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 information contact the instructor.

Instructor Information

Dr. Jerry Blankenship
Room 20
Phone 325-248-3086
Email: jblankenship@san-saba.net

Office Hours

8:40-9:30 or by appointment

Major Course Requirements

Tests
We will have two exams and a cumulative final examination. The exact dates and coverage of the exams will be announced in class. However, as a planning guide, you may expect to take the first exam the seventh week of the semester and the second exam the twelfth week of the semester. The final exam will be held during the last week of regularly scheduled classes.

There are no make-up exams. To compensate for unavoidable circumstances, however, if it helps you, I will replace your lowest exam score with your final exam score. Also, I will drop your lowest quiz grade.

Daily Work
Daily work will consist of traditional pencil and paper exercises. A quiz will be taken at the end of each chapter.

Grade Calculations
Your homework average will count 15%, quizzes 15%, each test 20%, and the final exam, 30% (50% if it replaces your lowest test grade). 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 demonstrate factual knowledge including the mathematical notation and terminology used in this course. Students will read, interpret, and use the vocabulary, symbolism, and basic definitions used in statistics including measures of central tendency; standard deviation; standardized variable; regression; coefficient of determination; normally distributed variable; sampling distribution of the mean; sampling distribution of the proportion; point estimate; confidence interval; null hypothesis; alternative hypothesis; critical value and test statistic.

2. Students will describe the fundamental principles including the laws and theorems arising from the concepts covered in this course. Students will identify and apply the laws and formulas that result from the definitions; for example, calculation of measures of central tendency; coefficients of determination; critical values and test statistics.

3. Students will apply course material along with techniques and procedures covered in this course to solve problems. Students will use the facts, formulas, and techniques learned in this course to, among other things, use regression equations to make predictions, calculate probabilities, find confidence intervals and perform hypothesis tests.

4. Students will develop specific skills, competencies, and thought processes sufficient to support further study or work in this or related fields. Students will acquire a level of proficiency in the fundamental concepts and applications necessary for further study in academic areas requiring elementary 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, the physical sciences, and engineering, as well as further study in statistics.

Required Texts or Readings


1. The Nature of Statistics
   1.1 Statistics Basics
   1.2 Simple Random Sampling

2. Organizing Data
   2.1 Variables and Data
   2.2 Organizing Qualitative Data
   2.3 Organizing Quantitative Data
   2.3 Distribution Shapes
   2.5 Misleading Graphs

3. Descriptive Measures
3.1 Measures of Center
3.2 Measures of Variation
3.4 The Five-Number Summary; Boxplots
3.5 Descriptive Measures for Population; Use of Samples

4. Descriptive Methods in Regression and Correlation
4.1 Linear Equations with One Independent Variable
4.2 The Regression Equation
4.3 The Coefficient of Determination
4.4 Linear Correlation

5. Probability and Random Variables
5.1 Probability Basics
5.2 Events
5.3 Some Rules of Probability
5.4 Discrete Random Variables and Probability Distributions
5.5 The Mean and Standard Deviation of a Discrete Random Variable

6. The Normal Distribution
6.1 Introducing Normally Distributed Variables
6.2 Areas Under the Standard Normal Curve
6.3 Working with Normally Distributed Variables
6.4 Assessing Normality; Normal Probability Plots

7. The Sampling Distribution of the Sample Mean
7.1 Sampling Error; the Need for Sampling Distributions
7.2 The Mean and Standard Deviation of the Sample Mean
7.3 The Sampling Distribution of the Sampling Mean

8. Confidence Intervals for One Population Mean
8.1 Estimation a Population Mean
8.2 Confidence Intervals for One Population When $\sigma$ is Known
8.3 Confidence Intervals for One Population When $\sigma$ is Unknown

9. Hypothesis Tests for One Population Mean
9.1 The Nature of Hypothesis Testing
9.2 Critical-Value Approach to Hypothesis Testing
9.4 Hypothesis Tests for One Population When $\sigma$ is Known
9.5 Hypothesis Tests for One Population When $\sigma$ is Unknown

11. Inferences for Population Proportions
11.1 Confidence Intervals for One Population Proportion
11.2 Hypothesis Tests for One Population Proportion

12. Chi-Square Procedures
12.1 The Chi-Square Distribution
12.2 Chi-Square 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 information about course topics and schedules, contact the instructor.

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Honor Code
Angelo State University Students shall maintain complete honesty and integrity in their academic pursuits. The University expects all students to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity in their academic experiences both in and out of the classroom.