

SOC 210 (B1): Introduction to Social Statistics
Winter 2018 (91768)
University of Alberta

Instructor: Abu Sadat Nurullah

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Office: 5-29 Tory Building

Office Hours: W 12:00–2:00pm, and by appointment

Lectures: CAB 265, T R 2:00pm – 3:20pm

Labs: T B 39, (H1) M 9:00am – 10:50am, (H2) M 11:00am – 12:50pm,
(H3) M 1:00pm – 2:50pm, or (H4) M 3:00pm – 4:50pm

Teaching Assistant:

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Required Course Text:

Healey, J. F., & Prus, S. G. (2016). *Statistics: A Tool for Social Research (3rd Canadian Ed.)*. Nelson Education. ISBN: 9780176562076. *Note:* 2nd edition is also acceptable.

Prerequisite:

SOC 100 or consent of instructor. *Note:* This course is intended primarily for students concentrating in Sociology.

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 SPSS, review homework assignments, and ask questions about course material.

Technology Requirements:

You will need access to: (1) a scientific, non-programmable calculator to use in lectures, labs, and exams and (2) the statistical program, SPSS, to complete labs and certain homework assignments. A basic calculator with the ability to take square roots and raise numbers to powers is adequate. You can access SPSS in the lab computers in T B 39.

This course utilizes eClass for posting detailed information regarding lab assignments and some class materials. I will also make announcements via eClass, including any changes to the schedule, 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 Structure

This course provides a basic overview of statistical concepts and their applications in exploring social phenomena. The classroom discussions and lab sessions mostly follow the structure of the Healey and Prus textbook. We begin with a review of basic math, discussion of variables, and descriptive statistics. During this part of the course, we will learn about different types of variables, frequency distributions, measures of central tendency, and the normal curve. We then focus on inferential statistics which incorporates probability and sampling, estimation procedures, tests of significance and hypothesis testing, bivariate tables, and measures of association.

Course Perspective

Learning statistics is important whether you are conducting research, reading an article, or simply evaluating others' arguments in the media and elsewhere. However, many students are scared of math, and do not want to approach statistics unless they have to. I should note that this course requires *no prior training in statistics*. If you know how to add, subtract, divide, multiply, and take exponents and square roots, you can succeed in this course, provided that you work hard.

Statistical knowledge is cumulative in the sense that many concepts and methods build upon previous concepts. Therefore, it is essential for you to attend all lectures and lab sessions for optimal course performance. This course requires your willingness to work hard on unfamiliar materials. You can consult other helpful online resources if/when necessary.

Course Objectives

The objective of this course is to familiarize you with basic concepts and methods of statistical data analysis in the social sciences. This is achieved by the following learning outcomes upon successful completion of the course.

First, you will be able to describe and explain the basic concepts of sample and population, calculate and interpret measures of central tendency and variability, understand and apply concepts of probability, formulate and test hypotheses in research models, and assess the strength of association between variables, such as computing and interpreting correlation and regression analyses. Second, you will be equipped with the skill to use SPSS statistical software for basic data analyses. Third, you will have the ability to apply statistical concepts to real world research questions, and to summarize, organize and interpret statistical findings. Finally, you will develop critical thinking and analytical skills to evaluate (sometimes misleading) statistical conclusions.

Correspondence:

Email is the best way to contact me (nurullah@ualberta.ca). Please include "SOC 210" in the subject line of your emails. I will try to respond within 24 hours, except for weekends. If your question/concern is related to class content and I feel it is one that will benefit others, I will raise your question at the beginning of the next class. I may choose not to answer emails the evening before an exam. Please use your official ualberta email for all correspondence.

If an email response is not detailed/clear enough, you can come by during my office hours or make an appointment to meet with me.

Course Requirements:**Grade Breakdown:**

Your grade in this course will be based upon four aspects:

- Exams: 60% (3 exams; Exam 1 - 15%, Exam 2 - 20%, Exam 3 - 25%)
- Homework Problem Sets: 20% (5 assignments; 4% each)
- Lab Assignment: 15%
- 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 solve the problem sooner rather than later. Counseling and Clinical Services are also available. Please see the following website for more details: uofa.ualberta.ca/current-students/counselling.

Exams:

You will have three in-class closed-book exams in this course. Each exam will cover topics that have been taught in lectures and the assigned readings up to the date of exam (non-cumulative). Exams will consist of both multiple choice and written short-answer questions. The first exam, which is worth 15% of your total grade, will cover descriptive statistics. It will take place during Week 5. The second exam, which is worth 20% of your total grade, will primarily cover inferential statistics. It will take place during Week 11. The third (final) exam, which is worth 25% of your total grade, will primarily cover the measures of association. It will take place during the final examination period. Example exam questions will be reviewed in class. Exams are worth 60% of your final grade. A *calculator will be required for the exams* (cell phones will not be allowed).

Note:

* We may not have time to cover everything in the textbook. It is the responsibility of a student to read the textbook thoroughly. Any changes to the schedule or topic will be mentioned on eClass.

* Grades will be posted on eClass, which students can access individually.

Homework Problem Sets:

You will have four homework problem set assignments in this course. Homework problem sets should be submitted during lab sections on the date listed on the syllabus. Details about each of the assignments will be made available on eClass. Problem sets are not due until the end of your lab section, but they can be turned in earlier. Your TA and myself will review the majority of each assignment during the lab section. Homework problem sets are worth 20% of your final grade. Late problem sets will be penalized 10% per day late (excluding weekends). However, a problem set will not be considered late if it is submitted before 5:00pm on Monday of the assigned week.

Major 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. Lab assignment must be handed in at the beginning of lecture on the due date, but you can submit them earlier as well. We will go over example lab assignments in class. The lab assignment is worth 15% of your final grade. Late submission of homework problem and major lab will be penalized 10% per day late (excluding weekends); so to be safe, try to have them completed before the due date (always accepted early). For missed assignments, a student will receive a raw score of zero for each assignment missed.

Participation Activities:

Your participation grade is based on your in-class participation during lecture, in lab sessions, as well as on your online participation in the discussion forum. The main goal of these activities is to connect what we learn in class to current issues discussed in the media. Throughout the semester you will have the opportunity to complete 4 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 on eClass. Each activity is worth 5 points and the activities will be graded out 20 points in total. 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*. In addition to completing these 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. In-class and online participation is worth 5% of your final grade.

Grading:

Component grades will be added together and calculated as a percentage. Your percentage grade will then be converted to the following four-point scale:

Performance	Term Score (%)	Letter Grade	Grade Point Value
Excellent	95-100	A+	4.0
	90-94	A	4.0
	85-89	A-	3.7
Good	81-84	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

Note: The following rule is applied when rounding term grades.

If a final term grade is on the margin of a cut-off point, it will be raised to the next higher category. For example, if a student's overall term score is 94.5, the final grade will be 95, and therefore will receive A+ as a final grade. If a student's overall term grade is 94.4, the score assigned will be 94, and will therefore receive a final grade of A, etc.

* If you complete an assigned course requirement (i.e., write an exam), you cannot - after the fact - request a grade adjustment due to extenuating circumstances. If you are having difficulty with an assignment or there are serious extenuating circumstances affecting your work, please speak with me as soon as possible.

* I am willing to discuss assigned grades. If you want a grade to be reassessed, review the assignment carefully; come with specific questions and carefully thought-out reasons for the re-assessment. Please note that grade re-assessments may result in a lower grade, a higher grade or, no change in grade.

Course Schedule & Readings
(TENTATIVE; any changes will be stated on eClass)

Part 1: Descriptive Statistics

Week 1: Welcome!

Mon. (Jan. 8th): No Lab Sessions

Tues. (Jan. 9th): Welcome to SOC 210!

Thurs. (Jan. 11th): Math Review; Statistics, Variables, and Relationships

- Healey and Prus: Introduction and Ch. 1
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Week 2:

Mon. (Jan. 15th): Intro to SPSS

Tues. (Jan. 16th): Statistics, Variables, and Relationships

- Healey and Prus: Ch. 1

Thurs. (Jan. 18th): Describing Data

- Healey and Prus: Ch. 2
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Week 3:

Mon. (Jan. 22nd): Homework Assignment #1 Due

Tues. (Jan. 23rd): Measures of Central Tendency and Dispersion

- Healey and Prus: Ch. 3

Thurs. (Jan. 25th): Measures of Central Tendency and Dispersion

- Healey and Prus: Ch. 3
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Week 4:

Mon. (Jan. 29th): Homework Assignment #2 Due

Tues. (Jan. 30th): The Normal Curve

- Healey and Prus: Ch. 4

Thurs. (Feb. 1st): Review and Catch-up

Part 2: Inferential Statistics

Week 5:

Mon. (Feb. 5th): Practice Problems and SPSS Exercises

Tues. (Feb. 6th): EXAM #1

Thurs. (Feb. 8th): Data, Probability, and Sampling

- Healey and Prus: Ch. 5
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Week 6:

Mon. (Feb. 12th): Practice Problems and SPSS Exercises

Tues. (Feb. 13th): Estimation Procedures

- Healey and Prus: Ch. 6

Thurs. (Feb. 15th): Probability, Sampling, and Estimation

- Healey and Prus: Chs. 5 and 6
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Week 7: No Classes - Have a lovely Reading Week!

Mon. (Feb. 19th): No Lab Sessions

Tues. (Feb. 20th): No Classes

Thurs. (Feb. 22nd): No Classes

Week 8:

Mon. (Feb. 26th): Homework Assignment #3 Due

Tues. (Feb. 27th): Hypothesis Testing (One Sample)

- Healey and Prus: Ch. 7

Thurs. (March 1st): Hypothesis Testing (One Sample)

- Healey and Prus: Ch. 7
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Week 9:

Mon. (March 5th): Practice Problems and SPSS Exercises (12:00 - 1:00 pm. SU Election)

Tues. (March 6th): Hypothesis Testing (Two Samples)

- Healey and Prus: Ch. 8

Thurs. (March 8th): Bivariate Tables and ANOVA

- Healey and Prus: Ch. 9
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Week 10:

Mon. (March 12th): Homework Assignment #4 Due

Tues. (March 13th): Chi-square Test

- Healey and Prus: Ch. 10

Thurs. (March 15th): Review and Catch-up

Part 3: Measures of Association

Week 11:

Mon. (March 19th): Practice Problems and SPSS Exercises

Tues. (March 20th): EXAM #2

Thurs. (March 22nd): Bivariate Measure of Association for Nominal Variables

- Healey and Prus: Ch. 11
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Week 12:

Mon. (March 26th): No Lab Sessions

Tues. (March 27th): Bivariate Measure of Association for Ordinal Variables

- Healey and Prus: Ch. 12

Thurs. (March 29th): Association, Correlation, and Bivariate Regression

- Healey and Prus: Ch. 13
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Week 13:

Mon. (April 2nd): No Lab Sessions - Easter Monday

Tues. (April 3rd): Bivariate Regression

- Healey and Prus: Chs. 13 and 14

Thurs. (April 5th): Multivariate Regression

- Healey and Prus: Ch. 14

Week 14:

Mon. (April 9th): Homework Assignment #5 Due and SPSS Exercises

Tues. (April 10th): Multivariate Regression

- Healey and Prus: Ch. 14

Thurs. (April 12th): Review and Catch-up

- Final Lab Assignment Due in Class

Finals Week:

Tentative Final Exam Date: Monday, April 23, 2018 at 2:00pm

Please check Bear Tracks for any changes to the final exam date

Sociology Deferred Final Exam Date: Saturday, May 5, 2018 at 9:00am. Location: BUS 1-10

Note: As per §23.3(2)c of 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.*

Additional Course Policies

Absences:

As per the [Academic Regulations](#) of the University of Alberta Calendar: *Excused absence are not granted automatically and will be considered only for acceptable reasons such as incapacitating mental and/or physical illness, severe domestic affliction, or for circumstances as described in the University's Discrimination, Harassment and Duty to Accommodate Policy (including religious belief). This policy is available on the University of Alberta Policies and Procedures Online (UAPPOL) website at <https://policiesonline.ualberta.ca>. Unacceptable reasons 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 the mid-term 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. To apply for an excused absence for a missed midterm, you should complete appropriate documentation. Supporting medical documentation, such as a University of Alberta Medical Statement signed by a doctor, is helpful.

As per the [Academic Regulations](#) of the University of Alberta Calendar: *Although a medical note cannot be required, if a student chooses to provide a medical note, the University of Alberta Medical Statement Form may be downloaded from the Online Services section of www.registrarsoffice.ualberta.ca*

Note: The instructor reserves the right to require a student to write an assignment for missed mid-term exam, or have the weight of the missed mid-term exam transferred to final exam. There is NO make-up exam. Students granted an excused absence from a mid-term exam must consult the instructor for appropriate course of action.

Deferred Final Exam:

If you fail to write the final exam, you must *formally apply to your Faculty office within two business days* following the missed final exam in order to be considered for a deferred final examination. The decision to grant a deferred final exam is *not* the instructor's. Deferred examinations are intended to accommodate students who have experienced an incapacitating illness or severe domestic affliction; applications based on minor or inconsequential ailments will not be approved.

As per the [Academic Regulations](#) of the University of Alberta 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.*

Disability Accommodations:

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 Services](#), 1-80 Students' Union Building, 492.3381 (phone) or 492.7269 (TTY). Students registered with SAS who will be using accommodations in the classroom, or who will be writing exams through SAS, are required to provide a "Letter of Introduction."

Electronic Recording of Lectures:

As per the [Academic Regulations](#) of the University of Alberta Calendar: *Audio or video recording 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. Recorded material 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).*

Plagiarism and Cheating:

As per the [Academic Regulations](#) of the University of Alberta Calendar: *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. Please see the following website for details: <http://www.governance.ualberta.ca/StudentAppeals/DontCheatsheet.aspx>*

Classroom Behaviour:

I expect you to be mentally and physically present and to participate in each lecture and lab session. I expect you to come to class with a calculator, writing tools, and paper, prepared to work on example problems together. Cell phones, electronic devices, arriving late/packing up early, and side conversations are all disruptive to the class. Be respectful and courteous to your colleagues by not engaging in these behaviours. If you disrupt the class due to the use of an electronic device (e.g., cell phones, texting, surfing the net, emailing, listening to music), you may be asked to leave the classroom.

Furthermore, if you engage in disruptive behaviour *during an exam*, in addition to those mentioned above (e.g., your phone starts ringing or loud vibration-sound comes from your cell phone), *you may be asked to leave the exam*. It is safest to simply turn off your cell phone during classes and exams.