MATH-11-52004-GONG-23SU (5/22/2023 – 6/30/2023)
Class meets: 100% Online Asynchronous
Office Hours: By Appointment

Course Materials
• **Textbook:** Elementary Statistics: Picturing the World, 7th ed by Larson & Farber • MyLab access through *CANVAS is REQUIRED* and can be purchased directly from Pearson. See the **Student Registration Handout** for instructions. • A hardcopy of the textbook is optional. • Please use Excel and the free online Stats Calculator.

4 Units, 4 Lecture Hours	
Prerequisite: Math 103 or equivalent	**Advisories**:English 1A or 1AH
Description Math 11 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. (A, CSUGE, UC, I) (C-ID MATH 110)	

Expectations / Responsibilities
Instructor • Motivate and inspire student success. • Provide a climate in which the student takes responsibility for learning. • Provide instruction and model the quality of work to be successful in Math 11. • Clearly communicate progress being made in a timely fashion. *Student* • Follow the class rule – *Be Nice*. • **INVEST** the necessary time to learn the material and *seek additional assistance* when necessary. • Promptly *communicate* any class related issues and *follow up as needed*.

You may be dropped if:
• You violate the class rule. • You are inactive on Canvas/MyLab for more than TWO consecutive days. • You are not making satisfactory progress at the drop deadline.

Grading	**A** 90-100%	**B** 80-89%	**C** 70-79%	**D** 60-69%
Tests *70%*	Tests are not equally weighted. Point values per problem will vary. No test retakes or makeups. Tests have a 110-minute time limit and must be completed in a single session.			
Quizzes *10%*	Quizzes are not equally weighted. Point values per problem will vary. A prerequisite quiz score is required prior to attempting the chapter test. There is no limit to the number of times a quiz may be attempted.			
Homework *20%*	Homework is not equally weighted. A prerequisite homework score is required prior to attempting the chapter quiz.			
*Grades may be accessed in MyLab.				

Important Dates		
May 22, 2023	MON	First day of class
May 28, 2023	SUN	Last day to **ADD or DROP** a class OR "**W**"
June 10, 2023	SAT	Last day to **DROP**.

Course Objectives

In the process of completing the course, the student will:

1. Summarize and describe given data sets
2. Apply the methods of descriptive statistics to determine the measures of central tendency and variability to a variety of problems.
3. Apply basic principles of probability to determine probabilities of a variety of events.
4. Analyze discrete and continuous probability distributions.
5. Explore the basics of sampling theory.
6. Estimate population parameters through studying confidence intervals.
7. Examine hypothesis testing for small and large samples and multiple populations.
8. Determine if a relationship exists between quantitative variables.

Course Content

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.

Student Learning Outcomes *are statements about what the discipline faculty hope you will be able to do at the end of the course. This is NOT a guarantee: the ultimate responsibility for whether you will be able to do these things lies with you, the student. In addition, the assessment of Student Learning Outcomes is done by the department in order to evaluate the program as a whole, and not to evaluate individual faculty performance.*

CSLOs

- **MATH-11 SLO1:** Organize, analyze, and utilize appropriate methods to draw conclusions based on sample data by using tables, graphs, measures of central tendency, and measures of dispersion.

- **MATH-11 SLO2:** Apply concepts and terminology of statistics.

- **MATH-11 SLO3:** Implement the rules of probability.

- **MATH-11 SLO4:** Collect data, interpret and communicate the results using statistical analyses such as confidence intervals, hypothesis tests, and regression analysis.

ACADEMIC DISHONESTY

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 the **Reedley College Catalog** and **SCCCD Trustee Policies & Regulations** for guidance on all matters relating to this course.*