

Math 211-59663 Elementary Statistics

Semester/Year: Fall 2018

Units: 5

Location: FEM 4

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 meets every day Monday through Friday from 1-1:50pm.

Prerequisite: Math 250, 252 or equivalent

Final Exam: Wednesday, Dec. 12, 1-2:50pm

Welcome to Pre-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

Pre-statistics, a non-STEM course, covers core algebra skills needed to understand the concepts, formulas, and graphs used in transfer-level statistics. Pre-statistics integrates numeracy, proportional reasoning, algebraic reasoning, and functions. This course develops conceptual and procedural tools that support the use of key mathematical concepts in statistics in a variety of contexts. This course is NOT intended for math, science, computer science, business, or engineering majors.

Textbook Jay Lehmann, [A Pathway to Introductory Statistics](#), Pearson, 1st Edition, 2016

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 MyMathLab via Canvas. If you have purchased a new textbook, it has an access code included. If you purchased your textbook used, you will need to purchase an access code to use this site. If needed, you can purchase an access code in the campus bookstore or you can purchase it on the website using a credit card or paypal. **Access to MyMathLab is a requirement for this course. You must have access to MyMathLab 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

As policy, I will not accept late homework assignments. If there are extraordinary circumstances that are out of your control that require you to access and submit your homework after the due date, alternatives will be considered. In nearly all cases, it is possible to plan ahead of time, contact me, and make arrangements.

Assignment Point Values		Final Grades	
<i>Assignment</i>	<i>Value</i>	<i>Letter Grade</i>	<i>%</i>
Homework & Quizzes	20%	A	90 -100
Chapter Exams	60%	B	80 - 89.4
Final Exam	20%	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 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 SCCCDD polies for guidance on all matters relating to this course.

Objectives

In the process of completing this course, students will:

- A. Practice basic calculations with numbers and simplify polynomials recognizing order of operations.
- B. Solve and simplify algebraic and linear equations and inequalities.
- C. Create and interpret statistical graphs including pie charts, histograms, and scatter plots.
- D. Graph linear functions.
- E. Simplify basic radicals in a statistical context.
- F. Interpret slopes and y-intercepts of linear equations.

Course Outline

1. Perform operations with real numbers with and without calculators. Perform simple polynomial operations.
 - A. Number Systems and Operations
 - B. Addition, subtraction, multiplication and division of real numbers
 - C. Calculator techniques, square roots, square roots with summation notation, recognizing order of operations in statistical formulas, factorials.
 - D. Ordering and converting decimals, percentages and fractions.
 - E. Rounding concepts.
 - F. Add like terms and perform simple operations with polynomials. - necessary topics for statistical formulas. (Weighted Mean, etc.)
 - G. Multiplication and division with exponents – necessary items for statistical formulas.
2. Simplify algebraic expressions and solve linear equations and inequalities
 - A. Simplifying expressions
 - B. Substitution into statistical formulas that are algebraic in nature.
 - C. Solving equations using the addition and multiplication properties of equality
 - D. Applying the addition and multiplication properties to solve formulas
 - E. Applying the addition and multiplication properties to solve inequalities
 - F. Solving equations with fractions
 - G. Solving proportions
3. Create and Interpret Statistical Graphs
 - A. Measures of central tendencies
 - B. Measures of spread
 - C. Multiple statistical graphs, bar charts, histograms, pie charts, scatter plot, box plots, normal curve, etc.
 - D. Extract information from graphs and tables - Complement rule
 - E. Inequalities related to area under the normal curve.
 - F. Statistics applications. Designing observational studies and experiments.

4. Graph linear equations in two variables.
 - A. Finding solutions to linear equations in two variables
 - B. Finding axis intercepts and using them to graph a equation
 - C. The equation of a line, linear models, regression, linear function notation, making predictions.
 - D. Applications - Describing points, slope in context, and intercepts using complete sentences.
 - E. Calculate vertical deviation of a point from the line

6. Simplify radical expressions in a statistical context.
 - A. Rational exponents – $\frac{1}{2}$, $\frac{1}{3}$, geometric mean and growth rates for exponential functions.
 - B. Simplified form for radicals

7. Optional Topics (if time permits) Generalize arithmetic and geometric sequences and find the kth term of a binomial expansion.
 - A. Binomial Expansion, Pascal's Triangle
 - B. Probability – combinations and permutations, sample space, independent and dependent events
 - C. Standard Deviation
 - D. Exponential Functions and logarithms – regression and discussion of growth rates. Geometric Mean.
 - E. Expose students to playing cards and board games to learn about probability concepts (suits, face cards, dice).
 - F. Reading cumulative standard normal distribution tables.