

Elementary Statistical Methods (MATH 1342 9S1, 9S2, and 9S3)

INSTRUCTOR CONTACT INFORMATION

Instructor: Mrs. K. Herrera

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Office Location: Silsbee High School room 232

Office Hours: Monday through Friday 3:30 to 4:00 pm



**LAMAR INSTITUTE
OF TECHNOLOGY**

Join Remind!

1st Period: @shs1-mrsh

2nd Period: @shs2-mrsh

4th Period: @shs4-mrsh

CREDIT

3 Semester Credit Hours (3 hours lecture)

MODE OF INSTRUCTION

Face-to-Face

PREREQUISITE/CO-REQUISITE:

A score of 350 or above on the TSI-Assessment placement test or a "C" or better in TMTH 0375.

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.

COURSE OBJECTIVES

Upon completion of this course, the student will be able to

- Explain the use of data collection and statistics as tools to reach reasonable conclusions.
- Recognize, examine, and interpret the basic principles of describing and presenting data.
- Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinations.
- Explain the role of probability in statistics.
- Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables.
- Describe and compute confidence intervals.
- Solve linear regression and correlation problems.
- Perform hypothesis testing using statistical methods.

CORE OBJECTIVES

- Critical Thinking Skills: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Communication Skills: To include effective development, interpretation and expression of ideas through written, oral, and visual communication.
- Empirical and Quantitative Skills: To include manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

REQUIRED TEXTBOOK AND MATERIALS

- The online textbook may be found at <https://openstax.org/details/books/introductory-statistics>
- WebAssign Access Code
 - May be purchased online at <https://www.webassign.net/>
- A basic scientific calculator: *please check with Mrs. Herrera as to the specific type of calculator required.*

ATTENDANCE POLICY

Attendance is **mandatory**. If you are late, you will be marked tardy. Three (3) tardies will be counted as an absence. If you are more than 10 minutes late, you will be counted absent. If you leave class early, you will be counted absent. If you are sleeping or inattentive in class, you will be counted absent.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the [Academic Calendar](#). If you stop coming to class and fail to drop the course, you will earn an “F” in the course.

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16- week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

COURSE CALENDAR

DATE	TOPIC	ASSIGNMENTS (Due on this Date)
8/26-8/30	Orientation (Optional) Section 1.1 Definitions of Statistics, Probability, and Key Terms..... Section 1.2 Data, Sampling, and Variation in Data and Sampling..... Section 1.3 Frequency, Frequency Tables, and Levels of Measurement Section 1.4 Experimental Design and Ethics.....	Optional Tuesday, September 3 Tuesday, September 3 Tuesday, September 3 Tuesday, September 3
9/2-9/6	Section 2.1 Stem-and-Leaf Graphs, Line Graphs, and Bar Graphs Section 2.2 Histograms, Frequency Polygons, and Time Series Graphs Section 2.3 Measure of the Location of the Data.... Section 2.4 Box Plots	Tuesday, September 10 Tuesday, September 10 Tuesday, September 10 Tuesday, September 10
9/9-9/13	Section 2.5 Measures of the Center of the Data Section 2.6 Skewness and Mean, Median, and Mode..... Section 2.7 Measures of the Spread of the Data	Tuesday, September 17 Tuesday, September 17 Tuesday, September 17
9/16-9/20	Exam 1 Section 12.2 Scatter Plots..... Section 12.3 The Regression Equation Section 12.5 Prediction.....	Tuesday, September 17 Wednesday, September 25 Wednesday, September 25 Wednesday, September 25

9/23-9/27	Section 3.1 Terminology Section 3.2 Independent and Mutually Exclusive Events..... Section 3.3 Two Basic Rules of Probability.....	Tuesday, October 1 Tuesday, October 1 Tuesday, October 1
9/30-10/4	Section 4.1 Probability Distribution Function for a Discrete Random Variable Section 4.2 Mean or Expective Value and Standard Deviation..... Section 4.3 Binomial Distribution.....	Tuesday, October 8 Tuesday, October 8 Tuesday, October 8
10/7-10/11	Exam 2 Section 6.1 The Standard Normal Distribution..... Section 6.2 Using the Normal Distribution.....	Tuesday, October 8 Wednesday, October 16 Wednesday, October 16
10/14-10/18	Section 7.1 The Central Limit Theorem for Sample Means Section 7.2 The Central Limit Theorem for Sums.... Section 7.3 Using the Central Limit Theorem.....	Tuesday, October 22 Tuesday, October 22 Tuesday, October 22
10/21-10/25	Section 8.1 A Single Population Mean using the Normal Distribution Section 8.2 A Single Population Mean using the Student t Distribution Section 8.3 A Population Proportion.....	Tuesday, October 29 Tuesday, October 29 Tuesday, October 29
10/28-11/1	Exam 3 Section 9.1 Null and Alternative Hypothesis Section 9.2 Outcomes and the Type I and Type II Errors..... Section 9.3 Distributions Needed for Hypothesis Testing.....	Tuesday, October 29 Tuesday, November 5 Tuesday, November 5 Tuesday, November 5
11/4-11/8	Section 9.4 Rare Events, the Sample, Decision, and Conclusion..... Section 9.5 Additional Information and Full Hypothesis Test Examples Experiment.....	Tuesday, November 12 Tuesday, November 12 Friday, November 8
11/11-11/15	Section 10.1 Two Population Means with Unknown Standard Deviations..... Section 10.2 Two Population Means with Known Standard Deviations..... Section 10.3 Comparing Two Independent Population Proportions.....	Tuesday, November 19 Tuesday, November 19 Tuesday, November 19
11/18-11/22	Section 10.4 Matched or Paired Samples..... Section 10.5 Hypothesis Testing for Two Means and Two Proportions	Tuesday, December 3 Tuesday, December 3
12/2-12/6	Final Review	Tuesday, December 10
12/9-12/11	Final Exam	Tuesday, December 10 and Wednesday, December 11

subject to change with or without notice

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Exams 60%
- Course Assignments..... 20%
- Core Assessment..... 20%

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

LIT does not use +/- grading scales

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at

<http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty>.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at <https://lit.edu/online-learning/online-learning-minimum-computer-requirements>. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at [Special Populations - Lamar Institute of Technology \(lit.edu\)](#).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

You may expect a response to emails within 24 hours. For emails sent after 3:30 pm on Friday, you may expect a response Monday morning. I will not accept late work for this course. All exams must be taken on the day they are assigned. For any unusual situations, please email or send me a Remind message. My preferred method of contact is Remind.