SOC202H1F: Intro to Quantitative Methods (Summer 2024)

Mondays and Wednesdays
Lecture 9:10am-11am
Lab 11am-12:30pm

******Online Synchronous******

Please read this syllabus from beginning to end. Consult syllabus before asking administrative questions.

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Office hours: online (zoom) by appointment
Please consult TA for their office hours

Teaching Assistant: TBA

Course Description:

This course introduces students to the logic and tools social scientists use to measure social phenomena in order to shed light on important research questions. Students will learn how to define and describe variables, develop and test the relationship between variables, and infer about the population using limited sample information. Students engage with the material on both conceptual and mechanical levels. Labs are an integral part of the course. Students will learn the basics of analyzing large data sets, like the General Social Survey, with a widely used software package, SPSS. The course draws from a variety of sociological examples – from crime to inequality to political participation to family and demography – across a variety of Canadian, American and international contexts. This class is intended to provide students with the skills needed to become an informed consumer of scientific research reported in the popular media as well as in scholarly articles and books. SOC 202 also prepares students for more advanced undergraduate methods courses.

It is your responsibility to ensure that the prerequisites for this course have been met, i.e., completion of SOC100H1 + SOC150H1Students without the prerequisites will be removed at any time. No waivers will be granted.

In addition to lectures, an important component of the course are that the labs are held by the TAs. Labs are dedicated to SPSS use and meant to provide a brief systematic review of the week's material as well as

In lab, students will use SPSS to practice for the brief lab assignments. TAs will go through examples of SPSS commands and output during lab time. This will help prepare students for the lab assignment (homework) which must be completed on students' own time. Students should review the assigned chapters in the Wagner book prior to the lab.

You do not need to purchase SPSS. You will get access to remote desktop so you can access SPSS software remotely.

The University of Toronto recommends for those who believe they have issues with internet connectivity to follow this link https://www.utoronto.ca/utogether

***** All technical issues including issues with your personal internet connection, web browsers, hardware ("crashes") and uploading documents must be addressed by the user (you). To avoid problems with on-time submissions, *please do not wait until the last minute* to submit work of any kind. 11th hour e-mails sent to the instructor or TAs about this will result in a response pointing students to the policy outlined in this syllabus.*****

Learning Goals and Objectives:

Measurement:

- Understand the different ways in which concepts are transformed into variables as well as how operational definitions are generated, and how variables are measured.
- Write hypotheses with clear mention of dependent and independent variables and the proposed direction of their relationship.

Descriptive and Inferential Statistics

- Use and interpret descriptive statistics designed to summarize data, such as frequency distributions, graphs, and measures of central tendency and dispersion.
- Understand the concept of the normal distribution and the ways in which assumptions about normality allows us to use various methods, including standardized scores.
- Interpret p-values and understand the meaning of statistical significance.
- Understand the logic underlying basic inferential statistics, such as the estimation of population values from sample information through the use of confidence intervals and hypothesis testing.

Relationships between Categorical Variables, Bivariate/Multiple Regression

- Examine the relationship between variables through the use of cross-tabulations and scatter-plots.
- Examine the relationship between categorical variables using Gamma and Lambda, as well as Chi-Square.
- Understand the basic assumptions of bivariate OLS regression and the best fitting line.
- Understand the concept and practice of statistical controls and the methods involved in multivariate OLS regression.
- Develop the ability to interpret regression coefficients and the coefficient of determination (r^2).

Research/Labs

- Interpret findings in research articles and understand the methodology used in relation to the conclusions made in those scholarly articles.
- Use SPSS to analyze data and apply concepts and techniques learned in class. We will be using the *2002 General Social Survey (GSS) Data* in the lab tutorials and for the lab assignments.

Course Materials:

Frankfort-Nachmias, Chava, Anna Leon-Guerrero, Georgiann Davis. Social Statistics for a Diverse Society. Thousand Oaks, CA: Pine Forge Press, 9th (latest) edition.

Wagner, William E. Using SPSS for Social Statistics and Research Methods and Social Science Statistics. Thousand Oaks, CA: Pine Forge Press, 7th (latest) edition.

GSS data (2002) is available on the lab computers in SPSS format. You will need CITRIX to access the data remotely.

****You should consult your required texts regularly and have access to a regular calculator. Students are discouraged from using calculator functions (such as the standard deviation function) to solve problems. Note that students should follow all the steps necessary for solving a problem and showing the work is highly recommended. Calculators should not replace that process. Importantly, if a mistake is made in entering values, the final calculator output might be incorrect. If incorrect, it will be difficult ascertaining what went wrong if students avoided the process and the work. *Calculators should be used as an aid not as a substitute*. ****

All narrated PowerPoint lecture slides, assignments, labs and practice tests will be available to students via Quercus. **You must download and save the lecture slides then play as a slideshow if you want to hear the audio.**

Assessment and Expectations:

Below is the breakdown of assessment. For more information on due dates, please see the schedule and quick view calendar at the end of the syllabus. ***All assignments and tests are conducted and submitted through Quercus. **DO NOT SUBMIT ANY WORK BY EMAIL!** ***

Homework Assignments (**due May 13, May 17, June 12)** ……30%
Lab Assignments (**due May 13, May 17, June 3, June 12)**…… ..15%
Midterm Test (**May 22)**…… ……... 25%
Final Test (**June 17**)…….....25%
In-class Activities ……. ….....5%

You will receive at least one significant mark (15%) before the last day you can drop a course without academic penalty. Please note that Grades in Quercus gives early access to preliminary grades; it does not represent your official final marks.

You are expected to attend class via zoom. Participation is meant to reward student engagement in class. Involvement is an essential component in successfully acquiring a working understanding of the concept and themes discussed in this course. That is, disengaging from the course and relying **solely on asynchronous** content will lead to a negative course outcome.

NOTE: Lab and homework assignments are never accepted by email. All homework and lab assignments **are completed, marked and "returned" online through Quercus** within the time frame specified (see syllabus for due dates). You will be asked to justify your answer and to show

your work where necessary. This means you will be required to **upload files** (through clear scans or clear photos of your handwritten work) to Quercus.

IMPORTANT:

Common image files accepted for Quercus are .jpeg and .png files (*check the Student info site on Quercus for others*). Alternatively, you can copy and paste your photos into a word (.docx) or PDF file (.pdf) and upload them this way. Our experience has been that students have an easier and quicker time using PDF (although this varies based on student experience, available technology and internet connectivity).

******It is your responsibility to make sure you use acceptable file types. We will not mark or reconsider work submitted in the wrong file type or where work has not been uploaded due to "technical failures".******

UNDER NO CIRCUMSTANCES WILL WE ACCEPT EMAILED WORK

***** All technical issues including issues with your personal internet connection, web browsers, hardware ("crashes") and uploading documents must be addressed by the user. To avoid problems with on-time submissions, please do not wait until the last minute to submit work of any kind. 11th hour e-mails sent to the instructor or TAs about this will result in a response pointing students to the policy outlined in this syllabus.*****

Fifty percent of the assessment is based on a mix of open-ended questions, mathematical problem solving and written lab assignments. The other fifty percent is based on two online tests. **You will be required to upload your work on some questions**. Failure to do so will result in a penalty.

**** Lab homework assignments are based on the preparation provided in lab practical sections. The **assignment portion** of the lab is to be completed as homework on your own time. Note: although you are required to produce SPSS output to answer the lab assignment questions, we do not collect SPSS output with your assignment.****

This course is broken down into frequent, shorter assignments and labs making learning and assessment more manageable. This also affords students the opportunity to approach the material in different ways providing a comprehensive understanding of the main themes.

The midterm and final tests are conducted online through Quercus. Tests are open-book, open-ended format (not multiple choice) consisting of a mix of problem solving, conceptual and SPSS output-interpreting type questions. You will be required to upload your work on certain questions in order to receive credit. You have **one attempt** at taking the test but can take it at **any time between 9am and 9pm on test day**. It is due at 9pm, so you should not start the test later than 6:30PM. Once started, you have **150 minutes** (2.5 hours) to complete the test. You must complete the test once you begin. This is more than ample time. Collaborating with anyone, registered in this course or not, on the test is absolutely forbidden, considered cheating and, any suspicions as such

will be dealt with accordingly. Test questions are *randomized* from a test bank so no two students will have the same test questions, or question ordering. **Once you answer a question, you will not be able to return to it.** We will closely examine irregularities in response patterns and uploaded work.

Procedures and Rules:

Successful completion of this course requires basic knowledge of Quercus and software provided by U of T. All assignments, lectures, tests and practical sections are offered online which means you will require reliable internet connectivity to complete the course. Please plan accordingly. Do not wait until the last minute to submit work online. Unless there is a campus-wide failure with Quercus recognized by the University, we will not accept work that is incomplete because you experienced a "technical problem" at the last minute. If you are indeed having a technical problem, please contact the help desk:
help.desk@utoronto.ca **or** 416-978-HELP (4357)

Missed Assignments

Effective class management by the instructor and the TAs requires your cooperation. Please read the section below carefully.

By default, students who miss a term test or submit an assignment after the deadline will be assigned a mark of zero for the test, or will lose a percentage of the assignment mark for each late day.

In the case of homework assignments and labs, you are expected to plan ahead. Accommodations must be made with either the instructor or the TAs **ahead of time** (with appropriate justification, see section on accommodations for more information). Assignments will be penalized 1 point of their weight of the **total course grade** (minus 1 out of 100, and so on) for each weekday the assignment is late for a maximum penalty equal to the weight of the assignment. For example, a homework assignment may be graded out of 30 points but is worth 10% of the course grade. If the assignment is late one day, you will lose 1 point out of the 10 (its weight in the course) up to a maximum of a 10-point loss from the total course grade. Any missed homework or lab assignments **cannot be handed in once said assignments are returned** to students since the solutions/answers will have been released.

Submitting assignments/labs after the due date requires submission of appropriate justification (such as a medical note). Reasons such as holidays, pre-purchased plane tickets, family plans (unless critical, such as death of an immediate family member), attending a wedding, lack of preparation, technology failure, or too many commitments are not considered to be beyond a student's control and will not be accommodated.

Missed Academic Obligations

Students who miss an academic obligation during the term (i.e., quiz, test, assignment) may use the ACORN absence declaration tool (AD) to record an absence in one or more courses. **This option may be used once per term for a single absence period of up to seven consecutive days in one or more courses.** The declaration period must include the day of declaration and may include past and/or future dates, for a total of up to seven calendar days. Use of the ACORN AD does not

require documentation. **It remains the student's responsibility to initiate the process of seeking academic consideration** – such as a make-up test, assignment extension – by following the instructions listed below, under "Seeking Academic Consideration for a Missed Academic Obligation."

Before a student declares an absence on ACORN for a *test or quiz*, they should review the syllabus closely as the instructor may have exempted that test or quiz from the ACORN AD. If there is an instructor exemption for that test or quiz, you are required to submit documentation when seeking academic consideration for the test or quiz and you should *not* use ACORN to declare the absence for that test or quiz.

If a student misses an academic obligation but has already used the ACORN AD during that term, they will be required to submit documentation when seeking academic consideration. It is the student's responsibility to initiate the process of seeking academic consideration – such as a make-up test, assignment extension – by following the instructions listed below, under "Seeking Academic Consideration for a Missed Academic Obligation."

If you are facing circumstances that make securing documentation difficult, please contact your instructor and/or your college registrar directly to discuss.
Reasons for temporary absences include illness, injury, and other unplanned circumstances beyond a student's control (such as court subpoena, funeral, car accident). Reasons such as holidays, pre-purchased plane tickets, family plans, lack of test/assignment preparation, conflicting deadlines, late course registration, technology failure, and traffic- or weather-related incidents are not considered to be beyond a student's control. If you are a student seeking accommodation *due to religious observance*, you should follow the steps below under "Seeking Academic Consideration for a Missed Obligation" at least three weeks in advance; do not use the ACORN AD for religious accommodation.

Process for Seeking Academic Consideration for a Missed Academic Obligation
If you missed a test or an assignment due date, or are registered with Accessibility Services and anticipate needing an extension on an assignment, please click here.
Students who miss an academic obligation during the term (i.e., quiz, test, assignment) are responsible for initiating the process of seeking academic consideration within 3 days of the assessment, including weekends and holidays. These special consideration requests are made for reasons beyond the student's control. Students who do not seek academic consideration will receive a zero on the assessment in question.
If you are feeling ill, do not start your test/quiz. Instead, seek medical attention immediately.
Students cannot seek academic consideration for a test or quiz they have already begun.

****__**This course has no drop box**__. Please __**DO NOT**__ turn in homework or lab assignments into a drop box! __**DO NOT EMAIL ASSIGNMENTS**__. Only assignments submitted correctly through Quercus will be marked.

Make-up tests are only held if a student has an official legitimate reason (see above) for missing the test and are given very rarely. If the department/instructor does approve a make-up test, it will not be the same test as the regular test, and could include different oral and written components. Like

the regular test however, you will be asked conceptual, SPSS output, and mathematical problem-solving questions – and you may be asked to reply orally or in essay format for each type. The instructor's determination is non-negotiable.

The make-up test date is determined by the instructor and is non-negotiable. Please note: Make-up tests are not held during the examination periods.

False statements and/or documentation will be treated as academic offences and handled accordingly.

Grade Appeals:

Re-marking Pieces of Term Work

A student who believes that their written term work has a substantive error in grading may ask the person who marked the work for re-evaluation. If a student has a concern about their mark, the first person they should reach out to is the TA. The TA may consult with the instructor if the issue isn't straightforward. Please do not email the instructor about a mark unless you have already consulted the TA and have reached an impasse. Students have 7 days from the release of a mark to inquire about it.

Requests for re-marking should include **an explanation written by the student detailing why they believe the work was incorrectly/unfairly assessed, referring only to their work, assignment/test guidelines, rubrics, etc., as needed.** Decisions will be provided to students in a timely fashion.

NOTE: Be aware that grades can increase or decrease after a review.

Academic Integrity Clause:

Copying, plagiarizing, falsifying medical certificates, or other forms of academic misconduct will not be tolerated. Any student caught engaging in such activities will be referred to the Dean's office for adjudication. Any student abetting or otherwise assisting in such misconduct will also be subject to academic penalties. Students are expected to cite sources in all written work and presentations. See this link for tips for how to use sources well: (http://www.writing.utoronto.ca/advice/using-sources/how- not-to-plagiarize).

According to Section B.I.1.(e) of the Code of Behaviour on Academic Matters it is an offence *"to submit, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course or program of study in the University or elsewhere."*

By enrolling in this course, you agree to abide by the university's rules regarding academic conduct, as outlined in the Calendar. You are expected to be familiar with the *Code of Behaviour on Academic Matters* (http://www.artsci.utoronto.ca/osai/The-rules/code/the-code-of-behaviour-on-academic-matters) and *Code of Student Conduct (*http://www.viceprovoststudents.utoronto.ca/publicationsandpolicies/codeofstudentconduct.htm) which spell out your rights, your duties and provide all the details on grading regulations and academic offences at the University of Toronto.

Ouriginal:

Sometimes, students will be required to submit their assignments to the University's plagiarism detection tool for a review of textual similarity and detection of possible plagiarism. In doing so, students will allow their essays to be included as source documents in the tool's reference database, where they will be used solely for the purpose of detecting plagiarism. The terms that apply to the University's use of this tool are described on the Centre for Teaching Support & Innovation web site (https://uoft.me/pdt- faq). For some of your assignments, we will be using the software Ouriginal. It uses text matching technology as a method to uphold the University's high academic integrity standards to detect any potential plagiarism. Ouriginal is integrated into Quercus. For the assignments set up to use Ouriginal, the software will review your paper when you upload it to Quercus. To learn more about Ouriginal's privacy policy please review its Privacy Policy.
Students not wishing their assignment to be submitted through Ouriginal will not be assessed unless a student instead provides, along with their work, sufficient secondary material (e.g., reading notes, outlines of the paper, rough drafts of the final draft, etc.) to establish that the paper they submit is truly their own.

Accessibility Services:

It is the University of Toronto's goal to create a community that is inclusive of all persons and treats all members of the community in an equitable manner. In creating such a community, the University aims to foster a climate of understanding and mutual respect for the dignity and worth of all persons. Please see the University of Toronto Governing Council "Statement of Commitment Regarding Persons with Disabilities" at
http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF /ppnov012004.pdf.

In working toward this goal, the University will strive to provide support for, and facilitate the accommodation of individuals with disabilities so that all may share the same level of access to opportunities, participate in the full range of activities that the University offers, and achieve their full potential as members of the University community. We take seriously our obligation to make this course as welcoming and accessible as feasible for students with diverse needs. We also understand that disabilities can change over time and will do our best to accommodate you. Students seeking support must have an intake interview with a disability advisor to discuss their individual needs. In many instances it is easier to arrange certain accommodations with more advance notice, so we strongly encourage you to act as quickly as possible.

To schedule a registration appointment with a disability advisor, please visit Accessibility Services at http://www.studentlife.utoronto.ca/as, call at 416-978-8060, or email at:
accessibility.services@utoronto.ca. The office is located at 455 Spadina Avenue, 4th Floor, Suite 400. Additional student resources for distressed or emergency situations can be located at distressedstudent.utoronto.ca; Health & Wellness Centre, 416-978-8030,
http://www.studentlife.utoronto.ca/hwc, or Student Crisis Response, 416-946-7111.
Equity and Diversity Statement
Equity and Diversity

The University of Toronto is committed to equity and respect for diversity. All members of the learning environment in this course should strive to create an atmosphere of mutual respect. As a

course instructor, I will neither condone nor tolerate behaviour that undermines the dignity or self-esteem of any individual in this course and wish to be alerted to any attempt to create an intimidating or hostile environment. It is our collective responsibility to create a space that is inclusive and welcomes discussion. Discrimination, harassment and hate speech will not be tolerated.

Additional information and reports on Equity and Diversity at the University of Toronto is available at http://equity.hrandequity.utoronto.ca.

Course, Lab and Practical Section Schedule:

May 6- Hypotheses and Variables; Levels of Measurement, Measures of Central Tendency

Reading: Social Statistics Ch. 1
Social Statistics Ch. 2 (for graphs focus only on Histogram)
Social Statistics Ch. 3

No Lab on May 6

May 8 - Measures of Variability (Dispersion), Normal Distributions, Z-scores and the Standard Normal table

Social Statistics Ch. 4 (skip IQV pp. 115-117)
Social Statistics Ch. 5

Reading: Social Statistics Ch. 4 (skip IQV pp. 115-117)

Practical Section/Lab 1 (May 8): Intro to SPSS, Opening/Saving Data, and Transforming Variables

Reading: Wagner Chs. 1 & 2

May 13 Sampling Methods and Sampling Distributions

Reading: Social Statistics Ch. 6

Practical Section/Lab 2 (May 13): Describing Data using SPSS

Reading: Wagner Chs. 4 & 5 (focus on box plot pp 65-75 and histogram pp. 79-82 only)

Lab 1 due May 13

Homework 1 due May 13

May 15- Estimation: Confidence Intervals & Hypothesis Testing

Reading: Social Statistics Ch. 7 (skip proportions pp. 224-227)
Social Statistics Ch. 8 (skip two sample means & proportions pp. 253-256)

Practical Section/Lab 3 (May 15): Review of Estimation

Lab 2 due May 17

Homework 2 due May 17

May 22 – Midterm Test (online)

*****No lab May 22 *****

May 29- Bivariate Relationships (Cross Tabulations), Elaboration and control variables
Reading: Social Statistics Ch. 9

Practical Section/Lab 4 (May 29): Review of Bivariate Relationships

June 3 Measures of Association for Categorical Data (Lambda and Gamma) & Chi-Square Tests.
Reading: Social Statistics Ch. 10 (skip Cramer's V and Tau-b, & only Interpret (Gamma)

Practical Section/Lab 5 (June 3): Cross-Tabs and Measures of Association in SPSS
Reading: Wagner Ch. 6 (pp. 103-111 on Chi-2) & Ch. 7

June 5 – Scatterplots, Line of Fit, Ordinary Least Squares Regression
Reading: Social Statistics Ch. 12 pp. 401-411

Practical Section/Lab 6 (June 5): Regression in SPSS
Reading: Wagner Ch. 8

Lab 3 due June 3

June 10- Coefficient of Determination (r^2) and Multiple Regression
Reading: Social Statistics Ch. 12 pp. 414-418, 422-426

Practical Section/Lab 7 (June 10): Review of concepts: Lambda, Gamma and Chi-2, OLS regression

June 12 – Final Test Review

- Practical Section/Lab 9 (June 12): Final Test Review

Lab 4 due June 12

Homework 3 due June 12

June 17 - Final Test (online)

*****No Lab June 17 *****