Overview:

In our previous research methods course (Political Science 2NN3), we explored a variety of different techniques that can be used to gather primary data. In fact, social scientific research often produces enormous quantities of primary data – on voters, on states, on beliefs, and on actions. The question is, what do you do with the data once you have gathered it? This course will explore some of the statistical techniques that we can use to analyze our data. We will approach statistics as a tool that can be used to simplify our analysis of the social world – a tool that can assist us in identifying patterns and relationships between variables.

Expectations:

The key to doing well in this course is to attend all lectures and tutorials.

Please note: Attending class regularly and keeping up with all the required readings is absolutely critical to your success in this course. The material that we will be exploring is cumulative in nature: missing one or two early lectures might leave you in the position of not understanding any subsequent lectures.

You are required to use a calculator in this course. Any $10 calculator capable of addition, subtraction, multiplication, division, and taking square roots will work. Cellphone calculators are not permissible during tests.

Participation – 10%

In our lectures, we will focus on where, when, and why we use different statistical techniques. Tutorials, by contrast will emphasize the hands-on application of the statistics taught in class. Tutorials will take place in one of the computer labs. Here you will be given time to explore the wonders of SPSS – learning how to use statistical software to answer research questions using real data.

Mid-Semester Test I – 15%

There will be a mid-semester in-class test on February 2. This test will cover material relating to descriptive statistics.
Mid-Semester Test II – 15%
There will be a second mid-semester in-class test on March 16. This test will cover material related to inferential statistics.

Assignments: 30%
You will be completing two short assignments that will require you to use SPSS to analyze real data. Each assignment is worth 15% of your course grade. The assignments are due as follows:
Assignment 1: Due in tutorial the week of March 6-10
Assignment 2: Due in class on April 3

Final Exam – 30%
There will be a final exam in April. The exam will cover material from lectures, tutorials, and the required readings.

Please note: late assignments may be subject to a one letter grade per day deduction. For example, an A- assignment received one day late would be reduced to a B+.

Course Readings:

The required readings for the lectures and tutorials are drawn from the required textbook:

January 5, 2017
Introduction to quantitative analysis: How statistics can make your life easier, richer, and more fulfilling
H&P, Chapter 1

Descriptive Statistics:
January 9-12, 2017
I – Levels of Measurement and basic descriptive statistics
H&P, Chapter 2

January 16, 2017
Measures of central tendency
H&P, Chapter 3

January 19-23, 2017
Measures of dispersion
H&P, Chapter 3

January 26, 2017
Probability and the normal curve
H&P, Chapter 4

January 30, 2017
Summary of descriptive statistics and Practice Test

February 2, 2017
In-class Test

Inferential Statistics:
February 6-9, 2017
Sampling, distribution, estimation
H&P, Chapters 5, 6

February 13-16, 2017
One sample hypothesis testing
H&P, Chapter 7

February 20-23, 2017
Reading week: no class

February 27 – March 2, 2017
Two sample hypothesis testing
H&P, Chapter 8

March 6, 2017
IV - Analysis of Variance
H&P, Chapter 9

March 9, 2017,
V - Chi squared
H&P, Chapter 10

March 13, 2017
Summary of Inferential statistics and practice test

March 16, 2017
In-class test

Measures of Association
March 20-23, 2017
Measures of Association I: nominal data
H&P Chapter 11

March 27-30, 2017
Measures of Association II: ordinal data
H&P Chapter 12

April 3-6, 2017
Measures of association III: interval data
ACADEMIC DISHONESTY

Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: “Grade of F assigned for academic dishonesty”) and/or suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy, specifically Appendix 3, located at http://www.mcmaster.ca/senate/academic/ac_integrity.htm

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

Statement on Electronic Resources
In this course we will be using AvenueToLearn. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Faculty of Social Sciences E-mail Communication Policy
Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student’s own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student’s responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes
aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.

**Students with Disabilities:**

Students who require academic accommodation must contact Student Accessibility Services (SAS) to make arrangements with a Program Coordinator. Academic accommodations must be arranged for each term of study. Student Accessibility Services can be contacted by phone 905-525-9140 ext. 28652 or e-mail sas@mcmaster.ca. For further information, consult McMaster University’s Policy for Academic Accommodation of Students with Disabilities.