SOCI 212 – Statistics I (3 credits)
Fall 2021

Instructor: Dr. Mark Paradis
Office: Zoom Email: mark.paradis@concordia.ca
Office Hours: Tuesday and Thursday from 17:00-18:00

Class: Tuesday and Thursday from 13:15-14:30

This course provides an introduction to the basic principles of statistics for social scientists. Topics include the sampling and measurement; univariate statistics (data visualization, measures of location, and measures of variation); univariate distributions; and bivariate statistics (data visualization; correlation and regression; contingency tables; and controls). Students will learn the theory and calculation of these statistics. Students will also learn the implications of these statistical techniques for theoretical understanding of sociology and anthropology by applying these statistics in the lab to real-world data. To aid students gain the strongest possible understanding of statistics, the course will be a mixture of lectures to present theory and exercises to gain greater comfort using these techniques.

COURSE FORMAT

This class will be fully asynchronous. Lectures will be posted before class time on YuJa. A set of exercises will be included in each lecture. Additional exercises and solutions will be included for each topic on Moodle.

COMMUNICATIONS POLICY

For emails with the instructor, every effort will be made to respond within 24 hours on weekdays. On weekends, the delay may be longer. For emails, you will be expected to:

1. Include the course number, course section, and purpose of the email in the email subject. *If the course number and section are not included, the email will be deleted*.
2. Do not send follow up emails within 24 hours or on weekends. If you do, *both the original and follow up emails will be ignored*.
3. *If your email is asking about facts found directly in the syllabus, it will be ignored* (for example, asking about the date of the midterm). The syllabus is made available to all students and it is disrespectful to expect the instructor or TA to look up something when you are unwilling to do so.

COURSE RESOURCES

Required Material:

- A calculator
- SPSS
    - SPSS is a statistical software that we will be using in our labs. It is available free of charge through the Concordia website. Details can be found at: https://www.concordia.ca/it/services/spss.html.

Recommended Material:

- Bennett, Jeffrey O., William L. Briggs, and Mario F. Triola. *Statistical Reasoning for Everyday Life*. Toronto: Pearson (3rd, 4th, and 5th editions are acceptable). Referred to as Statistical Reasoning.
    - This reading is not required, but it is recommended. It can be purchased from numerous sources online. Many of the lectures and exercises will draw on material from this textbook. It also includes most of the material that will be covered in SOCI 213 (although your instructor may require a different book).

Reading Resource:

- Wilcox, Rand. 2012. *Modern Statistics for the Social and Behavioral Sciences – A Practical Introduction*. New York: CRC Press.
    - This book is not required, nor necessarily recommended. However, it is the best book on statistics in the social sciences that I've ever found. It goes in greater depth than you would need at the undergraduate level, but also does a fantastic job of explaining introductory concepts in an accessible manner. I will use some concepts and examples from this book in lectures.

REQUIREMENTS

Quizzes (3 x 10%): 30%

To assess student understanding of the material and to help prepare for the midterms, there will be three quizzes.

- Quizzes will only cover material covered since the last quiz (or since the beginning of the semester for quiz 1).
- Quizzes will be made available on Moodle and must be submitted on Moodle before the assigned deadline. Quizzes will take place during class time at the start of class.
- Quizzes will be open book, but students are cautioned that they will not have time to consult their notes often.
- Calculators are permitted for the quizzes.
- Students will be expected to show their work for all questions requiring calculations. Grading will be based on whether you use the correct procedures, rather than whether you get the correct answer.

Midterms (2 x 20%): 40%

To assess student understanding of the material, there will be two midterm exams.

- The first midterm will cover topics covered until midterm 1.
- Midterm 2 will cover topics covered throughout the course, but heavily weighted towards topics covered after midterm 1.
- Midterms will be made available on Moodle and must be submitted on Moodle before the assigned deadline. Midterms will take place during class time.
- Midterms will be open book, but students are cautioned that they will not have time to consult their notes often.
- Calculators are permitted for the midterms.

- Students will be expected to show their work for all questions requiring calculations. Grading will be based on whether you use the correct procedures, rather than whether you get the correct answer.

Lab Assignments (3 x 10%): 30%
To gain practical experience using statistical techniques with real-world sociological and anthropological data, we will have 3 lab sessions using SPSS at the end of the semester. For each lab, there will be a short assignment to be completed.

LATE POLICY

Lab assignments that are not turned in on time will be penalized 5% per day. Late assignments will not receive any comments and will not be accepted more than a week late. If you are having any problems in handling the course load, please speak to me ASAP. There are more solutions available if you approach me early. Late quizzes and midterms will not be accepted. There will be no make-up midterms and quizzes, and no alternative assignments.

RE-GRADES

If you believe that your grade on an assignment does not reflect the quality of your work, it is your right to request a re-grade. However, you must follow these steps:

1. You must wait 7 days before requesting a re-grade.
2. You must submit a written statement detailing why you believe your grade should be changed. You should point to specific areas of your exam/paper that you believe were graded unfairly AND explain why.
3. I will then re-grade your ENTIRE assignment. I reserve the right to RAISE or LOWER your grade.
4. After the re-grade, if you still believe that your grade is unfair, you must then follow the Department's procedures for re-grades.

CHANGES TO THE SYLLABUS

I reserve the right to amend the schedule of meetings and assignments listed in this syllabus as might become necessary based on events throughout the semester. Any changes to the syllabus will be announced and students will receive an amended syllabus in writing. Copies of the most up to date syllabus can be found on the course website on Moodle

SCHEDULE

Tuesday, September 7
Introduction to the Course
Readings: None
Evaluations: None

Thursday, September 9

Introduction to Statistics
Readings: Statistical Reasoning, Chapter 1.1
Evaluations: None

Tuesday, September 14 and Thursday, September 16
Sampling and Measurement
Readings: Statistical Reasoning, Chapter 1.2-1.4
Evaluations: None

Tuesday, September 21 and Thursday, September 23
Univariate Statistics – Data Visualization
Readings: Statistical Reasoning, Chapter 3
Evaluations: Quiz 1 on September 21 at start of class. Covers material from September 9 to September 16.

Tuesday, September 28 and Thursday, September 30
Univariate Statistics – Measures of Location
Readings: Statistical Reasoning, Chapter 4.1
Evaluations: None

Tuesday, October 5 and Thursday, October 7
Univariate Statistics – Distributions and Measures of Variation
Readings: Statistical Reasoning, Chapter 4.2-4.4
Evaluations: Quiz 2 on October 5 at start of class. Covers material from September 21 to September 30.

Tuesday, October 12
Midterm 1 Study Day
Readings: None
Evaluations: None

Thursday, October 14
Midterm 1
Readings: None
Evaluations: Midterm 1 – Covers material from September 9 to October 7.

Tuesday, October 19 and Thursday, October 21
Bivariate Statistics – Correlation and Regression
Readings: Statistical Reasoning, Chapter 7
Evaluations: None

Tuesday, October 26 and Thursday, October 28
Bivariate Statistics – Contingency Tables and Control
Readings: None. You may examine Statistical Reasoning, Chapter 10.2, but it will include topics that we will not cover.

Evaluations: Quiz 3 on October 26 at start of class. Covers material from October 19 to October 21.

Tuesday, November 2 and Thursday, November 4
Introduction to Probability
Readings: Statistical Reasoning, Chapter 6
Evaluations: None

Tuesday, November 9
Midterm 2 Study Day
Readings: None
Evaluations: None

Thursday, November 11
Midterm 2
Readings: None
Evaluations: Midterm 2 – Covers material from September 9 to November 4. Primary focus on material covered from October 19 to November 4.

Tuesday, November 16 and Thursday, November 18
Lab 1
Readings: None
Evaluations: Lab 1 assigned on November 16. Due Friday November 18 by 22:00 on Moodle.

Tuesday, November 23 and Thursday, November 25
Lab 2
Readings: None
Evaluations: Lab 2 assigned on November 23. Due Friday November 26 by 22:00 on Moodle.

Tuesday, November 30 and Thursday, December 2
Lab 3
Readings: None
Evaluations: Lab 3 assigned on November 30. Due Friday December 3 by 22:00 on Moodle.

INTELLECTUAL PROPERTY

Content belonging to instructors shared in online courses, including, but not limited to, online lectures, course notes, and video recordings of classes remain the intellectual property of the faculty member. It may not be distributed, published or broadcast, in whole or in part, without the express permission of the faculty member. Students are also forbidden to use their own means of recording any elements of an online class or lecture without express permission of the instructor. Any unauthorized sharing of course content may constitute a breach of the Academic Code of Conduct and/or the Code of Rights and Responsibilities. As specified in the Policy on Intellectual Property, the University does not claim any ownership of or interest in any student IP. All university members retain copyright over their work.

PLAGIARISM

Department of Political Science Statement on Plagiarism

The Department of Political Science has zero tolerance for plagiarism.

1. What is plagiarism? The University defines plagiarism as "the presentation of the work of another person, in whatever form, as one's own or without proper acknowledgement" (Concordia Undergraduate Calendar 2020-2021, section 17.10.3 (https://www.concordia.ca/academics/undergraduate/calendar/current/17-10.html). Plagiarism is an academic offence governed by the Code of Conduct (Academic). To find out more about how to avoid plagiarism, see the Concordia University Student Success Centre at: https://www.concordia.ca/students/success.html
2. What are the consequences of being caught? Students caught plagiarizing are subject to the following sanctions: (a) a written reprimand; (b) a piece of work be re-submitted; (c) an examination be taken anew; (d) a grade reduction or grade of zero for the piece of work in question; (e) a grade reduction or failing grade for the course; (f) a failing grade and ineligibility for a supplemental examination or any other evaluative exercise for the course; (g) the obligation to take and pass courses of up to twenty-four (24) credits in addition to the total number of credits required for the student's program; (h) suspension for a period not to exceed six (6) academic terms. Suspensions shall entail the withdrawal of all University privileges, including the right to enter and be on University premises; (i) expulsion from the University. Expulsion entails the permanent termination of all University privileges. In the case of a student who has already graduated, the only two available sanctions are (i) a notation on the student's academic record that he or she has been found guilty of academic misconduct; or (ii) a recommendation to Senate for the revocation of the degree obtained. (Undergraduate Calendar, p. 58). Complete regulations can be found in section 17.10.3 of the Undergraduate Calendar.
3. See also The Political Science Department's "Resources on Avoiding Plagiarism" at: https://www.concordia.ca/artsci/polisci/student-life/students.html#plagiarism and the full (and updated) Academic Code of Conduct here: http://www.concordia.ca/content/dam/common/docs/policies/official-policies/Academic-Code-Conduct-2015.pdf.

EXTRAORDINARY CIRCUMSTANCES

In the event of extraordinary circumstances and pursuant to the Academic Regulations, the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the changes.

STUDENTS WITH DISABILITIES

Concordia University is working to create inclusive learning environments. Please notify me if there are aspects of the instruction or design of this course that result in disability-related barriers to your participation. You are also encouraged to contact the Access Centre for Students with Disabilities (ACSD) as soon as possible so that this office can assist with the necessary accommodations.

SEXUAL HARASSMENT

As a professor, one of my responsibilities is to help create a safe learning environment for my students and for the campus as a whole. If you have experienced sexual harassment, sexual violence or discrimination, Concordia's Sexual Assault Resource Centre provides information available resources: https://www.concordia.ca/students/sexual-assault.html.