is legitimate, university-approved evidence of very serious illness or family emergency. Three types of documentation are considered "official": a Verification of Student Illness or Injury form, a college registrar's letter, and a letter from Accessibility Services. Reasons such as "too much work", stress, employment, bad weather, technology failure, weddings, or not registering in the course in time, are unacceptable reasons for late submissions or missed tests.

The most common reason is ill health that makes it impossible to write the test at the scheduled time, or a period of ill health that makes it impossible to complete your homework on time. You must supply a duly completed Verification of Student Illness or Injury form (available at www.illnessverification.utoronto.ca). A physician, surgeon, nurse practitioner, dentist or clinical psychologist must complete this form. NO other documentation will be accepted. A doctor's note is NOT sufficient. Submit the form to your course instructor only. To protect your privacy, submit it in a sealed envelope addressed to the instructor. Please note that it is your responsibility to work ahead on your assignments, so a minor short illness days before the due date is not an excuse for lateness.

In case of personal or family crisis, or any other problem that is not possible to document through the Verification of Student Illness or Injury form, get a letter or confidential e-mail from your registrar. A letter from your registrar should also be submitted in a sealed envelope addressed to the instructor.

Procedure for Missed Tests
Students must provide official documentation that is dated on the day of or day before the test (not after the test). Do not write the test and then later request a make-up or accommodation. If you miss a test, you must email me within 48 hours of the test. There is only one (1) date for each make-up test (no exceptions):

 *Make-up Test 1: 10am-12pm on Wednesday February 4, 2015 in FE 36
 *Make-up Test 2: 10am-12pm on Wednesday March 11, 2015 in FE 36

I am strict about make-up tests to insure that the process is fair for all students. Students having serious academic-or personal- or health-related problems during the semester should seek immediate guidance from their advisor, registrar, or other support services on campus before these problems interfere with course requirements.

Procedure for Missed Final Exam
Final examinations are scheduled, administered, and governed by the policies set out by the Office of the Registrar (see the Faculty of Arts and Science Calendar). Any student granted a deferral by the Office of the Registrar will be required to write a deferred examination at the next exam-writing session scheduled by the Office of the Registrar.

Accessibility
Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require specific accommodations, please approach me (not your TA) and accessibility services. I will work with the service on any needed accommodation. Students who seek accommodations require medical documentation and an intake interview with a disability advisor to discuss their individual needs. To schedule a registration appointment with a disability advisor, please call the Centre at 416-978-8060. See also http://www.accessibility.utoronto.ca.

SOCIOLOGY 202H1-03:
Quantitative Methods

Winter Term, 2015
Reading and Lecture Schedule

Date	Subject	Required Reading
Week 1, Jan. 8-14	Introduction, level of measurement, basic descriptive statistics	Healey & Prus *Chapters 1 & 2*
Week 2, Jan. 15-21	Central tendency and dispersion **HW 1 due before tutorial on January 20th or 21st**	Healey & Prus *Chapters 3*
Week 3, Jan. 22-28	The 'normal' curve **HW 2 due before tutorial on January 27th or 28th** **Lab assignment 1 due in tutorial on January 27th or 28th**	Healey & Prus *Chapter 4*
Week 4, Jan. 29-Feb. 4	**Test 1: Bring PEN, Calculator, Student ID and RULER**	
Week 5, Feb. 5-11	Sampling, sample distributions, and confidence intervals	Healey & Prus *Chapters 5 & 6*
Week 6, Feb. 12 & 24-25	Introduction to hypothesis testing **HW 3 due before tutorial on February 24th or 25th**	Healey & Prus *Chapter 7*
Feb. 19	**READING WEEK – Tutorials will resume on Feb. 24/25**	
Week 7, Feb. 26-Mar. 4	Two sample hypothesis tests for means and proportions **HW 4 due before tutorial on March 3rd or 4th**	Healey & Prus *Chapters 8*
Week 8, Mar. 5-11	**Test 2: Bring PEN, Calculator and Student ID**	
Week 9, Mar. 12-18	Hypothesis testing with ANOVA	Healey & Prus *Chapter 9*
Week 10, Mar. 19-25	Hypotheses and measures of association at the nominal level: Chi-square, Phi, Cramer's V, and Lambda	Healey & Prus *Chapters 10 & 11*
Week 11, Mar. 26-Apr. 01	Hypotheses and measures of association at the interval/ratio level: scatterplots, correlation, bivariate regression **Lab assignment 2 due in tutorial on Mar. 30th or Apr. 1st**	Healey & Prus *Chapter 13*
Week 12, April 02	Testing hypotheses with multiple regression: the logic of controlling, beta coefficients, nested regression models, types of relationships (spurious, intervening and direct) Supplementary reading: "Regression with Dummy Variables" (Healey & Prus)	Healey & Prus *Chapter 14*
	Final Examination – Date and Location TBA	