

Elementary Statistics

Math 11-56446

Rajwant Kaur

Office Hours: By Appointment

E-Mail: rajwant.kaur@reedleycollege.edu

REEDLEY COLLEGE

Fall 2011

Meeting Room: CCI 200

Meeting Days: M-TH 12:00-12:50pm

COURSE DESCRIPTION: This 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.

Basic Skills Advisories: Eligibility for ENGL 125 and 126

Subject Prerequisites: Math 103 or Equivalent

TEXT: (OPTIONAL) Mario F. Triola, Essentials of Statistics, Pearson Addison Wesley Publishing, 4th Edition.

Required Web Access: Course Compass can be purchased from the bookstore with text or from www.coursecompass.com . Course ID: _____.

MATERIALS NEEDED:

- Notebooks or 3-ring binder
- Pencil(s)
- Calculator
- Access Code to Course Compass
- **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 coursework.

ATTENDANCE: Students are expected to attend all class meetings, be on time, and be in class the entire class session. **STUDENTS LEAVING CLASS BEFORE THE END OF CLASS WILL BE COUNTED AS BEING ABSENT!** You will lose **five (5) participation points for each absence** and **three (3) points for each tardy. Three (3) absences** may result in a drop from the course. Students are responsible for officially dropping the class. However, 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 during class or on tests. I would appreciate that you not bring guests to class. Please be respectful of other students' questions and comments. As per Reedley College policy, no food or beverages are permitted in the classroom.

TARDIES:

Students are expected to be on time. It is distracting, rude and unfair to fellow classmates and to the instructor when a student is late. If you are not present when roll is taken it is your responsibility to inform the instructor you are here.

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 10% of the points possible. Being absent on the day homework is due does not excuse you from late submission penalty.**
- Any written problems and exercises assigned in class must be worked out thoroughly, completely and neatly, otherwise the work will not receive full credit.
- When working on homework, you do not have to complete an entire assignment during one session. If you need to stop while in the middle of an assignment, simply hit the save icon and the program will save your work. You can then come back to the assignment at another time and continue from where you left off.

TESTS: There will be 5-6 chapter tests in this class worth of 100 point each. All exams are weighted equally. There are no makeup exams for missed tests but one of lowest score test or missing test will be drop at the end. You may use a 3"x 5" card with handwritten notes on your test. You may use a scientific calculator or a graphing calculator on the tests and with your homework.

FINAL EXAM: A two-hour comprehensive final exam will be given at the end of the semester during finals week. Final exam is mandatory and is worth 10% of your final grades. The final may not be used to replace the homework grade or quiz grade.

GRADING:

- ***HOMEWORK:*** All of your homework scores will be added up and divided by the total possible points for the semester. This number is then multiplied by 100 to give a score between 0 and 100.
- ***TESTS:*** All of your test percentages will be averaged. This will give you a score between 0 and 100.
- Your homework grade is worth 20% of your final grades. Your test score is worth 70 of your final grades. Your final exam is worth 10% of your grade.

Example: If your homework grade is 75, your test grade is 85, and final exam score is 80, then you would compute your grade as follows:

$$(.20)(75) + (.70)(85) + (.10)(80) = 15 + 58.5 + 8 = 81.5$$

<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

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.

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 15 th	Classes Begins
September 2 nd	Last Day to Drop without receiving a “W”
September 5 th	Labor day (No Class)
October 14 th	Last day to drop without receiving a letter grade
November 11 th	Veterans Day (No Class)
November 24 th – 25 th	Thanksgiving holiday
December 12 th -16 th	December 14, 2011

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