

Elementary Statistics – MATH 1342-GR1
Instructor: Kathi Ash

Office Hours: Monday – Friday, 7:15 – 7:50 AM
Office – Room 107

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COURSE DESCRIPTION: The purpose of this course is to help students master basic statistical concepts and techniques and to provide real-life opportunities for applying them.

PRE-REQUISITE: High school Algebra II and fulfill TSI requirements.

TEXTBOOK: Elementary Statistics, Weiss, 9th edition.

STUDENT LEARNING OUTCOMES

1. The Nature of Statistics
 - a. Statistics Basics
 - b. Simple Random Sampling
 - c. Other Sampling Designs
 - d. Experimental Design
2. Organizing Data
 - a. Variables and Data
 - b. Organizing Qualitative Data
 - c. Organizing Quantitative Data
 - d. Distribution Shapes
 - e. Misleading Graphs
3. Descriptive Measures
 - a. Measures of Center
 - b. Measures of Variation
 - c. Chebyshev's Rule and the Empirical Rule
 - d. The Five-Number Summary; Boxplots
 - e. Descriptive Measures for Populations; Use of Samples
4. Descriptive Methods in Regression and Correlation
 - a. Linear Equations with One Independent Variable
 - b. The Regression Equation
 - c. The Coefficient of Determination
 - d. Linear Correlation
5. Probability, Random Variables, and Sampling Distributions
 - a. Probability Basics
 - b. Events
 - c. Some Rules of Probability
 - d. Discrete Random Variables and Probability Distributions

- e. The Mean and Standard Deviation of a Discrete Random Variable
 - f. The Binomial Distribution
6. The Normal Distribution
 - a. Introducing Normally Distributed Variables
 - b. Areas under the Standard Normal Curve
 - c. Working with Normally Distributed Variables
 - d. Assessing Normality; Normal Probability Plots
 7. The Sampling Distribution of the Sample Mean
 - a. Sampling Error; The Need for Sampling Distributions
 - b. The Mean and Standard Deviation of the Sample Mean
 - c. The Sampling Distribution of the Sample Mean
 8. Confidence Intervals for One Population Mean
 - a. Estimating a Population Mean
 - b. Confidence Intervals for One Population Mean When σ is Known.
 - c. Confidence Intervals for One Population Mean when σ is Unknown.
 9. Hypothesis Tests for One Population Mean
 - a. The Nature of Hypothesis Testing
 - b. Critical-Value Approach to Hypothesis Testing
 - c. P-Value Approach to Hypothesis Testing
 - d. Hypothesis Tests for One Population Mean When σ is Known.
 - e. Hypothesis Tests for One Population Mean When σ is Unknown.

EVALUATION STANDARDS:

These course objectives and student learning outcomes will be assessed through the administration of a minimum of 3 in-class exams (60%), quizzes and/or homework (20%) and a comprehensive final exam (20%). Calculators will not be allowed on the final exam.

GRADING KEY:

100-90 = A 89-80 = B 79-70 = C 69-60 = D 59-below = F

GRADING STANDARDS:

- A - Student's work is exceptional and consistently above average.
- B - Student's work is above average. Required assignments were completed in a timely manner and have met at least the minimum required standards.
- C - Student's work is acceptable. Majority of assignments meet the minimum required standards.
- D - Student's work fails to meet the minimum requirements for a grade of "C." Overall performance was sub-standard in comparison to normal expectations for this class.
- F - Student's work is clearly unacceptable. Student either did not attempt the work or failed to meet any of the minimum required standards.

STUDENT DISABILITY SERVICES

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA), and subsequent legislation.

The Office of Student Affairs is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability, and it is the student's responsibility to initiate such a request by contacting:

Ms. Dallas A. Swafford
Director of Student Disability Services
•325-942-2047
•dallas.swafford@angelo.edu
•Houston Harte University Center

TITLE IX STATEMENT

Angelo State University is committed to the safety and security of all students. If you or someone you know experience sexual harassment, sexual assault, domestic or dating violence, stalking, or discrimination, you may contact ASU's Title IX Coordinator:

Michelle Nicole Boone, J.D.
Director of Title IX Compliance
•Michelle.boone@angelo.edu
•325-486-6357
•Mayer Administration Building 204

STUDENT ABSENCE FOR OBSERVANCE OF RELIGIOUS HOLY DAYS

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

INCOMPLETE GRADE POLICY

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

STUDENT CONDUCT POLICIES

ACADEMIC INTEGRITY

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

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for originality via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

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