# Statistics (MATH 1342-9M2)

LAMAR INSTITUTE OF TECHNOLOGY

**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**

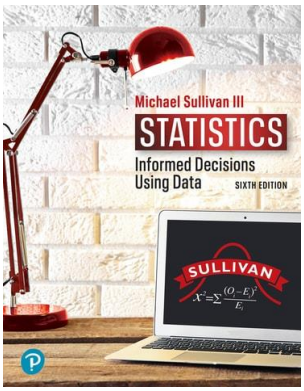
1. **Critical Thinking Skills**: To include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
2. **Communication Skills**: To include effective development, interpretation and expression of ideas through written, oral, and visual communication.
3. **Empirical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

Approved: Initials/date

**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-11:00am<br>MW: 1:30pm-2:30pm<br>TR: 8:00am-9:20am; 10:50am-12:10pm; 1:40pm-2:30pm<br>F: 8:00am-11:00am |


**REQUIRED TEXTBOOK AND MATERIALS**




MyLab Statistics with Pearson eText (18 Weeks) for Statistics: Informed Decisions Using Data
ISBN-13: 9780135780121

MyLab Statistics with Pearson eText (24 Months) for Statistics: Informed Decisions Using Data with Integrated Review
ISBN-13: 9780136662105

1. 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**

| *Week Of:* | *Sec* | *Topic* | *Homework due:* |
|---|---|---|---|
| 1/21 | | Self introduction (Blackboard) | |
| | 1.1 | Getting Started | 2/21 |
| | 1.2 | Data Classification | 2/21 |
| 1/27 | 1.3 | The Process of a Statistical Study | 2/21 |
| | 2.1 | Frequency Distributions | 2/21 |
| 2/3 | 2.2 | Graphical Displays of Data | 2/21 |
| | 2.3 | Analyzing Graphs | 2/21 |
| | 3.1 | Measures of Center | 2/21 |
| 2/10 | 3.2 | Measures of Dispersion | 2/21 |
| | 3.4 | Measures of Position | 2/21 |
| | 3.5 | The Five Number Summary | 2/21 |
| 2/17 | | **EXAM I Ch.1-3** | 2/21 |
| | 4.1 | Scatter Diagrams and Correlation | 4/11 |
| 2/24 | 4.2 | Least Squares Regression | 4/11 |
| 3/3 | 5.1 | Probability Rules | 4/11 |
| 3/17 | 5.2 | Addition Rule and Complements | 4/11 |
| | 5.3 | Independence and Multiplication Rule | 4/11 |
| | 6.1 | Discrete Randon Variables | 4/11 |
| 3/24 | 6.2 | Binomial Probability Distribution | 4/11 |
| | 6.3 | Poisson Probability Distribution | 4/11 |
| | 6.4 | Hypergeometric Probability Distribution | 4/11 |
| 3/31 | 7.1 | Properties of the Normal Distribution | 4/11 |
| | 7.2 | Applications of the Normal Distribution | 4/11 |
| 4/7 | | **Test II Ch.4-7** | **4/11** |
| | | **Core Assessment Due** | **4/11** |
| | 8.1 | Distribution of the Sample Mean | 5/2 |
| 4/14 | 8.2 | Distribution of the Sample Proportion | 5/2 |
| | 9.1 | Estimating a Population Proportion | 5/2 |
| | 9.2 | Estimating a Population Mean | 5/2 |
| 4/21 | 9.3 | Estimating a Population Standard Deviation | 5/2 |
| | 10.1 | Language of Hypothesis Testing | 5/2 |
| | 10.2 | Hypothesis Testing for Population Proportions | 5/2 |
| 4/28 | 10.3 | Hypothesis Testing for Population Means | 5/2 |
| | 10.4 | Hypothesis Testing for Population Standard Deviation | 5/2 |
| | | **Test III Ch.8-10** | **5/2** |
| | | | |
| **5/4** | | **Final Exam** | **5/10** |

**COURSE EVALUATION**

Final grades will be calculated according to the following criteria:

- Test 60%
- Assignments 20%
- Core Assessment 20%

**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**

# Mr. Sams Additional Information

## My Teaching Philosophy

I believe that all students can learn. If you've never been good at math that does not mean you never will be good at math. With proper guidance and practice you can learn anything. The way you practice sports or practice learning a musical instrument is the same practice we must adopt to learn mathematics. No one learned to ride a bike by listening to lectures, you had to practice and endure falls and crashes. I'm here to help you and hopefully explain topics and concepts in such a way that it's easy to digest. However, you must practice if you want to learn.

## What To Expect from Instructor Sams:

- Response to email within 24 (except Friday after noon and weekends). Please add name course and section to email and text so that I can Identify you
- Flexible office hours/ virtual help when needed. (Schedule an appointment with me if my offered hours do not work for you)
- Grade updates within a week of syllabus due date (Please wait until a week of submission/syllabus due date before inquiring about a grade)
- Extra credit opportunities

## Student Behavior Expectations:

- Seek help from instructor early and often, do not wait until the last minute!
- Plan ahead; if you will miss an exam, make prior arrangements to take it early or schedule a make-up date at instructors' convenience
- When sending emails identify yourself with class and section
- Participate in class lecture/discussions.
- Keep in mind that each student comes from a different cultural background and brings a different set of beliefs and values. As a result, students may disagree on various topics during discussion. Disagreements can lead to critical thinking and deeper understanding, therefore be respectful of other class members and different opinions. Disrespect for others will not be tolerated.
- You are adults, you will be treated as such. If you need to excuse yourself from class for work call, personal family call, or restroom etc. Please do so quietly with minimal disruptions. Please know that you are responsible for any information that you miss during your absence.