

Math 11-59663 Elementary Statistics

Semester/Year: Fall 2018

Units: 4

Location: online only

Office Hrs: Mon & Wed 10am-12pm

Instructor: Kelly Winter

Office Location: FEM 1L

Phone number: (559) 638-0300 ext 3471

Email: kelly.winter@reedleycollege.edu

Virtual Office Hr: Fri. 10-11am via Canvas

Length: 18 weeks (Aug 13 – Dec 14)

Schedule

This class is online only. You must follow the schedule of coursework online to complete the course.

Prerequisite: Math 103 or equivalent

Final Exam: Online between Dec. 10-12

Welcome to Elementary Statistics

It is my desire to help each one of my students succeed and gain confidence in their math and statistics skills. I believe that all students can succeed if they stay organized, set aside consistent work time, complete all assigned work, ask questions and prepare for exams. I am here to guide you through the course, answer questions and encourage you to work hard. I am looking forward to this semester.

There are many excellent resources available to you on our campus. Other students in class are a good resource and I would encourage you to form small groups to study and do homework together. If you have an unanswered question, come by my office (FEM 1L) which is in the FEM building located in the Math Center. I am available Monday and Wednesday from 10:00-11:50.

Other available resources are:

- The Math Center in the FEM building, room 1. Hours: M-Th 8:00 AM - 4:00 PM and F 8:30 AM -12:00 PM. (559) 638-0300 ext. 3158

Course Description

Math 11 is an introduction to statistical methods and techniques for business, behavioral, and social science majors. 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.

Textbook

Great news: your textbook for this class is available for **free** online!

[*Statistics from OpenStax*](#), ISBN 1-947172-05-0

You have several options to obtain this book:

- [View online \(Links to an external site.\)](#) (Links to an external site.)
- [Download a PDF \(Links to an external site.\)](#) (Links to an external site.)
- [Download on iBooks \(Links to an external site.\)](#) (Links to an external site.)

You can use whichever formats you want. Web view is recommended -- the responsive design works seamlessly on any device.

Other Course Materials/Technology

Our class will rely heavily on the use of online materials. To access our course materials and homework assignments, you will need to log in to Knewton via Canvas. **Access to Knewton is a requirement for this course. Knewton costs \$44 if you buy access online. You must have access to Knewton by Friday, August 17th or you will be dropped from the course. A scientific calculator is a requirement for the course.** A phone, ipod, ipad, computer, or other device will not be allowed during a test.

Makeup Work/Late Assignments

There is a suggested timeline for units and work to be completed as laid out in Canvas and Knewton, however you have the entire semester to complete each assignment. If you work past the due date you will receive full credit. Please do not abuse this privilege as this may cause additional stress at the end of the semester. Please try to work ahead and give yourself plenty of time as material at the end of the semester becomes more difficult.

Assignment Point Values		Final Grades	
<i>Assignment</i>	<i>Value</i>	<i>Letter Grade</i>	<i>%</i>
Homework & Quizzes	35%	A	90 -100
Chapter Exams	65%	B	80 - 89.4
		C	70 - 79.4
		D	60 - 69.4
		F	0-59.4

Grading Policies/Rubrics

Please monitor your grade on Canvas. It is your responsibility to make sure that your grade is accurate. If there is a discrepancy, please email me ASAP.

ACADEMIC DISHONESTY

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.

Cheating is the act or attempted act of taking an examination or performing an assigned, evaluated task in a fraudulent or deceptive manner, such as having improper access to answers, in an attempt to gain an unearned academic advantage. Cheating may include, but is not limited to, copying from another's work, supplying one's work to another, giving or receiving copies of examinations without an instructor's permission, using or displaying notes or devices inappropriate to the conditions of the examination, allowing someone other than the officially enrolled student to represent the student, or failing to disclose research results completely.

Plagiarism is a specific form of cheating: the use of another's words or ideas without identifying them as such or giving credit to the source. Plagiarism may include, but is not limited to, failing to provide complete citations and references for all work that draws on the ideas, words, or work of others, failing to identify the contributors to work done in collaboration, submitting duplicate work to be evaluated in different courses without the

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knowledge and consent of the instructors involved, or failing to observe computer security systems and software copyrights. Incidents of cheating and plagiarism may result in any of a variety of sanctions and penalties, which may range from a failing grade on the particular examination, paper, project, or assignment in question to a failing grade in the course, at the discretion of the instructor and depending on the severity and frequency of the incidents.

NOTE: 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 or section 504 of the Rehabilitation act please contact me as soon as possible.

Please refer to SCCCD polices for guidance on all matters relating to this course.

Objectives

In the process of completing the course, the student will:

- A. Summarize and describe given data sets
- B. Apply the methods of descriptive statistics to determine the measures of central tendency and variability to a variety of problems.
- C. Apply basic principles of probability to determine probabilities of a variety of events.
- D. Analyze discrete and continuous probability distributions.
- E. Explore the basics of sampling theory.
- F. Estimate population parameters through studying confidence intervals.
- G. Examine hypothesis testing for small and large samples and multiple populations.
- H. Determine if a relationship exists between quantitative variables.

Course Outline

- A. Introduction to Statistics
 - 1. Statistical data
 - 2. Frequency distributions
 - 3. Graphs
- B. Population Parameters and Sample Statistics
 - 1. Measures of central tendency.
 - a. Mean
 - b. Median
 - c. Mode
 - 2. Measures of Variability
 - a. Standard deviation
 - b. Quartiles
 - c. Range
- C. Probability
 - 1. Rules of probability, random variables, and expected value.
 - 2. Discrete and continuous probability distributions.
 - a. Binomial Distribution
 - b. Hypergeometric Distribution
 - c. Poisson Distribution
- D. Sampling Theory
 - 1. Simple random sample
 - 2. Central Limit Theorem

- E. Estimating Population Parameters
 - 1. Estimating from a small or large sample.
 - 2. Sample size.
- F. Hypothesis Testing (Parametric/Nonparametric)
 - 1. One population, one and two sided tests.
 - z -test for means and proportions.
 - t -test for means (independent and dependent samples)
 - 2. Two populations, sampling distributions
 - 3. Chi-squared (Goodness of Fit and Contingency Tables)
 - 4. Analysis of Variance (ANOVA)
- G. Correlation and Simple Linear Regression
 - 1. Correlation coefficient
 - 2. Regression coefficient
 - 3. Test of hypothesis about the value of correlation/regression coefficient.