

**Math 11-59884, 59886**

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**Elementary Statistics**

**REEDLEY COLLEGE**

Fall 2014

**Meeting Room: SOC 31, CCI 206**

**Office hours:** M, W, Th, 10:00-10:50

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**Course Description:** Math 11 is an introduction to statistical methods 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, correlation and regression.

**Basic Skills Advisories:** English 125 and English 126

**Subject Prerequisites:** Math 103 or Equivalent

**TEXT:** Allan Bluman, Elementary Statistics: A Step by Step Approach. A Brief Version. McGraw Hill, 6<sup>th</sup> Edition, 2013.

**Notes:** Notes for this class are available in the Bookstore and are **required**. You will need to bring them with you each day to class.

**ATTENDANCE:** Students are expected to attend all class meetings, be on time, and be in class the entire class session. Calling me to tell me you will be absent **does not** excuse you. **STUDENTS LEAVING CLASS BEFORE THE END OF CLASS WILL BE COUNTED AS BEING ABSENT!** If you decide to drop the course, it is **your** responsibility to make the drop official in the Administrations and Records office or else possibly receive a grade of **F**.

**Behavioral Standards:** Your classmates and I would greatly appreciate that students in the class take care of any personal needs (i.e., using the restroom, getting a drink, sharpening a pencil) before class begins. Please turn your phone off when entering the class. You may **not** use your phone as a calculator. I would appreciate that you not bring guests to class.

**NOTE:** The drop deadline is October 10.

**HOMEWORK:** **NO LATE HOMEWORK WILL BE ACCEPTED!** When a student has not satisfactorily completed 3 homework assignments they will be dropped. Any assignment that is not done on time will receive a grade of 0%.

**TESTS:** There are no makeup exams for missed tests.

## **GRADING:**

- *Homework:* All of your homework scores will be worth the same percentage. So homework worth 10 points and homework worth 15 points will count the same. Homework percentages will be averaged to obtain a chapter homework grade. The homework will be worth 30% of the overall grade.
- *In Class Tests:* All of your in class test percentages will be averaged. In class tests are worth 70% of the overall grade.

*Example:* If your homework grade 75% and your in-class test grade is 80%, then you would compute your grade as follows:

$$(75 \times 0.30) + (80 \times 0.70) = 78.5\%$$

This would give you a grade of “C.”

<u>Percent of Total Points</u>	<u>Grade</u>
90-100	A
80-89	B
68-79	C
55-67	D
0-54	F

## **WHERE TO FIND YOUR GRADE:**

- Available at <http://sc.webgrade.classmanager.com/ReedleyCollege/> Your class will be identified by schedule number. Username and password is sent to your school email that you have on record with Blackboard.

**SPECIAL NEEDS REQUESTS:** 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.

## **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 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 a 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.

### **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 CONTENT 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) (as time permits)
- G. Correlation and Simple Linear Regression (as time permits)
1. Correlation coefficient
  2. Regression coefficient
  3. Test of hypothesis about the value of correlation/regression coefficient.

*Important Dates*

August 11	Class Begins
September 1	Labor Day
October 10	Last day to drop
November 11	Veterans Day
November 27-28	Thanksgiving
December 8 (Monday)	12:00 Class Final is from 12:00-1:50
December 10 (Wednesday)	1:05 Class Final is from 1:00-2:50

**The final is a test. Be sure you plan to be there!**