

COURSE SYLLABUS

CONTACT INFORMATION

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## Course Description Course Objectives

This course is an introduction to statistical methods and techniques with applications in the fields of business, behavioral and social science, as well as in science, technology, engineering, and mathematics. Topics include descriptive measures of central tendency and variability, probability, binomial and normal distributions, random variables, sampling, estimating, hypothesis testing (parametric and nonparametric), correlation and regression.

**Advisories:** Eligibility for English 1A

**Prerequisites:** Mathematics 103

*In the process of completing this course, students will:*

1. Distinguish among different scales of measurement and their implications;
2. Identify the standard methods of obtaining data and identify advantages and disadvantages of each;
3. Interpret data displayed in tables and graphically;
4. Calculate measures of central tendency and variation for a given data set;
5. Apply concepts of sample space and probability;
6. Calculate the mean and variance of a discrete distribution;
7. Calculate probabilities using normal and t-distributions;
8. Distinguish the difference between sample and population distributions and analyze the role played by the Central Limit Theorem;
9. Construct and interpret confidence intervals;
10. Determine and interpret levels of statistical significance including p-values;
11. Interpret the output of a technology-based statistical analysis;
12. Identify the basic concept of hypothesis testing including Type I and II errors;
13. Formulate hypothesis tests involving samples from one and two populations;
14. Select the appropriate technique for testing a hypothesis and interpret the result;
15. Use linear regression and ANOVA analysis for estimation and inference, and interpret the associated statistics; and
16. Use appropriate statistical techniques to analyze and interpret applications based on data from disciplines including business, social sciences, psychology, life science, health science, and education.

## Student Learning Outcomes

*Upon completion of this course, students will be able to:*

1. Organize, analyze, and utilize appropriate methods to draw conclusions based on sample data by using tables, graphs, measures of central tendency, and measures of dispersion.
2. Apply concepts and terminology of statistics.
3. Implement the rules of probability.
4. Collect data, interpret and communicate the results using statistical analyses such as confidence intervals, hypothesis tests, and regression analysis.

## Required Materials

This course has **ZERO** textbook and materials costs!!

- ⇒ OpenStax Textbook — Free online and on Canvas
- ⇒ Graphing Calculator—Free rental in the Library
- ⇒ Canvas App — Free





## Attendance and Participation

Regular class attendance is expected. It is your responsibility to withdraw from the class with Admissions and Records if you plan to no longer attend or possibly receive an F.

If you reach 10 absences, **for any reason**, you will be dropped from the class.

Being an active participant in class is key to your success. Therefore, If you are tardy, leave early, or leave class and return later, this will affect your attendance count, as will doing unrelated work, homework or using electronic devices during class. (i.e. cell phones, MP3 players, etc.) You will be considered late if you arrive after attendance has been taken.

You **may** be dropped for excessive tardiness or after 4 absences. Each tardy is equal to one half of an absence, i.e. 2 tardies = 1 absence

If you do not sign the attendance sheet you will likely be marked absent.

## Assignments & Exams

### In-Class Work

You will be working in groups regularly in this class. Worksheet grades will be based on completeness and participation in your group. **Worksheets can be found on Canvas but participation grades cannot be made up if absent.**

### Study Assignments & Quizzes

Reading and/or videos may be assigned prior to class. There may be a quiz either in class or online to ensure the material has been learned.

### Homework

Homework is assigned on Thursday each week and due the following Wednesday. We will be using a FREE online homework system embedded in Canvas.

### Late Work

Turning an assignment in late for **any reason** will result in a 40% point reduction. Late homework must be turned in within a week of the original due date. Other late assignments must be turned in by the final exam.

### Exams

There will be three exams and a cumulative final exam in this course. **No make-ups will be allowed for exams.** If you know you will be absent on the day of an exam, you may take it early. If absent on the day of an exam for an emergency, **one** missed exam score will be replaced with your final exam percentage. Being unprepared for the exam is not a legitimate excuse for missing an exam.

*“I have discovered a truly marvelous proof of this, which however the margin is not large enough to contain.”*

*-Pierre de Fermat (referring to his ‘last theorem’)*

## Academic Honesty



Students at Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share the responsibility to ensure that this education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors.

Academic dishonesty in any form is a very serious offense and will incur serious consequences, including but not limited to receiving a grade of F on the assignment or in the course. For the college policy on cheating and plagiarism see the college catalog.

# Grading

**Grading Scale:**

A	89.5% - above
B	79.5%-89.4%
C	69.5%-79.4%
D	59.5%-69.4%
F	59.4% and below

**Grading Weights:**

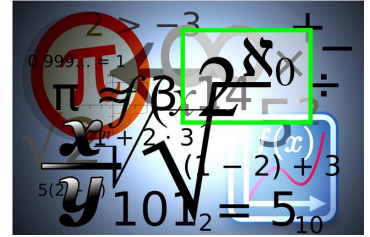
40% Tests
20% Final Exam
20% Homework
20% Projects, Worksheets, and everything else

**Finding your Grade:**

I will be recording your grades and attendance in Canvas.

I strongly recommend you check it regularly for accuracy so there are no surprises at the end of the semester.

**Tip:** Use the 'What if' option to see how possible assignment scores will effect your grade.



*“Do not worry to much about your difficulties in mathematics, I can assure you that mine are still greater.” - Albert Einstein*

# Resources

**Your Instructor**

I will be happy to help you at the beginning of class or in my office. My office hours are listed at the beginning of this syllabus. If you cannot come during my office hours you can make an appointment to come at a different time. You may also ask questions through the homework system, email, and Canvas.

**Embedded Tutor**

Alejandro is our embedded tutor for this class! He attend class and hold study sessions outside of outside of class.

**Math Study Center, FEM 1**

**Open M-Th 8am-4pm, F 8am-12pm**  
The STEM Math Study Center is a free tutoring resource available to all Reedley College math students. The MSC offers drop-in tutoring

with math faculty and student tutors. There are also 20 computers available to access online math homework.

**Tutorial Center, Library**

**Open M-Th 8am-5pm, F 8am-4pm**

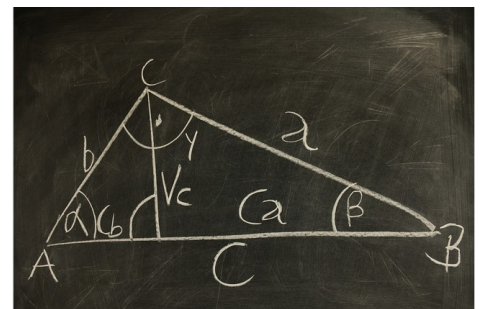
The Tutorial Center also offers free tutoring by appointment and on a drop-in basis to all Reedley College Students. Tutoring appointments are a mix of small group and one-on-one sessions.

# Accommodations for Students with Disabilities

Disabled Students Programs & Services (DSP&S) is designed to provide specialized services and accommodations that assist students with documented physical, psychological and learning disabilities reach their maximum potential while achieving their educational goals. Staff specialists interact with all areas of the campus to eliminate physical, academic and attitudinal barriers. Disabled Stu-

dents Programs & Services takes a personal interest in meeting the special needs of students with disabilities.

If you have a verified need for an academic accommodation or materials in alternate media (i.e., Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact me as soon as possible.



## Important Dates \*



Monday, January 13	Start of Spring 2020 Semester
Monday, January 20	Martin Luther King Jr. Day (no classes held, campus closed)
Friday, January 24	Last Day to Drop for a full refund
Friday, January 31	Last day to register in person
Sunday, February 2	Last day to drop with a "W" (on WebAdvisor)
Friday, February 14	Lincoln Day (no classes held, campus closed)
Monday, February 17	Washington Day (no classes held, campus closed)
Friday, February 21	Last day to change class to/from Pass/No-Pass grading basis
Friday, March 13	Last Day to drop a full-term class (letter grade assigned after this date)
Mon.-Fri., April 6-10	Spring Break (no classes held, campus closed)
May 18-22	Final Exams week

## Tentative Calendar



# JANUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13* Semester Begins	14 1.1	15 1.1	16 1.2	17	18
19	20 No School	21 1.2	22 1.3	23 1.3	24*	25
26	27 1.4	28 1.4	29 1.4	30 1.5	31*	1

# FEBRUARY

Sun	Mon	Tue	Wed	Thu	Fri	Sat
2*	3 1.5	4 1.6	5 1.6	6 Review	7	8
9*	10 Exam 1	11 2.1	12 2.1	13 2.1	14	15
16	17	18 2.2	19 2.3	20 2.3	21*	22
23	24 2.3	25 3.1	26 3.1	27 3.1	28	29

# MARCH

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2 3.2	3 3.2	4 3.2	5 3.3	6	7
8	9 3.3	10 Review	11 Exam 2	12 4.1	13*	14
15	16 4.1	17 4.2	18 4.2	19 4.2	20	21
22	23 5.1	24 5.1	25 5.2	26 5.3	27	28
29	30 5.3	31 5.3				

# APRIL

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 Review	2 Exam 3	3	4
5	6	7	8	9	10	11
12	13 6.1	14 6.1	15 6.2	16 6.2	17	18
19	20 6.3	21 6.3	22 6.4	23 6.4	24	25
26	27 7.1	28 7.1	29 8.1	30 8.1		

# MAY

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4 8.2	5 8.2	6 8.3	7 8.3	8	9
10	11 8.3	12 8.3	13 Review	14 Review	15	16
17	18 <b>Final Exam 10-11:50am</b>	19	20	21	22 End of Semester	23
24	25	26	27	28	29	30