

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. (A, CSU-GE, UC, I) (C-ID MATH 110)

Advisories: Eligibility for English 1A

Prerequisites: Mathematics 103

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.

Course Materials

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

Required

- ⇒ Easy computer and internet access
- ⇒ Microsoft Excel

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.

Recommended Apps/Websites

- ⇒ Canvas
- ⇒ Khan Academy

Student Responsibilities & Communication



Responsibilities

While this course is delivered entirely online, it is every bit as much work as a face to face math class. This is not a self-paced course. All assignments have deadlines that you will be expected to meet. It is your responsibility to stay up to date in this class by checking the schedule,

emails, announcements, and discussion forums.

Because this course is 100% online, you are expected to have a reliable and easily accessible internet connection. Technical problems are not an excuse for missing assignments. So don't wait till the last minute to complete assignments.

Communication Policy

There are a variety of ways that you can get in contact with me. However, Canvas Inbox is the best way to contact me. If you have not heard back from me within two days then try to contact me again.

HELPFUL HINT:
Due dates are the day you should be done with an assignment not the day you should begin it. Work ahead whenever possible so you won't be pressed for time!

Assignments & Exams

Homework Practice

Weekly modules have a set of specified outcomes, study materials, and homework practice. You have an unlimited number of attempts on homework assignments with only your highest score counting toward your grade.

Discussions & Excel Projects

There will be a weekly discussion assignment and/or an Excel project to help deepen your understanding of the material.

Quizzes & Exams

Each week there will be either a quiz or a unit exam. You have five attempts on quizzes and two attempts on exams up until the due date with only your highest score counting toward your grade.

Note: Do not log out in the middle of a quiz or exam or your score will be automatically recorded.

Late Work & Extensions

You can continue to work on homework assignments **past their due date with a 40% penalty** until the time of the final exam.

Exams must be taken by their due date. You will be allowed an extension on **one** exam over the course of the semester, no questions asked. **You will have one additional week after the assignment was originally due to complete it.** Email me to request an extension on a exam.

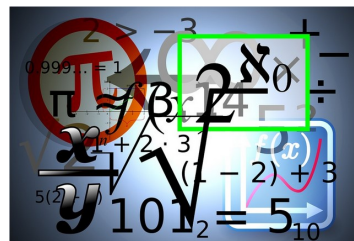
Academic Honesty



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 & Drop Policy



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:

- 40% Exams, Quizzes & Projects
- 40% Homework Practice
- 20% Discussions

Grades will be tracked in the Canvas Gradebook.

Your first assignment in this course is the syllabus quiz. If you have not logged on to Canvas and completed the **Syllabus Quiz by Wednesday, January 15th at 11:59pm** then you will be considered a no show and dropped from the class.

I will be checking regularly to ensure you are keeping up with the schedule of assignments.

You MAY be dropped for any of the following reasons:

- Failing to complete the Syllabus Quiz on time**
- Consistently missing assignments**
- Missing an entire week of assignments**
- Missing more than one exam**

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

Math Help

Ways to get help from me!

- ⇒ I am just an email away if you have questions.
- ⇒ I can video chat with you through Canvas using Confer-Zoom.
- ⇒ Message me through Canvas (there’s an app for that!).

Smarthinking Online Tutoring

Smarthinking is a **free** online tutoring service available in Canvas. Watch the [video](#) in the orientation module to learn more!

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

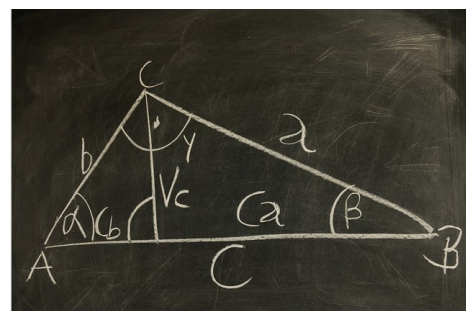
The Tutorial Center also offers free tutoring by appointment and on a drop-in basis to all Reedley College Students. Tutoring appointments are a mix of small group and one-on-one sessions.

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 Assignment Schedule

Week	Topic	Assignments	Quizzes & Exams
0	Getting Started	Review Course Materials Norm Setting	
1	Descriptive Statistics January 13-19	Discussion – Introduce Yourself Homework Practice 1.1-1.2	Syllabus Quiz—Due Wednesday Quiz 1
2	Descriptive Statistics January 20-26	Discussion Assignment Homework Practice 1.3	Quiz 2
3	Descriptive Statistics January 27-February 2	Discussion Assignment Homework Practice 1.4-1.5	Quiz 3
4	Descriptive Statistics February 3-9	Discussion Assignment Homework Practice 1.6	Excel Project 1 Exam 1
5	Probability February 10-16	Discussion Assignment Homework Practice 2.1	Quiz 4

Week	Topic	Homework Assignments	Quizzes & Exams
6	Probability February 17-23	Discussion Assignment Homework Practice 2.2-2.3	Quiz 5
7	Probability Distributions February 24-March 1	Discussion Assignment Homework Practice 3.1-3.2	Quiz 6
8	Central Limit Theorem March 2-8	Discussion Assignment Homework Practice 3.3	Excel Project 2 Exam 2
9	Confidence Intervals March 9-15	Discussion Assignment Homework Practice 4.1-4.2	Quiz 7
10	Hypothesis Testing March 16-22	Discussion Assignment Homework Practice 5.1-5.2	Quiz 8
11	Hypothesis Testing March 23-29	Discussion Assignment Homework Practice 5.3	Excel Project 3 Exam 3
12	Hypothesis Testing with Multiple Samples March 30-April 5	Discussion Assignment Homework Practice 6.1	Quiz 9
	April 6-12	Spring Break!	
13	Hypothesis Testing with Multiple Samples April 13-19	Discussion Assignment Homework Practice 6.2-6.3	Quiz 10
14	ANOVA April 20-26	Discussion Assignment Homework Practice 6.4	Excel Project 4 Exam 4
15	Chi-Square Distribution April 27-May 3	Discussion Assignment Homework Practice 7.1	Quiz 11
16	Correlation and Regression May 4-10	Discussion Assignment Homework Practice 8.1-8.2	Quiz 12
17	Hypothesis Testing for Correlation May 11-17	Discussion Assignment Homework Practice 8.3	Quiz 13
18	May 20, 11:59pm	Final Exam	Final Excel Project