

Elementary Statistics

Math 11-56446

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REEDLEY COLLEGE

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Meeting Days: MTTHF: 1:00-1:50pm/CCI-200

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.

PREREQUISITE

Successful completion (grade of C or better) of Math 103

TEXT: Mario Triola, Essentials of Statistics, 4th Edition.

MATERIALS NEEDED

- ❖ One to two Spiral Notebooks
- ❖ 3-ring binder
- ❖ Pencil(s)
- ❖ Scientific Calculator- TI 83 Plus (OPTIONAL)
- ❖ Access Code to Course Compass (MyLab/Mastering)
- ❖ Internet Connection: Cable/DSL, T1 or other high-speed connection. Dial-up will greatly limit the resources you will be able to access from the online courseware.

HOMEWORK

- ❖ Homework is assigned on a regular basis at www.coursecompass.com as well as in class. You may work ahead if you like. It is important to stay current to be successful in the course! Each assignment has a due date. Homework that is submitted late will be penalized by 25% of the points possible.
- ❖ Any written problems and exercises assigned in class must be worked out thoroughly, completely and neatly, otherwise the work will not receive full credit.
- ❖ Being absent on the day homework is due does not excuse you from the late submission penalty.

QUIZZES

There will be in-class homework quizzes given on a random basis. These quizzes will be worth 10 points each and will be given during the first five minutes of class. Any students who are not in their seats when the quiz is handed out will not be allowed to take the quiz and will receive a grade of zero for that quiz. There will be no makeup quizzes for students coming in late during a quiz or for students absent on the day of a quiz.

ATTENDANCE

Attendance is not optional. Students are expected to attend all class meetings, be on time, and be in class the entire class session. Two tardies can be counted as an absence. Eight (8) absences may result in a drop from the course. However, if you decide to drop the course, it is your responsibility to make the drop official in the Admissions and Records office or else possibly receive a grade of F.

TESTS

Six (6) unit exams, worth 100 points each, will be given. There are NO MAKEUPS for missed tests. NO EXCEPTIONS!! If you absolutely must be absent on the day a test is scheduled, you may discuss with me the possibility of taking the test early.

FINAL EXAM

A two hour comprehensive final exam worth 100 points will be given at the end of the semester during final exams week. This final exam is mandatory and will count as a regular exam. The final may be used to replace a low test score or a missed test. The final may not be used to replace the homework grade or quiz grade.

GRADING: Homework will be 20% of the final course grade. Quizzes will be 10% of the final course grade. The six chapter exams will be 60% of the final course grade. Final Exam will be 10% of the final course grade.

Example: If your homework average is 90, the average of your quizzes is 75 and the average of your chapter exams is 75 and final is 80, then you would compute your grade as follows:
 $(.20)(85) + (.10)(75) + (.60)(75) + (.10)(80) = 17 + 7.7 + 45 + 8 = 77.7$

Your grade will then be determined by the following grading scale:

<u>Percent of Total Points</u>	<u>Grade</u>
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

BLACKBOARD: This course will utilize blackboard for announcements, handouts, assignments, etc. You can access blackboard from the Reedley College homepage or at <http://blackboard.reedleycollege.edu> . Your login and password to blackboard is as follows:

Login ID: "your student ID#"

Password: "your student ID#"

SPECIAL NEEDS REQUEST

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

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 in the course. For the college policy on cheating and plagiarism, see the college catalog.

CHEATING AND PLAGIARISM

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. 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. **Cheating** and **Plagiarism** 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.

COUSE 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.

Important Dates

August 13 (M)	Start of Fall semester
August 24 (F)	Last day to drop a full-term class for a full refund
August 31 (F)	Last day to register for a full-term fall class in person
August 31 (F)	Last day to drop a fall full-term class to avoid a "W" in person
September 3 (M)	Last day to drop a fall full-term class to avoid a "W"
September 3 (M)	Labor Day holiday (no classes held, campus closed)
September 14 (F)	Last day to change a Fall 2012 class to/from a Pass/No-Pass grading basis
October 12 (F)	Last day to drop a full-term class (letter grades assigned after this date)
November 12 (M)	Veterans Day observed (no classes held, campus is open)
Nov 22-23 (Th-F)	Thanksgiving holiday (no classes held, campus closed)
Dec 10-14 (M-F)	Final exams week

Note: The syllabus is subject to change under the discretion of the instructor.