

## **Social Statistics Fall 2016**

Chemistry 123  
MWF 11:00-11:50

### **Teaching team information**

Instructor: Dustin Satterfield (she/her/hers pronouns)

Office: Social Sciences 317

Email: dustin.satterfield@umontana.edu

Office hours: Mondays 1:00-2:30 and Thursdays 12:30-1:30 or by appointment

Preceptor: Emily Allen (she/her/hers)

Office: Social Sciences 316

Email: emily2.allen@umontana.edu

Office hours: Wednesdays 12:00-1:00 and Thursdays 11:00-12:00

Preceptor: Tempeste Lewis (she/her/hers)

Office: Social Sciences 316

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Office hours:

### **Course description**

The goal of this course is to introduce you to basic statistical concepts and techniques and to provide a basic understanding of statistics and statistical methodology with an emphasis on social science applications. The information gained will provide you with a foundation to understand the statistics often visible in our daily lives, in the newspaper, and other media. It will also give you the tools needed to enroll in more advanced statistics courses, if you choose to do so.

There are a variety of topics covered in this course. These will range from basic organization of data, graphic presentation of data, probability, sampling distributions, and statistical inference. Emphases will be placed on the applied understanding of statistical methods, the use of computer applications, and critical interpretation of results.

### **Learning outcomes**

Upon completion of the course, you will be able to demonstrate an understanding of the symbols used in statistical research and how they transform numbers to give them meaning. This will include relaying, interpreting, and effectively communicating social information in terms of statistical symbols, operations, and reasoning; and applying creative thinking skills using the language and logic of statistical analysis in order to address a variety of applied and theoretical social problems.

### **Required textbooks**

Healy, Joseph F. 2011. *Statistics: A Tool for Social Research*, 9th Edition. Wadsworth: Belmont, CA.

## **Access to SPSS**

You will need to use the software program, SPSS, for your problem set assignments. SPSS stands for “Statistical Program for the Social Sciences” and is the software that you will use when you analyze data. There are multiple places on campus for you to access SPSS including the library and the SSRL in Social Sciences 258. You may want to have your own copy of SPSS (a base version is available for rent at a reduced price for students) so that you can conduct data analysis at home, on your own computer. See the link and details for obtaining the software on Moodle.

## **Exams**

During exams, students are allowed only the use of a personal calculator; cell phones, tablets, and other electronic devices will not be permitted. Any student found in violation of these mandates will receive a zero on the exam and will be required to meet with me to discuss whether or not they are eligible to continue on with the course.

Students who arrive late to an exam will not get extra time to complete the exam. Make-up exams are available only under two conditions: 1) you must have a valid excuse (this almost always means a legitimate medical excuse with adequate documentation); or 2) you must receive my permission to miss the exam at least 72 hours prior to the exam. It is your responsibility to provide legitimate written verification of your excuse to me. If I do not receive verification from you, you will not be allowed to take a make-up exam.

### **Exam dates:**

Exam 1: September 16

Exam 2: October 7

Exam 3: October 28

Exam 4: November 18

Exam 5: December 14

The final exam will be on Wednesday, December 14, 8:00-10:00 a.m. in our normal meeting place.

## **Course guidelines and policies**

### **Academic honesty**

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](#), which is available for review online.

Make sure that your work is your own. Students are encouraged to practice problems and work on homework with classmates to facilitate your learning of statistics. However, students must turn in their own separate problem sets. Don't get confused by what is acceptable and what is not. In this class, discussion of ideas and statistical methods is permitted, and encouraged among classmates. Writing collaboration, however, is not permitted and students should be careful not to work directly from a classmate's notes, not to copy another's paper or exam, and not to let others view their exam. Turning in a homework assignment that you did not personally complete is plagiarism.

If this is unclear, please ask.

## **Attendance**

You are expected to attend class. It will be very difficult to succeed if you do not attend regularly. Statistics are based on a building block principle where later ideas build upon previous ones. The preceptors and I will not provide notes or schedule special meeting times to go over material that is missed due to a non-university sanctioned absence. You will be responsible for any material you missed; I recommend that you meet with a classmate to discuss topics that you have missed and to exchange notes. It is important not to fall behind in this course and missing class will put you seriously behind.

You are expected to come to class on time prepared to learn and attend until the end of the hour. If you need to leave early, please inform me ahead of time and sit near the exit as to minimally disrupt other students.

I will not take attendance but I will periodically give ungraded, in-class quizzes to evaluate to how well students are learning the material and to encourage attendance. While these are not graded, they will be worth extra credit points at the end of the semester based on how many you were present for.

In class we will work through examples. Students are expected to not only watch the example, but to work through it along with the instructor. For this reason, students need to bring a calculator to class, preferably the one you will be using on the exams.

## **Classroom etiquette**

Please treat each other and each other's ideas respectfully. Keep in mind that the University of Montana forbids discrimination on the basis of ethnicity, race, religion, sex, age, marital status, sexual orientation, or disability. If you violate this policy I will ask you to leave.

## **Disability modifications**

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and [Disability Services for Students](#). If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or call 406-243-2243. I will work with you and Disability Services to provide an appropriate modification.

## **Email policy**

I will check and respond to emails during business hours for one hour daily Monday-Friday, and during my office hours. When I answer questions that students have emailed me during class, I consider the question answered. Do not email me after 10 pm the night before an exam. I will not respond. The material in this course is difficult to discuss over email, so I advise you to come to the teaching team's office hours to work through problems. I encourage you to ask questions in class, attend office hours, or make an appointment if you want help.

## **Grading policy**

There will be five exams and four problem sets that will comprise the total points for the semester (See the reading and exam schedule at the end of the syllabus). Each of the exams is worth 50 points. Problem sets 1-3 are worth 10 points each. Problem set 4 is worth 20 points. Final grades will be determined based on your average score out of the total points possible.

At any point, you can calculate your grade by adding the number of points to date, dividing by the total number of points possible to date, and obtaining your percentage grade to date.

- A: 90-100%
- B: 80-89%
- C: 70-79%
- D: 60-69%
- F: 59% or below

### Name and pronouns

This course affirms people of all gender expressions and gender identities. If you go by a different name than what is on the class roster, please let me know. I will respect your name and your pronouns.

### Preliminary class schedule

This schedule is tentative. While due dates are highly unlikely to change, content may change as we see that we need to spend more or less time on a particular topic. I will do my best to ensure that exam dates do not change, but the material covered on the exams may change. It is your responsibility to keep up with the schedule by attending class regularly, checking the Moodle announcements frequently, and doing the readings and assignments. All readings below are from our textbook.

The chapter listed is what you need to have read PRIOR to the class meeting time.

### Class Schedule

	<b>Monday</b>	<b>Wednesday</b>	<b>Friday</b>
<b>Aug 29- Sept 2</b>	The syllabus Introduction to Statistics (For a basic math review read xxv-xxx)	Chapter 1 and 2 Basic Descriptive Statistics	Chapter 2 Basic Descriptive Statistics
<b>Sept 5-9</b>	No class, Labor Day	Chapter 3 Measures of Central Tendency	Chapter 3 Measures of Central Tendency
<b>Sept 12-16</b>	Chapter 4 Measures of Dispersion	Chapter 4 Measures of Dispersion	Exam 1 On chapters 1-4, and corresponding lectures
<b>Sept 19-23</b>	Problem Set 1 Due Chapter 5 The Normal Curve	Chapter 5 The Normal Curve	Chapter 5 The Normal Curve
<b>Sept 26-30</b>	Chapter 6 Four Fundamental Concepts	Chapter 6 Four Fundamental Concepts	Chapter 7 Estimation

<b>Oct 3-7</b>	Chapter 7 Estimation	Chapter 7 Estimation	Exam 2 On chapters 5-7, and corresponding lectures
<b>Oct 10-14</b>	Problem Set 2 Due Chapter 8 Hypothesis Testing I	Chapter 8 Hypothesis Testing I	Chapter 9 Hypothesis Testing II
<b>Oct 17-2</b>	Chapter 9 Hypothesis Testing II	Chapter 9 Hypothesis Testing II	Chapter 10 Analysis of Variance
<b>Oct 24-28</b>	Chapter 10 Analysis of Variance	Chapter 10 Analysis of Variance	Exam 3 On chapters 8-10, and corresponding lectures
<b>Oct 31 – Nov 4</b>	Problem Set 3 Due Chapter 10 Analysis of Variance	Chapter 11 Chi-Square	Chapter 11 Chi-Square
<b>Nov 7-11</b>	Chapter 11 Chi-Square	Chapter 12 Nominal Level Association	No class, Veterans Day
<b>Nov 14-18</b>	Chapter 12 Nominal Level Association	Chapter 13 Ordinal Level Association	Exam 4 On chapters 10-12, corresponding lectures
<b>Nov 21-25</b>	Chapter 13 Ordinal Level Association	No class, travel day	No class, Thanksgiving Break
<b>Nov 28-Dec 2</b>	Chapter 14 Correlation and Regression	Chapter 14 Correlation and Regression	Chapter 14 Correlation and Regression
<b>Dec 5-9</b>	Chapter 16 Correlation and Regression	Chapter 16 Correlation and Regression	Problem Set 4 Due Chapter 16 Correlation and Regression
<b>Dec 12-16</b>	Catch up day	<b>Final Exam</b> 8:00-10:00 am on Wednesday, December 14 on chapters 12 and 13, and corresponding lectures	