

SOCI 202 (Section 01): Social Statistics

University of Montana

Autumn 2020

Course Details

Class Location: Education Building Auditorium
Lab: Social Science 262
Meeting Time: M/W/F 10-10:50 a.m.

Credit Hours: 3
Prerequisite: MATH 115

Instructor Information

Instructor: James Tuttle, Ph.D.
Email: james.tuttle@mso.umt.edu
Office: Social Sciences 307
Office Hours: Virtual, M/W 11-12
(And: By Appointment)
Phone: (406) 243-5912

Teaching Assistant: Allison Cutuli
Email: allison.cutuli@umconnect.umt.edu
Office: Social Sciences 312
Office Hours: Virtual, Th 11-12;
F 11:30-12:30

Course Description

This course, required for all Sociology majors, focuses on the application of descriptive and inferential statistical techniques to sociological data. During this course, students will learn basic concepts in quantitative research methodology, correct interpretation of statistical output and tables, and how to use computer programs to analyze data. This course provides the essential ‘building blocks’ of quantitative social science research, assisting students to take a more active role in interpreting and creating social science research.

Learning Goals and Objectives

By the end of the course, each student should be able to:

- define basic social science research concepts and terms.
- demonstrate an understanding of measures of central tendency and dispersion.
- interpret associations between variables.
- assess “statistical significance.”
- select the correct statistical procedure for a given research question.
- independently analyze data using SPSS.

Course Expectations

Class attendance is key for success in this course. Because content in this course builds from each previous lesson, missing class will have a cascading negative impact on your performance. In addition to regular attendance, students need to read the assigned chapter for each week before class on Monday. During class periods, students are expected to be attentive and take notes. Use of laptop computers, cell phones, tablets, and other electronic devices is not allowed during lectures/discussions unless explicitly cleared by the instructor. Students are also expected to interact with each other and their instructor in a respectful manner, both in person and through electronic communications.

Structure of Course

There are labs and assignments that require the use of SPSS. On (most) Fridays, I will be instructing the class from room 262 of the Social Science Building (labeled as “Lab” on the course schedule). However, due to limited space within the lab, most students will need to either attend the Zoom session in the Education Building Auditorium classroom or attend class remotely. You will need access to SPSS to complete the lab and assignments, which can be downloaded to your personal computer through the University.

Classroom Policy on COVID-19

Students are expected to help to stop the spread of the COVID-19 pandemic within the classroom. Because it is difficult to effectively “social distance” within the confines of a classroom, students are required to wear face coverings (over their nose and mouth) in an effort to prevent asymptomatic spread of the virus. Students must not attend class when they are feeling ill and must immediately inform their instructor or officials at the University if they have contracted COVID-19. Portions of the course, labs, and student meetings will take place virtually to the extent possible. Additional classroom expectations, aligning with University guidelines, will also be enforced.

Required Text

Title: *Statistics for Social Understanding: With Stata and SPSS*

Authors: Nancy Whittier, Tina Wildhagen, & Howard J. Gold

Publisher: Rowan & Littlefield Publishers

Edition: 19th

ISBN: 9781538109830

Grading

Grades are rounded to nearest whole number. Letter Grades will be calculated using the following grading scale:

A: 93 or higher

A-: 90-92

B+: 87-89

B: 84-86

B-: 80-83

C+: 77-79

C: 74-76

C-: 70-73

D+: 67-69

D: 64-66

D-: 60-63

F: 59 and lower

Earning Your Grade:

Each student can earn up to 100 points in this course. The final grade is computed by dividing the number of points you earn by 100. The point breakdown is as follows:

- **Data Analysis & Interpretation Assignments:** **40 points (40%)**
- **Final Exam:** **30 points (30%)**
- **Mid-Term Exam:** **20 points (20%)**
- **Quizzes and Class Participation:** **10 points (10%)**

Data Analysis & Interpretation Assignments (40 Points Total):

There are ten data analysis and interpretation assignments throughout the course, worth four points each. These assignments require students to independently analyze data, interpret output of this data analysis, and/or answer questions concerning quantitative social science research. While students are allowed to seek help for these assignments from their instructor, the TA, and/or other students, they must conduct data analysis on their own and complete their own interpretations for the assignment.

Final Exam (30 Points Total):

The final exam is a cumulative exam covering all course materials (assigned readings, lessons from assignments, lectures, etc.). The format of the questions will be close-ended questions, with potential fill-in-the blank, matching, true/false, and multiple-choice questions.

Mid-Term Exam (20 Points Total):

The mid-term exam is a cumulative exam covering all course materials (assigned readings, lessons from assignments, lectures, etc.) to that point in the class (near the mid-term). The format of the questions will be close-ended questions, with potential fill-in-the blank, matching, true/false, and multiple-choice questions.

Quizzes and Class Participation (10 Points Total):

Students earn points by attending class prepared for discussion, including reading the assigned chapter for the week. This grading criterion will be calculated using student attendance, quiz grades, and participation in class discussions. Unannounced (pop) quizzes test student comprehension on information from the lectures and assigned readings. Tardiness, disruption, failure to comply with course or university rules/standards will negatively impact student grades for this grading criterion.

A Note on Late Submissions or Incomplete Assignments:

If a student misses an assignment and does not present the appropriate paperwork for the absence to be excused, he or she receives a '0' for the assignment. Late work is accepted at the discretion of the instructor.

University Policies

Excused Absence Policy:

Under some circumstances, students will be excused from missing class and assignments. When a student is absent from class and/or misses an assignment due to an excused absence, it does not count against the student's grade. Missed assignments due to an excused absence are granted an extension (at the discretion of the instructor). Missed quizzes due to an excused absence are not made-up, but simply do not count against the student's grade.

Students requesting an excused absence need to inform the instructor as soon as possible, preferably before the class that is missed. Excused absences include illness, injury, family emergency, religious observance, cultural/ceremonial events, participation in a University sponsored activity, military service, or mandatory public service. Students must gain clearance from the instructor before the class that is missed or provide documentation after missing class. More about the University Policy on class attendance and absences can be found here: <https://catalog.umt.edu/academics/policies-procedures/>

University of Montana's Cultural Leave Policy:

“Cultural or ceremonial leave allows excused absences for cultural, religious, and ceremonial purposes to meet the student's customs and traditions or to participate in related activities. To receive an authorized absence for a cultural, religious or ceremonial event the student or their advisor (proxy) must submit a formal written request to the instructor. This must include a brief description (with inclusive dates) of the cultural event or ceremony and the importance of the student's attendance or participation. Authorization for the absence is subject to approval by the instructor. Appeals may be made to the Chair, Dean or Provost. The excused absence or leave may not exceed five academic calendar days (not including weekends or holidays). Students remain responsible for completion or make-up of assignments as defined in the syllabus, at the discretion of the instructor.”

Accessibility Services for Students:

“The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you have a disability that adversely affects your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.”

Food Pantry Program

“UM offers a food pantry that students can access for emergency food. The pantry is open on Tuesdays from 12 to 5 PM and Fridays from 10 AM to 5 PM. The pantry is located in UC 119 (in the former ASUM Childcare offices). Pantry staff operate several satellite food cupboards on campus (including one at Missoula College). For more information about this program, email umpantry@mso.umt.edu, visit the UM Food Pantry Website (www.umt.edu/pantry) or contact the pantry on social media (@pantryUm on twitter, @UMPantry on Facebook, um_pantry on Instagram).”

ASUM Renter Center

“The Renter Center has compiled a list of resources (<https://medium.com/griz-renter-blog>) for UM students at risk of homelessness or food insecurity. Students can schedule an appointment with Renter Center staff to discuss their situation and receive information, support, and referrals.”

TRiO Student Support Services

“TRiO serves UM students who are low-income, first-generation college students or have documented disabilities. TRiO services include a textbook loan program, scholarships and financial aid help, academic advising, coaching, and tutoring.

Students can check their eligibility (www.umt.edu/trioss/apply.php) for TRiO services online. If you are comfortable, please come see members of the teaching team. We will do our best to help connect you with additional resources.”

Academic Dishonesty

Academic dishonesty is not tolerated in this class. By submitting an assignment in this course, students are acknowledging that the work that they have submitted is their own work and that they have neither given nor received any unauthorized assistance in completing the assignment. Plagiarism is not accepted and will be punished by failure in the course and possible suspension or expulsion. Please review the ‘Student Conduct Code’ (<http://www.umt.edu/student-affairs/community-standards/default.php>) for further information on student responsibilities in maintaining academic honesty.

Course Schedule

Please note that assigned readings and the dates of assignments are subject to change. I reserve the right to make changes to the course materials as well as the class activities as I see fit to facilitate achievement of the course objectives. The assigned materials are to be read by the beginning of the week that they appear on the schedule.

Week 1: Course Introduction (August 19-21)

Assigned Reading Materials:

- Course Syllabus
- Chapter 1: “Introduction” (stop on p. 21 at “Statistical Software”)

Class Assignments:

August 19: Lecture and Discussion: Social Science and Statistics

August 21: Lecture and Discussion: Using SPSS

Week 2: Descriptive Statistics: Part I (August 24-28)

Assigned Reading Materials:

- Chapter 2: “Getting to Know Your Data”

Class Assignments:

August 24: Lecture and Discussion: Descriptive Statistics

August 26: Lecture and Discussion: Graphs

August 28: *Lab: Descriptive Statistics & Graphs*

- **Data Analysis & Interpretation Assignment #1 Due August 31**
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Week 3: Descriptive Statistics: Part II (August 31 – September 4)

Assigned Reading Materials:

- Chapter 4: “Typical Values in a Group”
- Chapter 5: “The Diversity of Values in a Group”

Class Assignments:

August 31: Lecture and Discussion: Measures of Central Tendency

September 2: Lecture and Discussion: Standard Deviation

September 4: *Lab: Descriptive Tables*

- **Data Analysis & Interpretation Assignment #2 Due September 8**
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Week 4: The Bell Curve (September 7-11)

Assigned Reading Materials:

- Chapter 6: “Probability and the Normal Distribution”

Class Assignments:

September 7: **NO CLASS: Labor Day**

September 9: Lecture and Discussion: The Bell Curve

September 11: Lecture and Discussion: Interpreting Z-Scores

Week 5: Sampling: Part I (September 14-18)

Assigned Reading Materials:

- Chapter 7: “From Sample to Population”

Class Assignments:

September 14: Lecture and Discussion: The Logic of Sampling

September 16: Lecture and Discussion: Sampling Error

September 18: *Lab: Sampling a Population*

Week 6: Sampling: Part II (September 21-25)

Assigned Reading Materials:

- Chapter 8: “Estimating Population Parameters”

Class Assignments:

September 21: Lecture and Discussion: Confidence Intervals

September 23: Lecture and Discussion: Estimating Population Parameters

September 25: *Lab: Confidence Intervals*

Week 7: Statistical Significance (September 28 – October 2)

Assigned Reading Materials:

- Chapter 9: “Differences Between Samples and Populations”

Class Assignments:

September 28: Lecture and Discussion: Statistical Significance

September 30: Lecture and Discussion: Generalizing Findings to the Population

October 2: *Lab: One Sample T-Test*

- **Data Analysis & Interpretation Assignment #3 Due October 5**
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Week 8: Bivariate Analysis: Part I (October 5-9)

Assigned Reading Materials:

- Chapter 3: “Examining Relationships Between Two Variables”
- Pp. 542-546 (Correlations)

Class Assignments:

October 5: **Mid-Term Exam**

October 7: Lecture and Discussion: Bivariate Correlations

October 9: *Lab: Bivariate Correlations*

- **Data Analysis & Interpretation Assignment #4 Due October 12**
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Week 9: Bivariate Analysis: Part II (October 12-16)

Assigned Reading Materials:

- Chapter 12: “Testing the Statistical Significance of Relationships in Cross-Tabulations”

Class Assignments:

October 12: Lecture and Discussion: Continuous vs. Discrete Data

October 14: Lecture and Discussion: Chi-Squares

October 16: *Lab: Chi-Squares*

- **Data Analysis & Interpretation Assignment #5 Due October 19**
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Week 10: Comparing Groups: Part I (October 19-23)

Assigned Reading Materials:

- Chapter 10: “Comparing Groups”

Class Assignments:

October 19: Lecture and Discussion: Group Differences

October 21: Lecture and Discussion: Use of Group Comparisons

October 23: *Lab: T-Tests*

- **Data Analysis & Interpretation Assignment #6 Due October 26**
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Week 11: Comparing Groups: Part II (October 26-30)

Assigned Reading Materials:

- Chapter 11: “Testing Mean Differences Among Multiple Groups”

Class Assignments:

October 26: Lecture and Discussion: Significant Differences Between Groups

October 28: Lecture and Discussion: ANOVAS

October 30: *Lab: ANOVAS*

- **Data Analysis & Interpretation Assignment #7 Due November 2**
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Week 12: Multivariate Analysis: Part I (November 2-6)

Assigned Reading Materials:

- Chapter 13: “Ruling Out Competing Explanations for Relationships Between Variables”

Class Assignments:

November 2: Lecture and Discussion: Correlation and Causation

November 4: Lecture and Discussion: Ruling Out Spurious Associations

November 6: *Lab: Assumptions of Multiple Linear Regression*

- **Data Analysis & Interpretation Assignment #8 Due November 9**
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Week 13: Multivariate Analysis: Part II (November 9-13)

Assigned Reading Materials:

- Chapter 14: “Describing Linear Relationships Between Variables”

Class Assignments:

November 9: Lecture and Discussion: Multivariate Regression

November 11: **NO CLASS: Veterans Day**

November 13: *Lab: Multivariate Regression*

- **Data Analysis & Interpretation Assignment #9 Due November 16**

Week 14: Conclusions (November 16-20)

Assigned Reading Materials:

- TBA

Class Assignments:

November 16: Lecture and Discussion: Preparing for the Final Exam

November 18: Lecture and Discussion: Conducting Your Own Research

November 20: *Lab: Conducting Your Own Research*

- **Data Analysis & Interpretation Assignment #10 Due November 20**

Final Exam: November 23-25