

Statistics MATH_1342

CREDIT

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

MODE OF INSTRUCTION

Online

PREREQUISITE/CO-REQUISITE:

TSI Complete for Math

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.

CORE OBJECTIVES MEASURED

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.

Approved: Initials/date



**LAMAR INSTITUTE
OF TECHNOLOGY**

INSTRUCTOR CONTACT INFORMATION

Instructor: Chris Sams

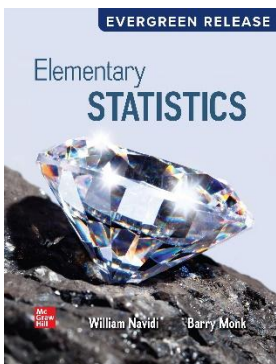
Email: casams@lit.edu

Office Phone: 409-247-5186

Office Location: TC Rm. 240

Office Hours: M: 9:30am-12:00pm; 1:30pm-2:30pm
W: 11:00am-12:00pm; 1:30pm-2:30pm
TR: 8:00am-9:20am; 1:50pm-2:30pm
F: 9:30am-12:00pm

REQUIRED TEXTBOOK AND MATERIALS



ALEKS *Elementary Statistics*. Physical textbook not required. Online **subscription to ALEKS is required** and comes with eBook. This is included in the ELE bundle, or you may purchase subscriptions directly from ALEKS.

If opted out Aleks subscriptions vary, 6-month \$99.95

Materials:

Paper, pencils, and a calculator, access to a computer with internet access.

ATTENDANCE POLICY

Attendance is required, online students should login and work on assignments 2-3 times per week, minimum.

DROP POLICY

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

COURSE CALENDAR

<i>Week Of:</i>	<i>Sec</i>	<i>Topic</i>	<i>Homework in ALEKS:</i>
Aug. 24		Self introduction (Blackboard)	
	1.1	Sampling	
	1.2	Types of Data	
Aug. 31	1.3	Design of Experiments	
	2.1	Graphical Summaries for Qualitative Data	
Sept. 7	2.2	Frequency Distributions and Their Graphs	
	2.3	More Graphs for Quantitative Data	
Sept. 14	3.1	Measures of Center	
	3.2	Measures of Spread	
Sept. 21	3.3	Measures of Position	
		EXAM I Ch.1-3	
Sept. 28	4.1	Correlation	
	4.2	The Least-Squares Regression Line	
Oct. 5	4.3	Limitations of Least-Squares Regression Line	
	5.1	Basic Concepts of Probability	
	5.2	The Addition Rule and Rule of Complements	
Oct. 12	5.3	Conditional Probability and Multiplication Rule	
	5.4	Counting	
Oct. 19	6.1	Random Variables	
	6.2	The Binomial Distribution	
	6.3	The Poisson Distribution	
Oct. 26	7.1	The Standard Normal Curve	
	7.2	Applications of the Normal Distribution	
Nov. 2		Test II Ch.4-7	
		Core Assessment Due	
Nov. 9	8.1	Confidence Intervals for Mean, Sigma Known	
	8.2	Confidence Intervals for Mean, Sigma Unknown	
	8.3	Confidence Intervals for a Population Proportion	
Nov. 16	8.4	Confidence Intervals for a Standard Deviation	
	8.5	Determining Which Method to Use	
	9.1	Basic Principles of Hypothesis Testing	
Nov. 23	9.2	Hypothesis Test for Pop. Mean, Sigma Known	
	9.3	Hypothesis Test for Pop. Mean Sigma Unknown	
Nov. 25-27		Thanksgiving Break Campus Closed	
Nov. 30	9.4	Hypothesis Test for Proportions	
	9.5	Hypothesis Test for a Standard Deviation	
Dec. 4		Test III Ch.8-9	
		Final Exam	

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Test 60%
- Assignments 20%
- Final Exam 20%
 - o Core Assessment (20% of Final Exam)

GRADE SCALE

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

TECHNICAL REQUIREMENTS

For the latest technical requirements, including hardware, compatible browsers, operating systems, etc., review the Minimum Computer and Equipment Requirements on the [LIT Online Experience](#) page. 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

Math AI Policy

- **No AI tools, apps, software, etc. are to be used on any work that is scored, graded, assessed, etc.**
 - o **This includes all homework, exams, tests, projects, assessments, quizzes, discussions, etc.**
- **Failure to follow these guidelines (as deemed by the instructor) may be considered academic dishonesty and will be managed by instructor discretion or for exams, the Math testing policy.**

Math Testing Policy

- **All online Math courses will use Respondus Lockdown Browser and Monitor. This means students will be recorded when taking exams and will need a webcam and microphone.**
- **If a student is suspected of cheating, such as with AI use or other cheating methods, the student will be given a zero on the exam. The student will have one week of being notified to have a meeting with the instructor either face to face in the instructor's office or through an online method through such means as Microsoft Teams or Zoom.**

During this meeting, the student may be asked to work out problems or even the entire test in front of the instructor to adjust the student's grade.

- If the student is caught using AI or the student fails to meet with instructor within one week of notification or the student is unable to complete the work on the exam with instructor present, a zero will be given for that exam or assignment, and there will be no opportunity for a redo.