MATH 1342 NON-STEM
Elementary Statistical Methods

Western Texas College

I. Basic Course Information
   A. MATH 1342 Course Description: Collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals, and hypothesis testing. Use of appropriate technology is recommended.
   B. Any required prerequisites: A grade of C or higher in MATH 0302 or placement by college entrance exam scores.
   C. Advancement Via Individual Determination (AVID) learning strategies will be implemented periodically throughout the course.
   D. This course has been designed to prepare students whose chosen field of study requires a NON-STEM mathematical pathway.
   E. Project Base Learning (PBL) is an active learning method in which students gain knowledge and skill by investigating and responding to a tangible, engaging and complex question, problem or challenge.
   F. Online course content is administered through the college's learning management system (LMS), Moodle, also called eCampus. A link to Moodle can be found on mywtc.edu or the college's home page, www.wtc.edu (the big M with a graduation cap).

II. Student Learning Outcomes
   A. Explain the use of data collection and statistics as tools to reach reasonable conclusions.
   B. Recognize, examine and interpret the basic principles of describing and presenting data.
   C. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics.
   D. Explain the role of probability in statistics.
   E. Examine, analyze and compare various sampling distributions of both discrete and continuous random variables.
   F. Describe and compute confidence intervals.
   G. Solve linear regression and correlation problems.
   H. Perform hypothesis testing using statistical methods.

III. Course Requirements
   A. Major Requirements—All major requirements must be proctored.
      1. In-Class Participation
      2. Unit Exams
      3. Midterm Exam
      4. Final Exam
   B. Minor Requirements
      1. Binder Checks
      2. Homework
      3. Quizzes

4. Projects

IV. Testing Requirements
   A. Students are NOT allowed to use their book or notes of any kind while completing major requirements.

V. Information on Books and Other Course Materials
   A. Required Book: Elementary Statistics Using the TI-83/84 Plus Calculator 4th Edition by Mario Triola. Book ISBN: 9780321953841
   B. Calculators: A TI-84 or higher is strongly recommended. The TI-89, TI-Inspire with CAS or any other calculator with CAS capability are not permitted.

VI. Other Policies, Procedures and important dates: Please refer to the WTC Course Catalog for the following:
   A. Campus Calendar
   B. Final exam schedule
   C. How to drop a class
   D. Withdrawal information
   E. Student Conduct
   F. Academic Integrity
   G. Class Attendance
   H. Students with disabilities

VII. Planned Course of Study

Chapters and Sections to be covered throughout the semester	
Chapter 1: Introduction to Statistics	1.1 Review and Preview 1.2 Statistical and Critical Thinking 1.3 Types of Data 1.4 Collecting Sample Data 1.5 Introduction to the TI-83/84 Plus Calculator
Chapter 2: Summarizing and Graphing Data	2.1 Review and Preview 2.2 Frequency Distributions 2.3 histograms 2.4 Graphs that Enlighten and Graphs that Deceive
Chapter 3: statistics for Describing, Exploring, and Comparing Data	**3.1 Review and Preview** **3.2 Measures of Center** 3.3 Measures of Variation 3.4 Measures of Relative Standing and Boxplots
Chapter 4: Probability	4.1 Review and Preview 4.2 Basic Concepts of Probability 4.3 Addition Rule 4.4 Multiplication Rule: Basics 4.5 Multiplication Rule: Complements and Conditional Probability 4.6 Counting

Chapter 5: Discrete Probability Distributions	5.1 Review and Preview 5.2 Probability Distributions 5.3 Binomial Probability Distributions 5.4 Parameters for Binomial Distributions
Chapter 6: Normal Probability Distributions	6.1 Review and Preview 6.2 The Standard Normal Distribution 6.3 Applications of Normal Distributions 6.4 Sampling Distributions and Estimators 6.5 The Central Limit Theorem 6.6 Assessing Normality 6.7 Normal as Approximation to Binomial
Chapter 7: Estimates and Sample Size	7.1 Review and Preview 7.2 Estimating a Population Proportion 7.3 Estimating a Population Mean 7.4 Estimating a Population Standard Deviation of Variance
Chapter 8: Hypothesis Testing	8.1 Review and Preview 8.2 Basics of Hypothesis Testing 8.3 testing a Claim about a Proportion 8.4 Testing a Claim about a Mean 8.5 Testing a Claim about a Standard Deviation or Variance
Chapter 9: Inferences from Two Samples	9.1 Review and Preview 9.2 Two Proportions 9.3 Two Means: Independent Samples 9.4 Two Dependent Samples (Matched Pairs) 9.5 Two Variances or Standard Deviations
Chapter 10: Correlation and Regression	10.1 Review and Preview 10.2 Correlation 10.3 Regression 10.4 Prediction Intervals and Variation 10.5 Multiple Regression 10.6 Nonlinear regression

Disclaimer: Schedule and content is subject to change at the instructor's discretion.

Last Modified: August 23, 2019