SOC 210: Introduction to Social Statistics
Course Syllabus, FALL 2019 (68458)
University of Alberta

Instructor: Dr. Michelle Lee Maroto
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Office: 6-23 Tory Building
Office Hours: T R 3:30-4:30pm, and by appointment

Lecture: CAB 265, T R 2:00pm - 3:20pm
Labs: T B 39, (D1) M 9:00am – 10:50am, (D2) M 11:00am – 12:50pm,
(D3) M 1:00pm – 2:50pm, or (D4) M 3:00pm – 4:50pm

Teaching Assistants:

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Required Course Text:

Healey, Joseph F., Steven G. Prus, and Riva Lieflander. 2019. *Statistics: A Tool for Social Research, Fourth Canadian Edition*. Nelson Education.

NOTE: Earlier editions of this book are fine to use for the course. The pages numbers might differ, but the chapters should match up. Copies of the fourth edition are also on reserve in Rutherford Library with information available through Library Course Materials.

Lab Sections:

This course includes a weekly lab section in addition to our lectures. Weekly lab sections will provide you with an opportunity to learn R, review homework assignments, and ask your teaching assistants questions about course material.

Prerequisite:

SOC 100 or consent of instructor.

Technology Requirements:

You will need access to (1) a scientific, non-programmable calculator to use in lectures, labs, and on your exams and (2) the statistical program, R, to complete labs and certain homework assignments. We will discuss how to download and set-up this program in class.

This course uses eClass for the posting of certain content. I will also make announcements via eClass, so please check the website regularly.

Policy about course outlines can be found in Course Requirements, Evaluation Procedures, and Grading of the University Calendar.

Course Description

SOC 210 provides an introduction to statistical concepts and methods used by social scientists to analyze quantitative data. The course is divided into three parts. **Part I** covers descriptive statistics. During this part of the course we will learn about frequency distributions, measures of central tendency, and the normal curve. We will also address where data come from, along with data visualization. **Part II** covers inferential statistics. In Part II we will focus on probability and sampling, estimation procedures, hypothesis testing, and bivariate tables. **Part III** incorporates measures of association. During this part of the course we will cover bivariate measures of association for nominal and ordinal variables, along with bivariate and multivariate regression.

Course Goals

"Statistics" is often a scary word for students, particularly those who have had trouble with math courses in the past. Many students cringe at the word, or worse, go running in fear and put off taking a stats course until the last possible moment. My goal in this course is to show you that statistical methods of data analysis are not scary; they are useful, beneficial, vital, and they can even be (gasp!) fun.

Statistical knowledge does not come easy to everyone. This course will likely require hard work on your part, but that work comes with a huge payoff. The skills that you acquire in SOC 210 will be useful for you as both a producer and consumer of quantitative data because statistics are everywhere in our data driven world. Statistics permeate media news coverage and apply to all areas of life, from finance to shopping to sports. Statistical techniques also play a prominent role across a variety of occupations that include research, marketing, data management, and public policy jobs. Mastering basic statistical concepts and techniques will therefore improve your understanding of the social world, better equip you to enter various professions, and help you to make important life decisions.

Course Objectives

After successfully completing the course, you will be able to:

- understand what statistics do and why they are important;
- calculate and interpret measures of central tendency and variability in statistical data;
- understand the principles of sampling and probability;
- explain the logic of hypothesis testing;
- assess the strength of association between social science variables;
- compute and interpret regression equations;
- achieve basic competence in using statistical software;
- critically evaluate the data and methods used by social scientists; and
- assess the accuracy of statistical data in the media.

Course Policies

Be respectful. Be honest. Be kind.

Contacting Me:
I highly recommend bringing any questions to class with you to raise at the beginning of lecture. However, if you have a question that can be answered with a couple sentences and this question has not already been answered on the syllabus or course website, you may contact me through email. If your question requires a more detailed or lengthy response, I suggest that you raise the question in class, attend my office hours, or make an appointment to meet with me. Please be aware that I check email from 9:00-5:00 on weekdays but not on weekends.

Email Etiquette:
Remember that email communication for all courses should be formal and professional. Make sure to use proper spelling, grammar, and punctuation.

Absences:
If you are going to be absent from lecture, you do not need to contact me unless you will be missing an exam. However, if you miss a lecture, I suggest contacting another student in the class to obtain a copy of the notes from that lecture.

As per the University of Alberta Calendar: *Excused absence for a missed exam is not automatic and is granted at the discretion of the instructor (in the case of term exams) or the student's Faculty (in the case of final exams). Instructors and Faculties are not required to grant excused absences for unacceptable reasons that include, but are not limited to personal events such as vacations, weddings, or travel arrangements.* ***When a student is absent from a term or final exam without acceptable excuse, a final grade will be computed using a raw score of zero for the exam missed.*** *Any student who applies for or obtains an excused absence by making false statements will be liable under the Code of Student Behaviour.*

If you miss an exam or are unable to complete assignments on the appropriate date because of an incapacitating illness, you must contact me within two business days or as soon as you are physically able to do so. You must also complete a Request for Deferral Form or a c Supporting medical documentation, such as a University of Alberta Medical Statement signed by a doctor, is also helpful but not required. You should submit appropriate documentation for other acceptable absences. This might include a copy of the death certificate for a death in the family, a letter from the church or pastor for a religious conflict, or a copy of the accident report for a car accident. For other reasons, please consult with me for appropriate documents.

Accessibility Resources:
Students who require accommodations in this course due to a disability affecting mobility, vision, hearing, learning, mental, or physical health are advised to discuss their needs with Student Accessibility Resources, SUB 1-80, 492 · 3381 (phone) or 492 · 7269 (TTY). Students registered with Accessibility Resources who will be using accommodations in the classroom or writing exams through Accessibility Resources are required to provide a "Letter of Introduction."

Electronic Recording of Lectures:
As per the University Calendar: *Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as apart of an approved accommodation plan. Student or instructor content, digital or otherwise,created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).*

Lecture Slides and Handouts:
I post handouts that outline the problems for each class on the course website before lecture, and I post lecture slides on the website after lecture for you to review. I share the slides to supplement, not to replace, note-taking in class. Independent note-taking is an important skill that you should work to develop throughout your university career. However, slides will often contain formulas, figures, and tables that you may want to refer back to when reviewing the material.

Academic Integrity:
Per GFC 24.3(2): *The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (www.governance.ualberta.ca) and avoid any behaviour that could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.* All students should consult the academic integrity website.

Basic Needs Security:
If you have difficulty affording groceries or accessing sufficient food to eat every day, or if you lack a safe and stable place to live, and you believe this many affect your performance in this course, please contact the Office of the Student Ombuds or the Dean of Students for support. The Campus Food Bank also offers multiple programs to help with food insecurity. Additionally, please talk to me if you are comfortable in doing so. This will enable me to provide any resources that I might possess.

Children in Class:
All exclusively breastfeeding babies are welcome in class as often as necessary. For older children and babies, I understand that minor illnesses and unforeseen disruptions in childcare often put parents in tough situations. Although this is not meant to be a long-term childcare solution, occasionally bringing a child to class in order to cover gaps in care is perfectly acceptable. However, please do not let this disrupt the learning of other students. In all cases where babies and children come to class, I ask that you sit close to the door so that you can easily step outside if your little one needs special attention.

Treaty 6 Territory:
The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages, and cultures of the First Nations, Métis, Inuit, and all First Peoples of Canada, whose presence continues to enrich our vibrant community.

Learning and Working Environment:
The Faculty of Arts is committed to ensuring that all students, faculty, and staff are able to work and study in an environment that is safe and free from discrimination and harassment. It does not tolerate behavior that undermines that environment.

Course Requirements

Grade Breakdown:
Your grade in this course will be based upon four aspects, each worth a part of the grade:

- Exams: 60% (3 exams; Exam 1 - 15%, Exam 2 - 20%, Exam 3 - 25%)
- Homework Problem Sets: 15% (5 assignments; 3% each)
- Lab Assignment: 20%
- Participation Activities: 5%
- **Total:** 100%

Grading Policy:
Four components constitute your grade for this course: exams, homework problem sets, a lab assignment, and participation activities. If you are having issues keeping up with course work for any reason, notify me as soon as you start to have a problem. We will be more likely to come to an acceptable arrangement if we can attack the problem sooner rather than later. Counseling and Clinical Services are also available.

Exams:
You will have three in-class closed-book exams in this course. The first exam, which is worth 15% of your total grade, will cover Part I of the course on descriptive statistics. It will take place during Week 4. The second exam, which is worth 20% of your total grade, will primarily cover Part II of the course on inferential statistics. It will take place during Week 9. The third exam, which is worth 25% of your total grade, will primarily cover Part III of the course on measures of association. It will take place during the final examination period. Example exam questions will be reviewed in class and made available on the course website. Exams are worth 60% of your final grade.

Problem Sets:
You will have five homework problem set assignments in this course. Homework problem sets should be submitted during lab sections on the date listed on the syllabus. Problem sets are not due until the end of your lab section, but they can be turned in earlier. Your TAs will then review the majority of each assignment during the lab section. Homework problem sets are worth 15% of your final grade. Late problem sets will be penalized. However, a problem set will not be considered late if it is submitted before 5:00pm on Monday of the assigned week.

Lab Assignment:
You will have one lab assignment to complete in this course. The lab assignment will involve analyzing data and reporting your results in a clear and organized manner. Labs must be handed in at the beginning of lecture on the lab due date. We will go over example lab assignments in class. The lab assignment is worth 20% of your final grade. Late assignments will be penalized.

Participation Activities:
Your participation grade is based on your in-class participation during lecture and in lab sessions. Throughout the semester you will have the opportunity to complete 6-8 participation activities. These short activities will involve individual and group written work that will be submitted either during lecture, in your lab sessions, or online. Each activity is worth 5 points and the activities will be graded out of a total of 20 points. You will therefore need to obtain 20 points for full credit on these activities. Most in-class and in-lab participation activities ***will not be announced*** beforehand. Because there will be more than 4 activities throughout the semester, activities cannot be made up if they are missed.

In addition to completing the required number of activities, I expect you to be mentally and physically present and to participate in each lecture and lab session. In-class participation includes speaking up in class, asking and answering questions, and completing group work. I expect you to come to class with a calculator, writing tools, and paper, prepared to work on example problems together. I also expect everyone in this class to be respectful and courteous. Disruptive and disrespectful behavior, such as talking out of turn, listening to music, using electronic devices for non-class purposes, sleeping through class, and leaving early without first notifying the instructor, will negatively affect your grade. Participation is worth 5% of your final grade.

Grade Conversion Scale:

Descriptor	Percentage Grade	Letter Grade	Grade Point Value
Excellent	96 - 100	A+	4.0
	91 - 95	A	4.0
	86 - 90	A-	3.7
Good	81 - 85	B+	3.3
	76 - 80	B	3.0
	71 - 75	B-	2.7
Satisfactory	66 - 70	C+	2.3
	62 - 65	C	2.0
	58 - 61	C-	1.7
Poor	54 - 57	D+	1.3
Minimal Pass	50 - 53	D	1.0
Failure	0 - 49	F	0.0

Course Schedule & Readings
(TENTATIVE)

Part 1: Descriptive Statistics

Week 1: Welcome!

Mon. (Sept. 2nd): No Lab Sessions

Tues. (Sept. 3rd): Welcome to SOC 210!

Thurs. (Sept. 5th): Math Review, Statistics, Variables, and Relationships
- Healey, Prus, and Lieflander: Introduction and Ch. 1

Week 2:

Mon. (Sept. 9th): R Intro

Tues. (Sept. 10th): Describing Data
- Healey, Prus, and Lieflander: Ch. 2

Thurs. (Sept. 12th): Measures of Central Tendency and Dispersion
- Healey, Prus, and Lieflander: Ch. 3

Week 3:

Mon. (Sept. 16th): Homework Assignment #1 Due

Tues. (Sept. 17th): Measures of Central Tendency and Dispersion
- Healey, Prus, and Lieflander: Ch. 3

Thurs. (Sept. 19th): The Normal Curve
- Healey, Prus, and Lieflander: Ch. 4

Week 4:

Mon. (Sept. 23rd): Homework Assignment #2 Due

Tues. (Sept. 24th): Review and Catch-up

Thurs. (Sept. 26th): EXAM #1

Part 2: Inferential Statistics

Week 5:

Mon. (Sept. 30th): Practice Problems and R Exercises

Tues. (Oct. 1st): Data, Probability, and Sampling

- Healey, Prus, and Lieflander: Ch. 5

Thurs. (Oct. 3rd): Estimation Procedures

- Healey, Prus, and Lieflander: Ch. 6

Week 6:

Mon. (Oct. 7th): Homework Assignment #3 Due

Tues. (Oct. 8th): Probability, Sampling, and Estimation

- Healey, Prus, and Lieflander: Chs. 5 and 6

Thurs. (Oct. 10th): Hypothesis Testing (One Sample)

- Healey, Prus, and Lieflander: Ch. 7

Week 7:

Mon. (Oct. 14th): NO LABS – Happy Thanksgiving!

Tues. (Oct. 15th): Hypothesis Testing (One Sample)

- Healey, Prus, and Lieflander: Ch. 7

Thurs. (Oct. 17th): Hypothesis Testing (Two Samples)

- Healey, Prus, and Lieflander: Ch. 8

Week 8:

Mon. (Oct. 21st): Practice Problems and R Exercises

Tues. (Oct. 22nd): Bivariate Tables and ANOVA

- Healey, Prus, and Lieflander: Ch. 9

Thurs. (Oct. 24th): Chi-square Test

- Healey, Prus, and Lieflander: Ch. 10

Week 9:

Mon. (Oct. 28th): Homework Assignment #4 Due

Tues. (Oct. 29th): Review and Catch-up

Thurs. (Oct. 31st): EXAM #2

Part 3: Measures of Association

Week 10:

Mon. (Nov. 4th): Practice Problems and R Exercises

Tues. (Nov. 5th): Bivariate Measure of Association for Nominal Variables

- Healey, Prus, and Lieflander: Ch. 11

Thurs. (Nov. 7th): Bivariate Measure of Association for Ordinal Variables

- Healey, Prus, and Lieflander: Ch. 12

Week 11: No Classes - Have a lovely Reading Week!

Mon. (Nov. 11th): No Lab Sessions

Tues. (Nov. 12th): No Classes

Thurs. (Nov. 14th): No Classes

Week 12:

Mon. (Nov. 18th): Homework Assignment #5 Problems and R Exercises

Tues. (Nov. 19th): Association, Correlation, and Bivariate Regression

- Healey, Prus, and Lieflander: Ch. 13

Thurs. (Nov. 21st): Bivariate Regression

- Healey, Prus, and Lieflander: Ch. 13

Week 13:

Mon. (Nov. 25th): Homework Assignment #5 Due and R Exercises

Tues. (Nov. 26th): Multivariate Regression

- Healey, Prus, and Lieflander: Ch. 14

Thurs. (Nov. 28th): Multivariate Regression

- Healey, Prus, and Lieflander: Ch. 14

Week 14:

Mon. (Dec. 2nd): R Exercises

Tues. (Dec. 3rd): Multivariate Regression

- Healey, Prus, and Lieflander: Ch. 14

Thurs. (Dec. 5th): Review and Catch-up

- Final Lab Assignment Due in Class

Finals Week:

Tentative Final Exam Date: Monday, December 16, 2019 at 9:00am

Sociology Deferred Final Exam Date: Saturday, January 11, 2020 at 9:00am in BUS 1-10

Note: As per the University Calendar: *A deferred final examination will not be approved if a student (a) has not been in regular attendance where attendance and/or participation are required, and/or, (b) excluding the final exam, has completed less than half of the assigned work.*

SOC 210: Course Schedule FALL 2019

Week (Mon. - Sun.)	General Topic	Monday	Tuesday		Thursday	
		Labs	Topic	Reading / Assignments	Topic	Reading / Assignments
Week 1 09.02 - 09.08	Descriptive Statistics	**NO LABS**	Welcome to SOC 210!		Math Review, Statistics, Variables, & Relationships	Intro and Ch. 1
Week 2 09.09 - 09.15		R Intro	Describing Data	Ch. 2	Measures of Central Tendency and Dispersion	Ch. 3
Week 3 09.16 - 09.22		HW #1 Due	Measures of Central Tendency and Dispersion	Ch. 3	The Normal Curve	Ch. 4
Week 4 09.23 - 09.29		HW #2 Due	**Review and Catch-up**		**EXAM 1**	
Week 5 09.30 - 10.06	Inferential Statistics	Practice Problems/ R Exercises	Data, Probability, and Sampling	Ch. 5	Estimation Procedures	Ch. 6
Week 6 10.07 - 10.13		HW #3 Due	Probability, Sampling, and Estimation	Chs. 5 and 6	Hypothesis Testing (One Sample)	Ch. 7
Week 7 10.14 - 10.20		**NO LABS**	Hypothesis Testing (One Sample)	Ch. 7	Hypothesis Testing (Two Samples)	Ch. 8
Week 8 10.21 - 10.27		Practice Problems/ R Exercises	Bivariate Tables and ANOVA	Ch. 9	Chi-square Test	Ch. 10
Week 9 10.28 - 11.03		HW #4 Due	**Review and Catch-up**		**EXAM 2**	
Week 10 11.04 - 11.10	Measures of Association	Practice Problems / R Exercises	Bivariate Measures of Association for Nominal Variables	Ch. 11	Bivariate Measures of Association for Ordinal Variables	Ch. 12
Week 11 11.11 - 11.17		**READING WEEK - NO CLASS**				
Week 12 11.18 - 11.24		HW #5 Problems/ R Exercises	Association and Correlation	Ch. 13	Bivariate Regression	Ch. 13
Week 13 11.25 - 12.01		HW #5 Due/ R Exercises	Multivariate Regression	Ch. 14	Multivariate Regression	Ch. 14
Week 14 12.02 - 12.08		R Exercises	Multivariate Regression	Ch. 14	**Review and Catch-up**	Lab Assignment Due
Finals Weeks 12.09 - 12.22	**EXAM 3: December 16, 2019 @ 9:00am (Tentative Exam Date)**					