UNIVERSITY OF TORONTO
Faculty of Arts and Science
Department of Sociology
Summer 2015

SOC202H1S - Quantitative Methods

Instructor:	Maria Majerski, Ph.D. (cand.)
Email:	majerski@chass.utoronto.ca
Office:	Department of Sociology, 725 Spadina Ave., Room
Hours:	397
	3-4:30pm on Mondays and by appointment

SOC202H1S

Lecture Sessions
5-7:00pm on Tuesdays and Thursdays in LM, Room 159

Teaching Assistant
Mitchell McIvor (mitchell.mcivor@mail.utoronto.ca)

TA's Office Hours
TBA on July 9th, 17th, 23rd, 31st, and August 6th and 13th in Department of Sociology, Room 225

Tutorial/Group Office Hours
5-7:00pm on Wednesdays July 8th & July 22nd in TBA

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, 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 a printed access card for CengageNOW, the textbook's online accompaniment. This electronic access code will be necessary for completing homework assignments, and accessing practice test and exam questions.

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, be frugal in your purchase. All you need is a 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".

Tutorials

There are two tutorial sessions immediately preceding mid-term tests (i.e., sessions on July 8th and July 22nd) that will be used exclusively as review sessions. Attendance is optional. Tutorials will provide an opportunity to dialogue with the teaching assistant and fellow classmates about concepts that are unclear to you. This additional time has been reserved for those of you who are novice statistics students and need the additional help. Students are encouraged to ask questions about concepts that will be featured on the test.

GRADING SUMMARY AND COURSE REQUIREMENTS

	Number of occasions	Percent value	Total percent of final mark
Homework assignments	5	2% each	10%
Data analytic assignment	1	10%	10%
Mid-term tests	2	25% each	50%
Final exam	1	30%	30%
			100% (total)

Homework Assignments

To reinforce course material, there are six homework assignments. The lowest homework mark will be dropped, meaning that only 5 homeworks, accounting for a total of 10%, will count toward your final course mark. These assignments are already available and can be completed until 11:59pm on their due dates. Due dates are available from the course schedule.

To complete the homework, you must first create an online account through the course website at http://login.cengagebrain.com/cb/entitlement.htm?code=E-X7FG5FFRFB92M. You must have an access code for CengageNOW from the textbook to register your account. The website will contain an assignment consisting of 15-20 multiple-choice and calculation

questions. After answering the questions, you will receive immediate feedback on your performance—i.e., you will know which questions were correct and which ones were incorrect. Make sure you record this information, as you will then be given a second opportunity to take the assignment. Your mark for the assignment will be based on the higher of the two attempts.

Note that any assignment attempts, even if in-progress, will automatically be submitted on the due date/time. Homework solutions will be available on CengageNOW immediately after the due date/time.

Data analytic assignment
The assignment will introduce you to the analysis of real data with SDA. Students will be required to select a research topic or concern and generate four (4) plausible hypotheses on that topic. Each hypothesis requires a different significance test: 1) a test of significance for two independent sample means, 2) a test of significance for two independent sample proportions, 3) a test of significance for three or more independent sample means, and 4) a test of significance for three or more independent sample proportions. By the end of this assignment, students will know how to select an appropriate significance test for a given set of variables and summarize quantitative data in normal English. The assignment is intended to help students prepare for the data analytic portion of the final exam.

The assignment is due on August 4th and will ONLY be accepted IN CLASS on August 4th and August 6th. Assignments that are not submitted in class on either of the above dates will receive a grade of zero. Please note that while late penalties will not be applied to assignments turned in on August 6th, students who turn in their assignments on August 4th will be able to pick up their graded assignment prior to the final exam. The assignment is an important study resource for the final exam.

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 significance testing with t-tests and Z-tests. The final exam is cumulative and will cover all materials taught in the class including, F-tests and Chi -square (x^2) tests of significance, correlation and regression.

IMPORTANT DATES

Component	Due Dates
Homework Assignment #1	July 6, 2015
	July 8, 2015
Homework Assignment #2	July 9, 2015
	July 20, 2015
Test #1	July 22, 2015
Homework Assignment #3	July 23, 2015
	July 29, 2015
Homework Assignment #4	August 4, 2015
	August 10, 2015
Test #2	TBA
Homework Assignment #5	
Data analytic assignment	
Homework Assignment #6	
Final Exam	

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.

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 TA might not be able to respond to you in time for your test, depending on the number of emails received that day. Ask questions in tutorial on Wednesday before Thursday's test and try to utilize the discussion board as much as possible.

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.

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.

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. You will require a basic calculator – cellular phones are not permitted to use as calculators – student identification, and a black ink pen to all in-class tests. **Pencil will only be acceptable for answering multiple-choice questions. ALL other in-class test questions must be answered using a <u>Black Ink Pen</u>.** Note that if you do use pencil for any of the written portion of the test, you will have to review your test in a supervised sitting; you will NOT be able to appeal your mark once you take the test home**.** Also note that if you finish the test 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. To protect your test from getting mishandled or lost, you may only leave once all the tests have been collected and we announce that you may leave.

Final Exam
A final exam will be given during the final exam period in August. The exam will be cumulative, consisting of both multiple-choice and open-ended questions. Students will have 3 hours to complete the examination. Students can request to review their final examination through the Faculty of Arts and Science. Once again, please bring a calculator—but not a phone—and your student identification. **Note: You must bring your student card to ALL in-class tests and the final exam.**

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 <u>unacceptable</u> 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, not the TAs. To protect your privacy, submit it in a

sealed envelope addressed to the course 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, students need a letter or confidential e-mail from their 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   TBA

Make-up   TBA

I am strict about make-up tests to ensure 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.

SOC 202H1-LEC5101:
Quantitative Methods

Summer Term, 2015
Reading and Lecture Schedule

Date	Subject	Required Reading
Class 1, Tues. June 30	Introduction, level of measurement, and basic descriptive statistics	Healey & Prus *Chapters 1 & 2*
Class 2, Thurs. July 2	Central tendency and dispersion **HW 1 due online 11:59pm Monday** Supplementary Reading: "Box Plots" by David M. Lane	Healey & Prus *Chapters 3*
Class 3, Tues. July 7	The 'normal' curve **HW 2 due online 11:59pm Wednesday**	Healey & Prus *Chapter 4*
Class 4, Thurs. July 9	**Test 1: Bring PEN, Calculator, Student ID and RULER**	
Class 5, Tues. July 14	Sampling, population and sampling distributions, and the central limit theorem Supplementary Reading: "Sampling Distributions" (pp. 302-307) by David S. Moore	Healey & Prus *Chapters 5*
Class 6, Thurs. July 16	Confidence interval for the population proportion and population mean **HW 3 due online 11:59pm Monday**	Healey & Prus *Chapter 6*
Class 7, Tues. July 21	Significance test for the population mean and population proportion **HW 4 due online 11:59pm Wednesday**	Healey & Prus *Chapters 7*

Class 8, Thurs. July 23	**Test 2: Bring PEN, Calculator and Student ID**	
Class 9, Tues. July 28	Two independent sample hypothesis tests **HW 5 due online 11:59pm Wednesday**	Healey & Prus *Chapter 8*
Class 10, Thurs. July 30	Hypothesis testing with ANOVA & Chi-square	Healey & Prus *Chapters 9-10*
Class 11, Tues. August 4	Hypotheses and measures of association at the interval/ratio level: scatterplots, correlation, bivariate regression **Data analytic assignment is due at the beginning of class**	Healey & Prus *Chapter 13*
Class 12, Thurs. August 6	Testing hypotheses with multiple regression: the logic of controlling, beta coefficients, nested regression models, types of relationships (spurious, intervening and direct) **HW 6 due online 11:59pm Monday**	Healey & Prus *Chapter 14*
	Final Examination – Date and Location TBA	

June 30-Aug 10, 2015

Class Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		30 Class 1	July. 1	2 Class 2	3	4
5	6	7	8	9	10	11

	HW 1 Due	Class 3	*Tutorial* **HW 2 Due**	Class 4 **Test 1**		
12	13	14 Class 5	15	16 Class 6	17	18
19	20 **HW 3 Due**	21 Class 7	22 *Tutorial* **HW 4 Due**	23 Class 8 **Test 2**	24	25
26	27	28 Class 9	29 **HW 5 Due**	30 Class 10	31	August. 1
2	3	4 Class 11 **Project Due**	5	6 Class 12	7	8
9	10 **HW 6 Due**					