

Introduction to Social Statistics

Soc210:B1

Winter 2021 (97956)

Instructor: Les Hayduk Ph.D.

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Office (in normal times) Tory 4-21

Office phone (in normal times) 780-492-2730

Office Hours: via student-initiated Zoom.

I will send you a Zoom invitation if you email me a request. I will be available Wednesday 4:30-5:00 if I am not already engaged on another Zoom call. Other times may be arranged via email if this is necessary and mutually convenient.

Labs: You will have registered in ONE of the following labs:

H1 (97958) Monday 9:00-10:50

H2 (97960) Monday 11:00-12:50

H3 (97964) Monday 1:00-2:50

H4 (97962) Monday 3:00-4:50

Lab Teaching Assistants:

for Labs D1, D2 Jake wojnarow@ualberta.ca

for Labs D3, D4 Joao jkrieger@ualberta.ca

Lectures: Tuesday, Thursday 2:00 – 3:20

Most lectures will consist of a mix of synchronous (live) and asynchronous (recorded) materials. The asynchronous materials will be video lecture segments constituting the beginning 70 minutes of each 80 minute class. The final 10 minutes of each scheduled lecture (namely from 3:10 to 3:20 each class day) will be synchronous Zoom session (reachable from a Zoom link in eclass) during which I will comment on the asynchronous material, address administrative details, and respond to student concerns/questions, but I will not be repeating the recorded asynchronous material. (If 10 minutes is insufficient, I will extend this as necessary.) Each asynchronous segment will be opened on eclass about a day prior to the actual lecture. I will try to make the asynchronous lecture segments close to 70 minutes so that beginning to watch at the scheduled class time should make the final 10 minute synchronous segment feel like the end of the lecture but if you start your viewing a bit earlier you would have time to: pause the lecture, repeat segments of the lecture, take breaks, and/or think of things you would like addressed in the upcoming synchronous session. I will try to record and post the 10 minute synchronous segments on eclass as soon as possible. As with most things Covid, these plans may change depending on circumstances.

Scheduling your viewing of the lectures as you would attend an in-person class will prevent you from falling behind. It may be more difficult to retain the statistical line of thought if the asynchronous and synchronous materials are separated. The synchronous recordings will constitute testable materials and I strongly urge you to attend and participate because forcing yourself to participate will assist your

personal understanding of the material. If you do not wish to be recorded during the synchronous sessions turn off your microphone and camera. Zoom permits turning these on and off at any time during a session. You might contribute written messages to Zoom chat but I am likely to overlook this if I am engaged in in-person exchanges. If you email me regarding substantive matters of general interest, I am likely to respond in the synchronous sessions. If you use Zoom video, I recommend removing all identifiable and personal belongings from the videoed space while participating.

This course uses eclass for posting class materials, and making announcements, so eclass should be checked regularly.

Substantive concerns connected to the homework assignments should be directed to your TA but **ONLY during your scheduled synchronous Zoom lab times**. If you have concerns about the material in, or conduct of, this course please use my office-hours. If you email me, I will try to respond within 24 hours, Monday through Friday. If I do not respond to an email within 48 hours, please email again.

Textbook The required course text is:

Healey, Joseph, Prus, Steven, & Lieflander, Riva.
Statistics: A Tool for Social Research, Fourth Canadian Edition.
 Nelson Publishing, 2019, ISBN 978-0-17-672508-2

Registration Requirements

Prerequisite: SOC 100, or consent of instructor

Technology

The eClass and Zoom technology we will be using is common to the university and hence will hopefully create few issues, but if it does please notify me via email as soon as you encounter problems. The R program which is required for the homework assignments is a free downloadable program which runs “under” RStudio (<http://www.r-project.org/> and www.rstudio.com/). We will discuss how to obtain and use R in labs.

Course Perspective and Structure

The lectures and assignments in this course will basically follow the structure of the Healey, Prus, and Lieflander text (with some omissions and reordering of chapters). We begin by discussing variables and statistical descriptions of single variables (univariate descriptive statistics). This is followed by simple inferential statistics which introduces the ideas of: samples versus populations, sampling distributions, estimates, and hypothesis testing. Then we consider relationships between two variables (bivariate statistics), and relationships in the context of larger numbers of variables (multivariate statistics) in the context of regression and modeling. I will omit some sections of the Healey, Prus, and Lieflander text (for example, analysis of variance).

My lectures will supplement the text with material that encourages understanding how statistics become useful research tools. The most extensive extension appears near the end of the course and connects to Healey, Prus, and Lieflander Chapters 13 and 14. The extensions emphasize using statistics to model or represent causal theories – a use of statistics Healey, Prus, and Lieflander mention but do not

emphasize. This extends the discussion of regression in ways which lead to understanding the relevance of control variables, and how statistical models can be employed to test causal claims.

Lab Sessions

The weekly lab sessions will be conducted via Zoom at the scheduled lab time with your lab TA. The labs will not present new material but will provide an opportunity for assistance with the homework assignments, learning the R program, and discussing course materials. The homework assignments will be opened to you in eclass.

Course Requirements, Grades, and Weighting

There are **5 homework assignments** (together worth a total of 25% of the course mark) plus **one** larger **R-assignment due near the end of term** (worth 10% of the course mark).

Homework assignments will be provided by eclass and submitted via eclass. Assignments should be **submitted as PDF files** whenever possible, and using as few sequentially structured files as possible. See the schedule below for required homework submission dates. It is preferred that homework assignments **be submitted by 6:00 PM on the due date** but assignments will *not* be considered late if submitted up to 11:59 PM **on the due date**. **Late assignments will be penalized** 10% per day late.

There are **three closed-book multiple-choice exams**. Material from the text, lectures, e-materials, and class Zoom discussions will be included on the exams. The two 50-minute **mid-term exams** (each worth 20% of the course grade) will **commence at the beginning of the scheduled class times (synchronously) on the scheduled date**. Example exam questions will be made available via eclass prior to the first mid-term exam. The final exam will be worth 25% of the course grade.

Exam will require use of Smart Exam Monitor. A practice Smart Exam Monitor session will be provided via eclass prior to the first exam. Regarding Privacy and Smart Exam Monitor see: <https://drive.google.com/file/d/1SYvcGHVhP0sm2xeL4Py1iNTU7i9-pv4E/view>

Mid-term Exam-1 (50 minutes):

Thursday February 11, 2:00 PM

Covering ALL the materials to date (text, lectures, e-materials, class discussion)

Mid-term Exam-2 (50 minutes):

Thursday March 18 2:00 PM

Emphasizing material covered after Mid-term Exam 1 (text, lectures, e-materials, class discussion)

Final Exam (2 hours):

Tentatively April 28, 2021 at 9:00 AM; but students should confirm the official final exam schedule date, time, and location on BearTracks. The final exam is cumulative and comprehensive, testing knowledge of the whole course.

Summary:

5 Homework Assignments: 5% each, for a total of 25%
R-assignment 10%

2 Mid-term Exams:	20% each, for a total of	40%
Final Exam		25%
	Total	100%

Tentative Schedule of Topics and Readings

Various materials will be opened on eClass in coordination with the lectures.

HPL = **Healey, Prus, and Lieflander** textbook.

Week 1: January 11-15

HPL Prologue (student self-study)
 HPL Introduction, and Chapter 1
No labs Monday January 11

Week 2: January 18-22

HPL Chapter 2
 Monday **Lab**: Personal review of basic math (HPL pages 1-7),
 assistance with R and/or Homework-1

Week 3: January 25-29

Homework-1 DUE Monday January 25
 HPL Chapter 3,
 Expected values

Week 4: February 1-5

HPL Chapter 4

Week 5: February 8-12

Homework-2 DUE Monday February 8
Thursday February 11 Mid-term EXAM-1 2:00PM
 HPL Chapter 5, and review

Week 6: February 15-19

Reading week – no labs or lectures

Week 7: February 22-26

HPL Chapters 5 and 6
 We will cover HPL Chapter 7, pages 208-212, then JUMP to HPL Chapter 10

Week 8: March 1-5

Homework-3 DUE Monday March 1
 We will cover HPL Chapter 11, pages 355 to 361;
Omit the remainder of the chapter 11.

Week 9: March 8-12

We will **omit** all of HPL Chapter 12

Return to HPL Chapter 7 we will cover pages 212 to 230 but **omit** 230-bottom to 231-top.

Week 10: March 15-19

Homework-4 DUE Monday March 15

Thursday March 18 Mid-term EXAM-2 2:00PM

We will cover HPL Chapter 8, pages 243 to 257-top;

Omit 257-bottom to 266 on Cramer's V and λ)

We will cover HPL Chapter 9, pages 279 to 285, but **omit** pages 286 to 310.

Week 11: March 22-26

Covariance and correlation

HPL Chapter 13

We will cover HPL Chapter 14, pages 452 to 455, but **omit** the remainder of the chapter.

Week 12: March 29 – April 2

Covariance, correlation, and regression

Week 13: April 5-9

The university is closed Monday so no labs.

Homework-5 DUE Tuesday April 6

Regression: controlling; sets of equations as causal models;
(and if time permits: measurement and latent variables)

Week 14: April 12-16

Catch-up and Review

R-ASSIGNMENT DUE Friday April 16

Consistent self-application is essential for optimal performance in this course because the material builds systematically. Verbalizing (to someone, to yourself, to your pet) why things are being structured or expressed in specific ways will help you retain the material. Actively participating in the synchronous lecture-segments, and with the TAs during labs, will also help. *In this class it is expected that all homework, the R-assignment, and exams will constitute individual (not group or partnered) effort.*

Exams will require use of Smart Exam Monitor. A practice Smart Exam Monitor session will be made available via eclass prior to the first exam. Regarding privacy when using Smart Exam Monitor, see: <https://drive.google.com/file/d/1SYvcGHVhP0sm2xeL4Py1iNTU7i9-pv4E/view>

Policy for Missed Exams or Late Assignments

The student should notify the instructor by e-mail within two days of having missed any component of this course. Unexcused omission of homework will result in partial or total loss of the grade for any components that are not handed-in or completed. Homework assignments will be penalized 10% per day late.

Excusing missed assignments or exams is not granted automatically and will be considered only for reasons such as incapacitating illness, severe domestic affliction, or religious convictions. "Instructors may either waive the term work or term exam, or require the student to make up the term work or term exam. For a waiver, the percentage weight allotted to the term work or term exam missed may be distributed to other term work, term exams, and/or the final exam as decided by the instructor. For make-ups, the student is required to complete equivalent term work or term exam as decided by the instructor. If the student does not complete the make-up as prescribed by the instructor, a raw score of zero will be assigned for the missed term work or term exam."

Instructors *cannot* grant final exam deferrals. Only the student's home faculty can grant a deferred final exam. A deferred final examination will not be approved if a student has completed less than half of the assigned work (excluding the final exam). If a deferred final is permitted it will be written Wednesday May 5, at 9:00AM.

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

Grading

Grades are based on the percentage categories shown below. Percents will be rounded up to the next whole percent if the first decimal is $\geq .500$ and will remain unchanged at the whole percent if the first decimal is $\leq .499$. Letter grades are converted to "points" by the University to calculate GPA.

Percentage	Letter Grade	Point Value
93-100	A+	4.0
87-92	A	4.0
83-86	A-	3.7
79-82	B+	3.3
75-78	B	3.0
71-74	B-	2.7
66-70	C+	2.3
62-65	C	2.0
58-61	C-	1.7
54-57	D+	1.3
50-53	D	1.0
0-49	Fail	0.0

Technology

The eclass and Zoom technologies we will be using are common to the university and hence should hopefully create few issues, but if they do create issues please notify me via email as soon as you encounter problems.

Many of the following statements are copies of, or are slight revisions of, statements provided by the Dean of Arts and other university entities.

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. Anyone who feels that this policy is being violated is urged to contact your instructor, the department chair, and/or dean. For additional advice or assistance you may contact the student ombud service (ombud@ualberta.ca). If you encounter inappropriate or disrespectful behavior connected to this class, please inform me as soon as possible. For additional advice or assistance regarding this policy you may contact the student ombudservice (<http://www.ombudservice.ualberta.ca/>). Information about the University of Alberta discrimination and harassment policy and procedures is listed in UAPPOL (University Policies and Procedures Online) at <https://policiesonline.ualberta.ca/Pages/default.aspx> ”

The video lectures, eClass and homework materials are exclusively for the personal use of students in this class. These materials are the personal copyrighted property of the instructor, and no copying or other distribution of this material is permitted. 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 a part 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).

Academic Integrity

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 (online at <http://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. Please see the Academic Integrity website for further information: <https://www.ualberta.ca/current-students/academic-resources/academic-integrity> .

*In this class it is expected that **all homework, the R-assignment, and exams will constitute individual (not group) effort.*** If assistance is required, your lab Teaching Assistant should be your initial “port of call”. The on-line nature of this course places extra emphasis on

academic integrity. You can expect extra vigilance and precautions but the primary focus remains each student's personal responsibility for their own conduct. You can avoid unintentional conduct breaches by familiarizing yourself with Section 30.4.2 of the Code of Student behavior. Ignorance of the code is not acceptable as a defense, and "An instructor or coordinator who is convinced that a student has handed in work that he or she could not reproduce without outside assistance is obliged, out of consideration of fairness to other students, to report the case to the Associate Dean of the Faculty."

Equity and Diversity

Given that most class activity will be asynchronous on-line, I as presenter, and as materials-coordinator, may be the source of inequity or lack of diversity recognition. I would appreciate hearing of any of my failings in this regard – whether by emails, office hours, or participation in synchronous class activities. Any and all other concerns about diversity or inequity are also invited.

Accessibility and Other Resources

The best all-purpose website for student services on campus is <https://www.ualberta.ca/current-students> .

The Office of the Dean of Students coordinates exam and other academic accommodations for students with documented disabilities affecting mobility, vision, hearing, learning, and physical or mental health. If you have special needs but are not already registered with Accessibility Resources, contact their office immediately by calling 780-492-3381 or at <https://www.ualberta.ca/current-students/accessibility-resources> . Counselling & Clinical Services are available to assist with a wide variety of concerns beyond those that can be appropriately addressed by your TA or instructor. See <https://www.ualberta.ca/current-students/counselling> .

There are many health and wellness services available to the university community. If you have difficulty affording groceries or accessing sufficient food, or lack a safe and stable place to live, and you believe this may affect your performance in this course please contact the Office of the Student Ombuds or the Dean of Students for support. The office of the **Student Ombuds** offers confidential interviews, advice and support to students facing academic, discipline, interpersonal, and financial difficulties. If you require these services, contact the Student Ombuds office (780-492- 4689 or ombuds@ualberta.ca). The Campus Food Bank also offers multiple programs to help with food insecurity. The best all-purpose website for student services on campus is <https://www.ualberta.ca/current-students> , or see <https://www.ualberta.ca/current-students/wellness> .

Writing Assistance

Some written lab material is required for this class. The university provides *free* one-on-one assistance with a wide variety of writing issues, including students having English as a second language, at the Centre for Writers (C4W). A description of C4W services can be found by searching for C4W from the University of Alberta website. These services can be accessed at any time during the writing process, though I urge anyone anticipating writing difficulties to contact the C4W as soon as possible.

The Academic Success Centre

The Academic Success Centre offers a variety of workshops on effective study and exam strategies. In-person and online sessions are available for a modest fee.

Territorial Statement

“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.”

I wish you an instructive term.

Les