Elementary Statistical Methods (MATH 1342-922) Online

INSTRUCTOR CONTACT INFORMATION

Instructor: Alfred de la Rosa, Jr.

Email: adelarosa@lit.edu

Office Phone: (409) 247-4757

Office Location: Building TA5, Room 102

Office Hours: Monday: 9:00 am-12:00 pm, 2:00 pm-3:00 pm
Tuesday: 9:00 am-9:30 am, 1:00 pm-3:00 pm
Wednesday: 9:00 am-12:00 pm, 2:00 pm-3:00 pm
Thursday: 9:00 am-9:30 am, 1:00 pm-3:00 pm
Friday: 9:00 am-11:00 am

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* access code package (standalone)
    a. May be purchased online at **www.mystatlab.com**
    b. May be purchased at a local bookstore:
    Pearson ISBN number 9780135780275 (18-week access) or
    Pearson ISBN number 9780136679516 (24-month access)
2. Scientific calculator--no graphing calculators or calculators on cell phones, tablets, etc., are allowed.

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)
1-17-23	Course Policies and Introductions; MyMathLab Orientation and Registration; Online Contract; Practice Test; Section 1.1: Introduction to Statistics	Course Policies and Introductions; MyMathLab Orientation and Registration; Online Contract; Practice Test; Section 1.1 Notes Wednesday, January 18, 2023	Course Introductions; MyMathLab Orientation and Registration; Online Contract; Practice Test Sunday, January 22, 2023; MyStatLab, Section 1.1 Tuesday, January 24, 2023
1-23-23	Section 1.2: Observational Studies and Designed Experiments Section 1.3: Simple Random Sampling	Section 1.2 Notes Monday, January 23, 2023; Section 1.3 Notes Wednesday, January 25, 2023	MyStatLab, Sections 1.2 and 1.3 Sunday, January 29, 2023
1-30-23	Section 1.4: Other Effective Sampling Methods Section 1.5: Bias in Sampling	Section 1.4 Notes Section 1.5 Notes Monday, January 30, 2023	MyStatLab, Sections 1.4 and 1.5 Tuesday, January 31, 2023
2-1-23	Section 1.6: Design of Experiments Section 2.1: Organizing Qualitative Data	Section 1.6 Notes Section 2.1 Notes Wednesday, February 1, 2023	MyStatLab, Section 1.6 Sunday, February 5, 2023
2-6-23	Section 2.2: Organizing Quantitative Data: Popular Displays Section 2.3: Additional Displays of Quantitative Data Section 2.4: Graphical Misrepresentations of Data	Section 2.2 Notes Section 2.3 Notes Section 2.4 Notes Wednesday, February 8, 2023	Exam I Monday, February 6, 2023; MyStatLab, Sections 2.2-2.4 Sunday, February 12, 2023
2-13-23	Section 3.1: Measures of Central Tendency Section 3.2: Measures of Dispersion Section 3.4: Measures of Position and Outliers Section 3.5: The Five-Number Summary and Boxplots	Section 3.1 Notes Section 3.2 Notes Monday, February 13, 2023; Section 3.4 Notes Section 3.5 Notes Wednesday, February 15, 2023	MyStatLab, Sections 3.1- 3.2 Tuesday, February 14, 2023; MyStatLab, Sections 3.4-3.5 Sunday, February 19, 2023
2-20-23	Section 4.1: Scatter Diagrams and Correlation	Section 4.1 Notes Wednesday, February 22, 2023	Exam II Monday, February 20, 2023; MyStatLab, Section 4.1 Tuesday, February 28, 2023

2-27-23	Section 4.2: Least Squares Regression Section 5.1: Probability Rules Section 5.2: The Addition Rule and Complements	Section 4.2 Notes Monday, February 27; Section 5.1 Notes Section 5.2 Notes Wednesday, March 1, 2023	MyStatLab, Sections 4.2 and 5.1 Sunday, March 5, 2023; MyStatLab, Section 5.2 Tuesday, March 7, 2023
3-6-23	Section 5.3: Independence and the Multiplication Rule	Section 5.3 Notes Monday, March 6, 2023	MyStatLab, Section 5.3 Tuesday, March 7, 2023; Exam III Wednesday, March 8, 2023
3-20-23	Section 6.1: Discrete Random Variables Section 6.2: The Binomial Probability Distribution	Section 6.1 Notes Monday, March 20, 2023; Section 6.2 Notes Wednesday, March 22, 2023	MyStatLab, Sections 6.1-6.2 Sunday, March 26, 2023
3-27-23	Section 7.1: Properties of the Normal Distribution Section 7.2: Applications of the Normal Distribution	Section 7.1 Notes Monday, March 27, 2023; Section 7.2 Notes Wednesday, March 29, 2023	MyStatLab, Sections 7.1-7.2 Sunday, April 2, 2023
4-3-23	Section 8.1: Distribution of the Sample Mean Section 8.2: Distribution of the Sample Proportion	Section 8.1 Notes Section 8.2 Notes Wednesday, April 5, 2023	Exam IV Monday, April 3, 2023; MyStatLab, Section 8.1 Sunday, April 9, 2023; MyStatLab, Section 8.2 Tuesday, April 11, 2023
4-10-23	Section 9.1: Estimating a Population Proportion Section 9.2: Estimating a Population Mean	Section 9.1 Notes Monday, April 10, 2023; Section 9.2 Wednesday, April 12, 2023	MyStatLab, Section 9.1 Sunday, April 16, 2023; MyStatLab, Section 9.2 Tuesday, April 18, 2023
4-17-23	Section 9.3: Estimating a Population Standard Deviation	Section 9.3 Notes Monday, April 17, 2023;	MyStatLab, Section 9.3 Thursday, April 20, 2023; Exam V Friday, April 21, 2023
4-24-23	Section 10.1: The Language of Hypothesis Testing Section 10.2: Hypothesis Tests for a Population Proportion	Section 10.1 Notes Monday, April 24, 2023; Section 10.2 Notes Wednesday, April 26, 2023	MyStatLab, Section 10.1 Wednesday, April 26, 2023; MyStatLab, Section 10.2 Sunday, April 30, 2023
5-1-23	Section 10.3: Hypothesis Tests for a Population Mean Section 10.4: Hypothesis Tests for a Population Standard Deviation	Sections 10.3 Notes Monday, May 1, 2023; Sections 10.4 Notes Wednesday, May 3, 2023	MyStatLab, Section 10.3 Tuesday, May 2, 2023; MyStatLab, Section 10.4 Thursday, May 4, 2023; Exam VI Friday, May 5, 2023

COURSE EVALUATION
Final grades will be calculated according to the following criteria:

- Course Assignments 40%
- Online Exams 60%

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.

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 will be expected to have access to the internet and a computer.
2. A webcam and microphone are required for submitting online tests. This means that each student will be recorded while taking his or her exams. Any student violating testing policies during an exam will receive a grade of 0 on the exam.
3. 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."