Elementary Statistical Methods (MATH 1342-9M1)
Online

LAMAR INSTITUTE OF TECHNOLOGY

INSTRUCTOR CONTACT INFORMATION

Instructor: Alfred de la Rosa, Jr.

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Office Phone: (409) 247-4757

Office Location: Building TA5, Room 103

Office Hours: Monday: 11:00 am-2:00 pm
Tuesday: 12:30 pm-1:00 pm; 2:30 pm-3:30 pm
Wednesday: 10:00 am-2:00 pm
Thursday: 12:30 pm-1:00 pm; 2:30 pm-3:30 pm
Friday: 10:00 am-1:00 pm

CREDIT
3 Semester Credit Hours (3 hours lecture, 0 hours lab)

MODE OF INSTRUCTION
Online

PREREQUISITE/CO-REQUISITE:
TSI Complete in Mathematics

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

Approved: Initials/date

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

REQUIRED TEXTBOOK AND MATERIALS
1. *MyStatLab* standalone access
   a. ISBN 9780135780121
2. A basic scientific calculator. No graphing calculators or cell phone calculators are permitted. Graph paper and a ruler.

ATTENDANCE POLICY
Since this course is taught online, it takes a lot of discipline and self-starting qualities to complete and pass it. Therefore, it is necessary to keep up with assignments by working on them daily, if needed, in order to meet deadlines and not fall behind. It is also very important for students to check for email and announcements from their instructor. Students should check for these daily so that they are up-to-date on information about the course regarding assignments, exams, etc.

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	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
1-21-25	Course Policies and Introductions; Netiquette; MyStatLab Orientation and Registration; Online Contract	Course Policies and Introductions; Netiquette; MyStatLab Orientation and Registration; Online Contract **Tuesday, January 21, 2025**	Course Introductions; Netiquette and MyStatLab Orientation; MyStatLab Registration; Online Contract **Sunday, January 26, 2025**
1-27-25	Section 1.1: Introduction to Statistics Section 1.2: Observational Studies and Designed Experiments	Section 1.1 Notes Section 1.2 Notes **Monday, January 27, 2025**	MyStatLab, Section 1.1 MyStatLab, Section 1.2 **Sunday, February 2, 2025**
2-3-25	Section 1.3: Simple Random Sampling Section 1.4: Other Effective Sampling Methods	Section 1.3 Notes Section 1.4 Notes **Monday, February 3, 2025**	MyStatLab, Section 1.3 MyStatLab, Section 1.4 **Sunday, February 9, 2025**
2-10-25	Section 1.5: Bias in Sampling Section 1.6: Design of Experiments	Section 1.5 Notes Section 1.6 Notes **Monday, February 10, 2025**	MyStatLab, Section 1.5 MyStatLab, Section 1.6 **Sunday, February 16, 2025**
2-17-25	Section 2.1: Organizing Qualitative Data Section 2.2: Organizing Quantitative Data: Popular Displays Section 2.3: Additional Displays of Quantitative Data Section 2.4: Graphical Misrepresentations of Data	Section 2.1 Notes Section 2.2 Notes Section 2.3 Notes Section 2.4 Notes **Monday, February 17, 2025**	MyStatLab, Section 2.1 MyStatLab, Section 2.2 MyStatLab, Section 2.3 MyStatLab, Section 2.4 **Sunday, February 23, 2025**
2-24-25	Section 3.1: Measures of Central Tendency Section 3.2: Measures of Dispersion	Section 3.1 Notes Section 3.2 Notes **Monday, February 24, 2025**	MyStatLab, Section 3.1 MyStatLab, Section 3.2 **Sunday, March 2, 2025**
3-3-25	Section 3.4: Measures of Position and Outliers Section 3.5: The Five-Number Summary and Boxplots	Section 3.4 Notes Section 3.5 Notes **Monday, March 3, 2025**	MyStatLab, Section 3.4 MyStatLab, Section 3.5 **Sunday, March 9, 2025**
3-17-25	Section 4.1: Scatter Diagrams and Correlation Section 4.2: Least Squares Regression	Section 4.1 Notes Section 4.2 Notes **Monday, March 17, 2025**	MyStatLab, Section 4.1 MyStatLab, Section 4.2 **Sunday, March 23, 2025**

3-24-25	Section 5.1: Probability Rules Section 5.2: The Addition Rule and Complements Section 5.3: Independence and the Multiplication Rule	Section 5.1 Notes Section 5.2 Notes Section 5.3 Notes **Monday, March 24, 2025**	MyStatLab, Section 5.1 MyStatLab, Section 5.2 MyStatLab, Section 5.3 **Sunday, March 30, 2025**
3-31-25	Section 6.1: Discrete Random Variables Section 6.2: The Binomial Probability Distribution	Section 6.1 Notes Section 6.2 Notes **Monday, March 31, 2025**	MyStatLab, Sections 6.1 MyStatLab, Section 6.2 **Sunday, April 6, 2025**
4-7-25	Section 7.1: Properties of the Normal Distribution Section 7.2: Applications of the Normal Distribution	Section 7.1 Notes Section 7.2 Notes **Monday, April 7, 2025**	MyStatLab, Section 7.1 MyStatLab, Section 7.2 **Sunday, April 13, 2025**
4-14-25	Section 8.1: Distribution of the Sample Mean Section 8.2: Distribution of the Sample Proportion	Section 8.1 Notes Section 8.2 Notes **Monday, April 14, 2025**	MyStatLab, Section 8.1 MyStatLab, Section 8.2 **Sunday, April 20, 2025**
4-21-25	Section 9.1: Estimating a Population Proportion Section 9.2: Estimating a Population Mean Section 9.3: Estimating a Population Standard Deviation	Section 9.1 Notes Section 9.2 Notes Section 9.3 Notes **Monday, April 21, 2025**	MyStatLab, Section 9.1 MyStatLab, Section 9.2 MyStatLab, Section 9.3 **Sunday, April 27, 2025**
4-28-25	Section 10.1: The Language of Hypothesis Testing Section 10.2: Hypothesis Tests for a Population Proportion	Section 10.1 Notes Section 10.2 Notes **Monday, April 28, 2025**	MyStatLab, Section 10.1 MyStatLab, Section 10.2 **Sunday, May 4, 2025**
5-5-25	Section 10.3: Hypothesis Tests for a Population Mean Section 10.4: Hypothesis Tests for a Population Standard Deviation	Section 10.3 Notes Section 10.4 Notes **Monday, May 5, 2025**	MyStatLab, Section 10.3 MyStatLab, Section 10.4 **Sunday, May 11, 2025**

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 accessed 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

1. The student must purchase all required course materials.
2. The student will be expected to have access to the internet and a computer.
3. Students will take five proctored tests using pencil, paper, and an approved scientific calculator. Any student violating testing policies during an exam will receive a grade of 0 on the exam.
4. A final grade of Incomplete will only be given if a student is passing the course and is missing only one major assignment. Such an arrangement must be made with the instructor. An incomplete assignment must be finished during the next long semester or a grade of "I" will become an "F."