SOCIOLOGY 2205B
Introduction to Statistics
Winter 2022
Wednesdays 9:30-12:30

Lecture: Room UCC 146

Labs: HSB 13 (COMPUTER LAB), HSB 14 (COMPUTER LAB), HSB 16 (COMPUTER LAB)

Instructor: Michael Haan, Associate Professor

Office Hours: Wednesdays 1:00-3:00
Department of Sociology, Office: SSC 5412
Email: mhaan2@uwo.ca

Teaching Assistants: Elena Draghici, Lindsay Finlay, and Yuchin Li

Course Description:

The Learning Outcomes are as follows:

- To provide the basic skills necessary for summarizing and analyzing statistical data.
- To develop an appreciation of the analytical and philosophical complexities of using numbers to describe people.
- To gain a basic knowledge of Stata, a popular statistical analysis program.

In addition to participation in the weekly sessions, there are a series of 'mini-assignments' in the lab, each geared to helping you understand one or more components of statistical analysis. In many weeks, there will be both lectures and a lab session. In class we will discuss statistical theory and concepts, whereas in the lab the *practice* of statistical analysis will be the focus.

This is a statistics class, but no prior knowledge of statistics is assumed for the course. Online remedial resources (ie. http://davidmlane.com/hyperstat/) exist, and students are recommended to consult them if necessary. We will work with several datasets and Stata, a widely-used statistics program. None of these is required however, because your TAs will spend a lot of time showing you how to use Stata in the labs.

Required Text and Materials:

- Haan, Michael, and Jenny Godley. *Statistics for Canadian Social Scientists, Third Edition.* © Oxford University Press. Available at the bookstore.
- A calculator capable of working with exponents and square roots, but **not** capable of storing text and/or equations.
- A flash drive, or some other reliable way to prevent your dog from eating your homework.

Evaluation Breakdown:

Grades are allocated as follows:

Test 1:	25%
Test 2:	25%
Mini-assignments (5 @ 3%):	15%
Final Exam (cumulative):	35%

How to Contact Me: During the pandemic, I can be reached only through email: mhaan2@uwo.ca

How to get important information:

I will periodically send information to you via OWL. I will also be available via email, and will answer any questions within 24 hours (it might take a little longer on weekends). If you ask a question that I think others in the class will be interested in, I reserve the right to send my response to everyone via OWL. I will not identify you as the person that asked the question.

Important Policies

Policies for Assignment Deadlines:

I will deduct 10% per day for late assignments.

A Note on Plagiarism:

Students must write their assignments in their own words. Whenever students take an idea from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major scholastic offence (the Scholastic Offence Policy can be viewed in the Western Academic Calendar).

Plagiarism Checking:

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (https://www.turnitin.com/).

Policy on Laptops and other Electronics/Phones in Class:

Laptops are permitted in class, but if it is observed that students are on social networking sites such as Facebook or Twitter, they will be told to close the lid and they will not be permitted to use it for the remainder of the class. Be sure that all cell phones are turned off at the beginning of class.

Policy on Accommodation for Medical Illness

Western's policy on Accommodation for Medical Illness can be found at www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf.

Students must see the Academic Counsellor and submit all required documentation in order to be approved for certain accommodation: counselling.ssc.uwo.ca/procedures/academic_consideration.html.

Academic Consideration for Missed Work

Students who are seeking academic consideration for missed work during the semester may submit a *Self-Reported Absence (SRA)* form online provided that the absence is **48 hours or less** and the other conditions specified in the Senate policy are met. Two important exceptions to this rule: SRAs will NOT be allowed for final examinations or assessments worth more than 30% of a given course. Students whose absences are expected to last **longer than 48 hours**, or where the other conditions detailed in the policy are not met (e.g., work is worth more than 30% of the final grade, the student has already used 2 self-reported absences, the absence is during the final exam period), may receive academic consideration by submitting a Student Medical Certificate (for illness) or other appropriate documentation (for compassionate grounds) to your Home Faculty Academic Counselling office.

All students pursuing academic consideration, regardless of type, must contact their instructors no less than 24 hours following the end of the period of absence to clarify how they will be expected to fulfill the academic responsibilities missed during their absence. Students are reminded that they should consider carefully the implications of postponing tests or midterm exams or delaying submission of work, and are encouraged to make appropriate decisions based on their specific circumstances.

www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

Accessibility Options:

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519 661-2111 x 82147 for any specific question regarding an accommodation. Information regarding accommodation of exams is available on the Registrar's website:
www.registrar.uwo.ca/academics/examinations/accommodated_exams.html

Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following web site:
https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf

Mental Health

Students who are in **emotional/mental distress** should refer to Mental Health@Western (www.uwo.ca/health/mental_wellbeing/index.html) for a complete list of options how to obtain help.

Course Schedule and Readings:

January 5:　　*Class 1 – Introduction: why would I want to learn statistics?*

January 12　　*Class 2a - How to hate statistics less. Review of Basic Math. Pp. 3-22.*
　　　　　　　Class 2b - Levels of measurement. Pp. 23-26.

January 19:　　*Class 3a – Frequencies. Chapter 3.*
　　　　　　　Class 3b – Probability. Chapter 4.

January 26:　　*Class 4a – The normal curve. Chapter 5.*
　　　　　　　Class 4b – Measures of Central Tendency and Variation. Chapter 6.

February 2:　　*Class 5a – Generalizing from samples to populations 1. Chapter 7.*
　　　　　　　Class 5b – Sampling . Chapter 8.

February 9:　　*Class 6a – Generalizing from samples to populations 2. Chapter 9.*
　　　　　　　Class 6b - Test 1

February 16　　*Class 7a – Analysis with more than one variable: hypothesizing the existence of relationships. Chapter 10.*
　　　　　　　Class 7b – Measuring Association between Dummy and Interval-Ratio Variables: t-tests with two samples. Chapter 11.

February 19th - 27th　　*Spring Reading Week*

March 2:　　*Class 8a - Analysis of Variance 1. Chapter 15.*
　　　　　　Class 8b - Analysis of Variance 2. Chapter 15.

March 9:　　*Class 9a – Nominal measures of association. Chapter 12.*
　　　　　　Class 9b - Ordinal measures of association. Chapter 13.

March 16:　　*Class 10a - Interval/Ratio measures of association. Chapter 14.*
　　　　　　Class 10b – Review

March 23:　　*Class 11 - test 2*

March 30:　　*Class 12a – OLS regression 1. Chapter 16.*
　　　　　　Class 12b – OLS Regression 2. Chapter 16.

Sample Exam Questions

– there will be a mixture of question types for each exam, with 20-30 questions per exam.

1. **Which of the following is NOT a nominal level variable?**
a. level of education
b. zip code
c. occupation
d. make of auto

2. **The variable socioeconomic status ranges from upper class to lower class and is an example of the**
a. nominal level of measurement
b. ordinal level of measurement
c. interval-ratio level of measurement
d. ratio level of measurement

3. **Which of the following can be treated as an interval-ratio variable?**
a. social security number
b. zip code
c. age
d. hair color

4. **Select the variable that can be measured at the interval-ratio level**
a. different types of crimes
b. number of children in a family
c. attractiveness of a person
d. emotional stability

5. A valet parking attendant is interested in determining when she gets the biggest tips. To study this question, she records the size of the tip given by her customers on three extremely hot summer days, three warm spring days, and on three cold winter days. Complete an Analysis of Variance to test the differences between mean tips with significance ($\alpha = .05$), to determine which groups differ from each other.

	Hot Day	Warm Day	Cold Day
Tip	$4.00	$4.00	$5.00
	$2.00	$6.00	$6.00
	$3.00	$3.00	$3.00

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