Math 1333: Elementary Statistics
Spring 2018 Syllabus

Disclaimer
This syllabus is current and accurate as of its posting date, but will not be updated. For the most complete and up-to-date course information, contact the instructor.

Instructor Information
Shayla Hoffman
Office: Glen Rose High School, Room 106
Phone: (254) 898-3822
Email: hoffsh@grisd.net

Office Hours
Monday-Thursday: 7:15-7:45, 3:35-4:10
Friday: 7:15-7:45 (or by appointment)

Major Course Requirements

Tests
We will have at least three tests and a cumulative final examination. The exact dates and coverage of these tests will be announced in class. However, you can expect a test after the completion of two chapters of material. The final exam will be held the week of May 10th. Make-up tests must be discussed with the instructor before the test date.

Daily Work
Daily work will consist primarily of traditional homework problems. Late work is not accepted.

Calculations
Each six weeks grade will count as 25% of your final grade. Your final examination will be the remaining 25%. Then 90 and above is an A, 80-89 is a B, 70-79 is a C, 60-69 is a D, and less than 60 is an F.
Student Learning Outcomes

1. Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in statistics including definitions of measures of central tendency; standard deviation; standardized variable; regression line; coefficient of determination; normally distributed variable; sampling distribution of the mean; sampling distribution of the proportion; point estimate; confidence interval estimate; null hypothesis; alternative hypothesis; critical value; and test statistic.

2. Students will identify and apply the laws and formulas that result directly from the definitions; for example, calculation of measures of central tendency; standard deviations; coefficients of determination; critical values and test statistics.

3. Students will use the facts, formulas, and techniques learned in this course to find regression equations for data collected; use regression equations to make predictions; calculate probabilities; find confidence intervals for means and proportions; and perform a variety of hypothesis tests.

4. Students will acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring statistics as a prerequisite, or for work in occupational fields requiring a background in statistics. These fields might include education, business, finance, marketing, computer science, physical sciences, and nursing, as well as further study in other statistics courses.

Required Texts or Readings


Chapter 1 Exploring Data
1.1 Displaying Distributions with Graphs
1.2 Describing Distributions with Numbers

Chapter 2 The Normal Distributions
2.1 Density Curves and the Normal Distributions
2.2 Standard Normal Calculations

Chapter 3 Examining Relationships
3.1 Scatterplots
3.2 Correlation
3.3 Least-Squares Regression

Chapter 5 Producing Data
5.1 Designing Samples
5.2 Designing Experiments
5.3 Simulating Experiments
Chapter 6 Probability: The Study of Randomness
6.1 The Idea of Probability
6.2 Probability Models
6.3 General Probability Rules

Chapter 7 Random Variables
7.1 Discrete and Continuous Random Variables
7.2 Means and Variances of Random Variables

Chapter 8 The Binomial and Geometric Distributions
8.1 The Binomial Distributions
8.2 The Geometric Distributions

Chapter 9 Sampling Distributions
9.1 Sampling Distributions
9.2 Sample Proportions
9.3 Sample Means

Chapter 10 Introduction to Inference
10.1 Estimating with Confidence
10.2 Tests of Significance
10.3 Making Sense of Statistical Significance
10.4 Inference as Decision

11.1 Inference for the Mean of a Population
12.1 Inference for a Population Proportion
13.1 Test for Goodness of Fit

Subject Matter

We will be studying the basics of descriptive statistics, probability, and inferential statistics.
The subject matter schedule listed below is tentative, and subject to change and adaptation.
For current, updated information about course topics, contact the instructor.

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Core Curriculum Student Learning Objectives

- Core Objective (Critical Thinking): Develop and demonstrate a logical position (i.e. perspective, thesis, hypothesis) that acknowledges ambiguities or contradictions. (CT2)
  - Course Student Learning Objective: Students will calculate probabilities, find confidence intervals, and perform a variety of hypothesis tests.
  - Assessment: Assessment exam that demonstrates CT2.
- Core Objective (Communication): Develop, interpret, and express ideas through effective visual communication. (CS3)
  - Course Student Learning Objective: Students will create, interpret, and draw conclusions from histograms, box plots, and scatter plots.
  - Assessment: Assessment exam that demonstrates CS3.
- Core Objective (Empirical and Qualitative Skills): Manipulate and analyze numerical data and arrive at an informed conclusion. (EQS1)
  - Course Student Learning Objective: Students will use the facts, formulas, and techniques learned in this course to find regression equations; use regression equations to make predictions.
  - Assessment: Assessment exam that demonstrates EQS1.

Accommodations for Disabilities

Persons with disabilities which may warrant academic accommodations must contact the Office of Student Services in Suite 112, Houston Harte University Center (325) 942-2047 (studentservices@angelo.edu) in order to request such accommodations prior to any accommodations being implemented. You are encouraged to make this request early in the semester so that appropriate arrangements can be made.

Absences for Religious Holy Days

Any student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence.
Honor Code

Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for understanding the Academic Honor Code, which is available on the web at http://www.angelo.edu/forms/pdf/honorcode5.pdf