UNIVERSITY OF TORONTO | Department of Sociology

Course Outline

Course Number: **SOC252H1S**

Course Title: **Intermediate Quantitative Methods in Sociology**

Course Instructor **Melissa R. Hunte** **email: melissar.hunte@mail.utoronto.ca**

- Teaching Assistant **Julia Ingenfeld** **email: julia.ingenfeld@mail.utoronto.ca**

Location: FE36 (lab) - 725 Spadina Avenue, Basement

Day/Time: Mondays and Wednesdays 12:00 pm – 4 pm. Lectures and labs are integrated and are scheduled twice every week.

Office Hours: By request. For additional course related support, feel free to email the TAs or the Course Instructor.

1. Course Description

We live in a data-driven world, and as social scientists it is imperative to critically understand how data are generated, analyzed, and interpreted because results from statistical analyses can significantly impact individuals and systems, exacerbate social inequalities, reinforce social biases, influence policies, or help improve equity. Therefore, in this course we will think critically and practically about quantitative information, raise awareness of the strengths, limitations, and potential biases that quantitative analyses can generate, expand, and extend students' statistical knowledge, and provide opportunities for students to apply knowledge to real-world situations or their areas of interest.

2. Prerequisites

The prerequisite to take this course is SOC202H1 (Introduction to Quantitative Methods in Sociology). Students without this requirement will be removed at any time discovered and without notice. In general, students are expected to have a solid background in univariate statistical analysis, including the basics of probability and statistical inference.

3. Learning Goals & Outcomes

The primary goals of this course are to help you enjoy learning about statistics and extend your knowledge to real-life applications. Once you have successfully completed all the requirements for this course, you should be able to:

i. Apply conceptual models to quantitative analysis
ii. Apply intermediate statistical techniques
iii. Examine research questions using real world data
iv. Analyze real world data, interpret results, and write statistical reports.
v. Use SPSS to run statistical analyses

4. Quercus

All announcements, including emergencies or changes to course structure, will be posted on Quercus. Quercus will also be used to access course content, assignments, assessments, and grades. **Please ensure your settings on Quercus allow for course announcements to be sent immediately to your email.**

5. Textbook

Students are not required to purchase textbooks for this course. All textbooks are available via the U of T Library. Links are provided.

1. **Introduction to statistics with SPSS for social science. Norris, G. (2013). Routledge.** https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422
2. **Intermediate statistics: a modern approach. Lawrence Erlbaum Associates. Stevens, J. (2007).** https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716
3. **IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, N.L., Barrett, K.C., & Morgan, G.A. (2011). Routledge.** https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848

6. Software Access

SPSS is the statistical software package you will need to use to complete the research assignments. There are several ways through which you can access SPSS:

A. **Purchase**: You can purchase an IBM SPSS license for your own computer. A license on your own computer is the most reliable way to access SPSS and it can be purchased through the following:
   a. **UofT's Licensed Software office** (https://onesearch.library.utoronto.ca/ic/licensed-software). UofT's License is available to students for $80.00 but is only valid until July 31, 2022.
   b. **Valid SPSS Vendors** (https://www.ibm.com/products/spss-statistics-gradpack#3066862). Student pricing is available for a 6- or 12-month licence from the date of purchase.

B. **Lab Computers**: SPSS will be available through the lab computers. However, the number of lab computers are limited and are only available during class times.

C. **Remote Access**: You may access SPSS remotely on your own computer through the University of Toronto Remote Lab (details will follow). This allows users to connect to remote desktops using the U of T VPN. This should be considered the back-up option if all else fails.

IMPORTANT: If you are relying on the lab or remote access, be sure to start your assignments early. Remote resources may be busy and technical issues can arise***.*** *Ultimately, you are responsible for completing your assignment on time*.

7. Course Structure, Assignments, and Evaluation

This is an intensive summer course that runs for approximately 10-12 sessions. Because of the fast-paced nature of summer courses, staying on top of readings and assignments is critical for students' success. As such, the course is designed to be both student-guided and instructor-led. Students would be required to master their learning through *pre-class* preparations, *in-class* applications, and *weekly* quizzes.

Assignments and Evaluation Summary

No.	Assignments	% Grade each	Total % Grade
6x	Weekly Quiz	6.0%	36.0%
11x	Participation	1.0%	11.0%
2x	Outline of Research Assignments	1.0%	2.0%
1x	Research Assignment 1	25.0%	25.0%
1x	Research Assignment 2	25.0%	25.0%
1x	Mid-point Survey	1.0%	1.0%
		Total	**100.0%**

Weekly Quizzes (36%)

At the end of each week, your learning will be assessed by a weekly quiz. Each quiz is worth 6 %.

Participation (11%)

After each session students are required to upload the SPSS output of the work they did during class. *This is a safe space for students to practice and make and correct mistakes. Errors and incorrect answers will not be penalized*. **All class assignments are due by 11:59 pm the day after class. Late penalties will apply.**

Research Assignments (50% + 2)

Students' ability to analyze and interpret data and present findings in a coherent statistical report will be assessed by two research assignments – one midterm and the other end-of-term – each worth 25% each. Students would also be asked to submit an outline of their research assignments, each worth 1%.

Learning Components

Class	Date	Topics, Readings	Assignment	%	Due Date
0		**Pre-Class Prep** **Read: Chapters 1-5** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422 **Read: Chapters 1-2** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011).			

https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848

1	**4-Jul**	Review of Course Outline **Lecture 1** General intro to Statistics and Statistical models Intro to SPSS **SPSS lab 1** **Pre-reading** **Read: Chapter 7 Correlation coefficients: the Pearson correlation and Spearman's rho** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011). https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848	**Participation 1** SPSS Output: Intro	1%	5-Jul 11:59 PM

2	**6-Jul**	**Lecture 2** Bias & Assumptions **SPSS lab 2** **Pre-reading** **Read: Chapter 6 Multiple Regression** Intermediate statistics: a modern approach. Stevens, J. (2007). https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716 **Read: Chapter 6 Multiple Regression** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011). https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848	**Participation 2** SPSS Output: Assumptions	1%	7-Jul 11:59 PM

	8-Jul	**Weekly Quiz 1**		6%	8-Jul 11:59 PM
3	**11-Jul**	**Lecture 3** Linear & Multiple regression **SPSS Lab 3** **Pre-reading** **Read: Chapter 19 Multiple regression and multiple correlation** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422	**Participation 3** SPSS Output: Linear & Multiple regression	1%	12-Jul 11:59 PM
4	**13-Jul**	**Lecture 4** Hierarchical multiple Linear regression **SPSS Lab 4** **Pre-reading** **Read: Chapters 10-11 Related & Unrelated t-test** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422 **Read: Chapter 1** Intermediate statistics: a modern approach. Stevens, J. (2007). https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716	**Participation 4** SPSS Output: Hierarchical multiple Linear regression	1%	14-Jul 11:59 PM

	15-Jul	**Weekly Quiz 2**		6%	15-Jul 11:59 PM
5	**18-Jul**	**Lecture 5** Independent and Related sample t-test SPSS Lab 5 **Pre-reading** **Read: Chapter 2 & 4 One-way ANOVA & Factorial Designs** Intermediate statistics: a modern approach. Stevens, J. (2007). https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716 **Read: Chapters 13-14 One- and Two-way ANOVA** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422 **Read: Chapters 8.1-8.2 Factorial ANOVA** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011). https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848	**Participation 5** SPSS Output: Independent and Related sample t-test	1%	19-Jul 11:59 PM
6	**20-Jul**	**Lecture 6** GLM 1: One-way ANOVA **SPSS Lab 6** **Pre-reading** **Read: Chapter 4 Factorial Designs**	**Participation 6** SPSS Output: Mediation and Moderation	1%	21-Jul 11:59 PM

		Intermediate statistics: a modern approach. Stevens, J. (2007). https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716 **Read: Chapters 14 Two-way ANOVA** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422			
	22-Jul	**Weekly Quiz 3**		6%	22-Jul 11:59 PM
7	**25-Jul**	**Lecture 7** GLM 2: Factorial Designs **SPSS Lab 7** **Pre-reading** **Read: Chapter 5 Repeated Measures Analysis** Intermediate statistics: a modern approach. Stevens, J. (2007). https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/1/9780203809716 **Read: Chapters 9.1-9.2 Repeated Measures ANOVA** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011). https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848	**Participation 7** SPSS Output: Factorial Designs	1%	26-Jul 11:59 PM
8	**27-Jul**	**Lecture 8** GLM 3: Repeated-measures designs	**Participation 8** SPSS Output: Repeated Measures	1%	28-Jul 11:59 PM

		SPSS Lab 8 **Read: Chapters 12 Chi-square** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422			
	29-Jul	**Weekly Quiz 4**		6%	29-Jul 11:59 PM
	28-Jul	**Draft of Assignment 1**		1%	28-Jul 11:59 PM
	1-Aug	**Civic Holiday. No Class**			
	2-Aug	**Assignment 1 Due**		25%	2-Aug 11:59 PM
9	**3-Aug**	**Lecture 9** Categorical outcomes: chi-square analysis **SPSS Lab 9** **Pre-reading** **Read: Chapter 21 Binomial Logistic Regression** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422 **Read: Chapters 7.1 Logistic Regression** IBM SPSS for Intermediate Statistics: Use and Interpretation, Fourth Edition (4th ed.). Leech, et al., (2011). https://doi-org.myaccess.library.utoronto.ca/10.4324/9780203821848	**Participation 9** SPSS Output: Chi Square	1%	4-Aug 11:59 PM

	4-Aug	**Mid-Point Check-in Survey**		1%	4-Aug 11:59 PM
	5-Aug	**Weekly Quiz 5**		6%	5-Aug 11:59 PM
10	**8-Aug**	**Lecture 10** Categorical outcomes: Binomial logistic regression **SPSS Lab 10** **Pre-reading** **Read: Chapter 20 Multinomial Logistic Regression** Introduction to statistics with SPSS for social science. Norris, G. (2013) https://books-scholarsportal-info.myaccess.library.utoronto.ca/uri/ebooks/ebooks6/taylorandfrancis6/2020-08-19/3/9781315833422	**Participation 10** SPSS Output: Binomial logistic regression	1%	9-Aug 11:59 PM
11	**10-Aug**	**Lecture 11** Categorical outcomes: Multinomial logistic regression **SBSS Lab 11**	**Participation 11** SPSS Output: Multinomial logistic regression	1%	11-Aug 11:59 PM
	11-Aug	**Draft of Assignment 2**		1%	11-Aug 11:59 PM
	12-Aug	**Weekly Quiz 6**		6%	12-Aug 11:59 PM
	17-Aug	**Assignment 2 Due**		25%	17-Aug 11:59 PM
12	**15-Aug**	**Lecture 12 (TBD)**			

8. Expectations

Students are expected to complete all course requirements by the designated dates to earn a course grade. This includes:

- Attending all lectures and labs
- Completing all readings, assignments, and assessments.
- Communicating their needs to the course instructor or TAs especially if there is a situation that impedes their completion of an assignment or test. This should be done ***prior to*** due dates.
- Submitting accessibility needs as soon as possible.
- Adhering to the University of Toronto Rules and Regulations and Guidelines on Academic Integrity.
- Communicating respectfully with peers, TAs, and Course Instructor, and adhering to Community Guidelines.
- Engaging to learn.

Extensions

Please note that extensions are provided under exceptional circumstances. Arrangements for an extension must be made with the Course Instructor ***prior to*** assignment due date. If prior arrangements were not made, a penalty for late submission will apply. The late submission penalty is 5% per day (including weekends) starting from the day after the due date.

Students who miss tests or are late in submitting an assignment for medical reasons, must email the instructor (not the TA), **and declare their absence on the system** (ACORN).

(NOTE: Because of Covid-19, students do NOT need to submit the usual documentation, i.e., medical notes or the Verification of Illness forms).

Students who miss tests or are late in submitting an assignment for other reasons, such as family or other personal reasons, should request their College Registrar to email the instructor.

9. Grading Criteria

Assignments are graded in accordance with the evaluation criteria set out by the University of Toronto (please refer to http://calendar.artsci.utoronto.ca/Rules_&_Regulations.html). Evaluation rubrics will be posted on Quercus. The University Assessment and Grading Practices Policy is available at: https://governingcouncil.utoronto.ca/secretariat/policies/grading-practices-policy-university-assessment-and-january-26-2012

Percentage	Letter Grade	Grade Point Value	Grade Definition	
90-100	A+	4.0	Excellent	Strong evidence of original thinking; good organization; capacity to analyze and synthesize; superior grasp of subject matter with sound critical evaluations; evidence of extensive knowledge base.
85-89	A	4.0		
80-84	A-	3.7		
77-79	B+	3.3	Good	Evidence of grasp of subject matter, some evidence of critical capacity and analytic ability; reasonable
73-76	B	3.0		

Percentage	Letter Grade	Grade Point Value		Grade Definition
70-72	B-	2.7		understanding of relevant issues; evidence of familiarity with literature
67-69	C+	2.3	Adequate	Student who is profiting from the university experience; understanding of the subject matter and ability to develop solutions to simple problems in the material.
63-66	C	2.0		
60-62	C-	1.7		
57-59	D+	1.3	Marginal	Some evidence of familiarity with the subject matter and some evidence that critical and analytic skills have been developed.
53-56	D	1.0		
50-52	D-	0.7		
0-49	F	0.0	Inadequate	Little evidence of even superficial understanding of subject matter; weakness in critical and analytic skills; limited or irrelevant use of literature.

10. Academic Integrity

Cheating Behaviours - Students are prohibited from sharing or discussing test questions or answers with each other.

Plagiarism - using another writer's words or ideas without the proper acknowledgement. The University of Toronto's Code of Behaviour on Academic Matters states that it is an offence for a student knowingly "to represent as one's own any idea or expression of an idea or work of another in academic examination or term test or in connection with any other form of academic work, i.e. to commit plagiarism". Please refer to the following resources for further information on academic integrity and how to avoid plagiarism:

- **Academic Integrity at U of T**.
- **Student Academic Integrity (Arts & Science)**.
- **Code of Behaviour on Academic Matters**.
- **How Not to Plagiarize**.
- **Advice on Academic Writing**.

11. Academic Support

Academic and/or Technical Service Support

The following are some important links to help you with academic and/or technical service and support:

- Full library service through **University of Toronto Libraries**.
- Resources on conducting online research through **University Libraries Research**

- Quercus Information in the **Canvas Student Guide**
- Resources on academic support from the **Academic Success Centre.**
- General student services and resources at **Student Life.**

Writing Support

Writing is an important academic skill and can be challenging for many students, regardless of language background. Writing improves with practice and effort. If you have a concern about your writing skills, please speak with the course instructor or TA. The University of Toronto has several resources available to support you, some of them include:

- **Writing Centres in Arts and Science, St. George Campus**.
- **FREE Quality English Language Instruction**
- **Strategies for Online Learning & Accessibility**

12. Accessibility Support

Students with diverse learning needs are welcome in this course. If you have a disability or health consideration that may require accommodations, please feel free to email the Course Instructor and the Accessibility Services Office as soon as possible. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let us know your needs, the quicker we can assist you in achieving your learning goals in this course.

The University of Toronto recommends that students register at Accessibility Services well in advance of classes to allow for timely arrangements. Please contact them at accessibility.services@utoronto.ca.

Further information and support can be found here:

- **Accessibility Services**

13. Religious Observances

As a student at the University of Toronto, you are part of a diverse community that welcomes and includes students and faculty from a wide range of cultural and religious traditions. I will make every reasonable effort to avoid scheduling tests, examinations, or other compulsory activities on religious holy days not captured by statutory holidays. If you anticipate being absent from class or missing a major course activity (such as a test or in-class assignment) due to a religious observance, please let me know as early in the course as possible so that we can work together to make alternate arrangements.

14. Student Feedback

Course evaluations are especially important to inform curriculum development and ensure the quality of education at this Faculty. As such, you will be asked to evaluate this course twice: mid-way through and at the end of the course. Thank you for taking the time to provide honest and objective feedback.

15. Course Materials, including lecture notes

Course materials are provided for the exclusive use of enrolled students. Please do not share them with others, post on public domains, sell or give the materials to a person or company for goodwill or monetary gain.