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Math 11-53209: Statistics
Class meets: TTh (12:00-12:50) RM# CCI 201
Text: Essentials of Statistics with Course Compass, Triola, 4th ed.,
ISBN-10: 0321641493 or ISBN-13: 9780321641496
Prerequisite: Math 103.
Basic Skills Advisories: Eligibility for English 126.

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.

Expectations / Responsibilities

Instructor

- Provide a classroom climate in which the student takes responsibility for learning.
- Provide the necessary instruction and model the quality of work to be successful in Math 11.
- Clearly communicate progress being made in a timely fashion.
- Cancelled classes will be posted on Blackboard and the Reedley College website.

Student

- Follow the class rule – **Be Nice**.
- Complete assignments on **Course Compass** by the due date.
- Only ***enrolled students*** may attend class.
- Be in each class on time with ***full participation*** from ***start to finish***.
- Study Statistics daily.
- Learn the material that is taught and ***seek additional assistance*** when necessary.
- Promptly communicate any class related issues.
- As per Reedley College policy – **NO FOOD OR BEVERAGES** in the classroom.
- Students are responsible for officially dropping the class.

Attendance

- Be on time every day.
- If you are tardy, verify that you have been marked present.
- Leaving early may be counted as an absence.
- You may be dropped if you have more than 3 absences.

Important Dates

September 3, 2010	F	Last day to register for a full-term fall class
September 3, 2010	F	Last day to drop a fall full-term class to avoid a "W"
September 17, 2010	F	Last day to change a class to/from Pass/No Pass
October 15, 2010	F	Last day to drop a full-term class to avoid a grade
December 14, 2010	T	***Final Exam***

Grading

Scale **A** 90-100% **B** 80-89% **C** 70-79% **D** 60-69%

***Tests* 70%** There will be four equally weighted Tests. There are **no make-up tests**. A test may be taken early with prior approval.

***Homework* 20%** A majority of the homework assignments will be completed on Course Compass. Written assignments will be collected as assigned.

***Quizzes* 10%** Quizzes may be online or in class. There are **no make-up quizzes**.

There is **no extra credit**.

Academic Dishonesty

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 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 policies 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.