

# Lamar University

## Department of Mathematics

MATH 1342-49F Elementary Statistics (3 hour course)  
Spring 2017 Syllabus  
Online

**Instructor:** Brian Gillespie  
**Office:** Lucas 111  
**Phone:** 409-880-2210 (only available during office hours)  
**Office Hours:** Monday-Thursday: Online via BlackBoard Course Mail Only  
Fridays: 10:00am-12:00 pm \*Subject to Change

**Text:** Statistics: Informed Decisions Using Data by Michael Sullivan III,  
Pearson, 5th Edition  
Code for Pearson's MyStatsLab—Required  
Blackboard – Course Announcements

**Prerequisites:** 350 TSI, TSI Exempt, or TSI Complete

**NOTICE: NOTICE:** This Online Course will use Pearson's MyStatsLab. Please note that your instructor does not work for Pearson, and cannot fix any technical issues that occur with the MyStatsLab website. If you encounter a problem on MyStatsLab, contact Pearson support (<http://www.pearsonmylabandmastering.com/northamerica/students/support/index.html>).

**Catalog Description:** Non-calculus based introduction to statistics, statistical measures of data, statistical description of data, elementary probability, random variables, binomial and normal distributions, estimation, testing hypotheses. Prepares for: MATH 3370 Offered: Fall, Spring, Summer

**MATH 1342 Learning Outcomes:** Upon completion of the course, students will:

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;
9. Demonstrate skills necessary for analyzing and summarizing data;
10. Define probability and probability distributions, particularly the normal distribution;
11. Distinguish between descriptive and inferential statistics and apply the concept of hypothesis testing;

12. Define statistics, discuss data types, contrast qualitative and quantitative data, and examine common applications of data analytical methods using real-world examples and data;
13. Develop procedures for listing and grouping quantitative data, both in tabular and graphical format;
14. Introduce the concept of probability and probability distributions, including the binomial and normal distributions;
15. Illustrate the concept of random samples and sampling distributions (of the mean) as a transition from descriptive to inferential statistics;
16. Distinguish between a sample and a population;
17. Calculate point and (confidence) interval estimates for a population mean using a large sample.
18. Present methods for hypothesis testing of a population mean using a large sample;
19. Present methods for hypothesis testing of differences between two population means.
20. Present methods for analyzing data from normal populations;
21. Describe (via calculation and graphs) statistical relationships between two variables.

**Core Curriculum Outcomes:** Upon completion of this course, the student will demonstrate his or her abilities to think critically, communicate quantitative information, and apply mathematical concepts:

1. **Critical Thinking:** Develop a logical, consistent plan to solve a problem, recognize consequences of the solution, and articulate a reason for choosing solution method.
2. **Communication Skills:** Use and present quantitative information in connection with an argument or problem solution and explicate it in an effective format.
3. **Empirical and Quantitative:** Construct and present a detailed problem statement with evidence of relevant contextual factors and possible approaches for solving the problem, then implement a solution and review the results.

**Major Course Components:** This is an online course, which requires MyStatsLab. Students must sign up for the course at <http://www.pearsonmylabandmastering.com>. Students will need the course code, which can be found on the course's BlackBoard page at the start of the semester, to register for the course. They will also need to purchase an access code. This code comes with new copies of the class textbook. However, students may purchase an access code on the MyStatsLab website.

Homework will be assigned each Monday, Wednesday, and Friday; each assignment will be due in one week and MyStatsLab will be set to close the homework assignment at 11:30 PM (Central Time Zone) on the due date.

There will be three exams and a final exam; the highest three grades will be used for the test average; Hawkes will be set to close the exam at 11:30 PM (Central Time Zone) on the due date. NOTE: No work is automatically submitted for grading. The student must click the submission button before 11:30 PM (Central Time Zone) on the due date. **There will be no exceptions allowed on due dates.**

**Extensions will not be granted for any reason once a homework assignment or test is closed.**

**Contacting the Instructor:** All communications will be done through the "Course Mail" section on the course's BlackBoard page. Any message sent through this method will reach the instructor, and inform him which class the message is from. E-mails are not preferred, as they tend to not reach the instructor in a timely manner.

**Grading Policies:** The final grade will be computed by the average points earned on three tests (60%), and percentage of points earned on homework (40%). Late work will not be allowed. The final grade will be based on the following scale: 90% A, 80% B, 70% C, 60% D, below 60% F.

A grade of INCOMPLETE may be granted in the case of a documented medical emergency, within the last four weeks of the semester and only if the student is passing. If an INCOMPLETE is granted, the student will be required to provide a written plan for completion of the course.

**Attendance Policy:** Attendance will not be taken for this course. This class will not meet on campus. All students are expected to enroll on MyStatsLab no later than the second week of class.

**Final Exam:** The final exam is optional if the student has an average at or above 70%. The final will be made available at 5:00 pm on Tuesday, December 5. Anyone taking the final must have it submitted by 4:59 pm on Thursday, December 7. The final is comprehensive, meaning it covers the entire course.

While I have made a sincere effort to ensure that this syllabus is correct, changes may be required. I will announce any substantive changes in a Blackboard announcement. If you find an error or omission, please advise me at once so that the other members of the class may be advised.

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Important Information for Students

Lamar University expressly prohibits intimidation and harassment of students, faculty, staff, or applicants. <http://students.lamar.edu/academic-support/code-of-conduct.html>

**Drop Policy:** Please make note of the three dates indicated in this drop policy. Any drop will be your responsibility; I will not drop a student from the course.

***September 13, 2017:*** (Census Date-Six Drop Rule does not apply) A student may drop or withdraw without consulting with the instructor. The Six Drop Rule does not apply to a drop before 5:00 PM.

***September 29, 2017:*** (Six Drop Rule applies) A student may drop or withdraw from the course without academic penalty and receive a Q, however, the Six Drop Rule applies. The student will consult with the instructor and the Records Office to initiate a drop.

***November 3, 2017:*** (Six Drop Rule applies) Last day to drop or withdraw with academic penalty; the student must be passing the course at the time of the requested drop in order to receive a Q. The drop form, including all required signatures, must arrive in the Records Office by no later than 4:00 PM. No drop is allowed after this date except in extreme extenuating circumstances. Any “late drop” must be approved by the instructor, department chair, college dean, and provost.

**Academic Integrity:** Students are expected to maintain complete honesty and integrity in their academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. Students are specifically warned against all forms of cheating and plagiarism. The *Lamar University Student Handbook* clearly reads: “Any student found guilty of academic dishonesty in any phase of academic work will be subjected to disciplinary action. Punishable offenses include, but are not limited to, cheating on an examination or academic work which is to be submitted, plagiarism, collusion, and the abuse of source materials.” One aspect of the *Handbook’s* definition of cheating includes “purchasing or otherwise acquiring and submitting as one’s own work any research paper or other writing assignment prepared by an individual or firm.” Plagiarism is defined as “the appropriation and the unacknowledged incorporation of another’s work or ideas into one’s own and submitted for credit.” Faculty members in the College of arts and Sciences investigate all cases of suspected plagiarism. Any student who is found cheating in this course will receive a course grade of F. <http://students.lamar.edu/student-handbook.html>

**Accommodations through the Disability Resource Center:** Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at [409-880-8347](tel:409-880-8347) or [drc@lamar.edu](mailto:drc@lamar.edu) to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course.

<http://www.lamar.edu/disability-resource-center/>

**Incomplete Grades:** The grade of "I" may be given when any requirement of the course, including the final examination, is not completed. Arrangements to complete deficiencies in a course should be made with the instructor prior to the end of the semester or term. Incomplete work must be finished during the next long semester or the Records Office will change the "I" to the grade of "F." While the extension may be granted by the instructor with the approval of his/her Department Chair and Academic Dean, once the "I" is changed to an "F" it cannot be changed back to an "I." In this case, either a "change of grade" procedure must be initiated or the course must then be repeated if credit is desired. The instructor may record the grade of "F" for a student who is absent from the final examinations and is not passing the course.

**Campus Closure:** In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to login to Lamar University's website's homepage for instructions about continuing courses remotely. <http://lamar.edu>

**Emergency Procedures:** Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at:

<http://www.lamar.edu/about-lu/administration/risk-management/index.html>

Following are procedures for the first two:

**Severe Weather:**

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

**Violence/Active Shooter:**

- **CALL** - 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

**Course Evaluations:** You will have an opportunity to evaluate all aspects of this course in a formal process to be completed online near the end of the term. You will receive an email reminder through your LU account.

## Mathematics 1342 – Elementary Statistics

Assn	Sect	Topic
1	1.1	Introduction to the Practice of Statistics
2	1.2	Observational Studies versus Designed Experiments
3	1.3	Simple Random Sampling
4	2.1	Organizing Qualitative Data
5	2.2	Organizing Qualitative Data: The Popular Displays
6	2.3	Additional Displays of Quantitative Data
7	3.1	Measures of Central Tendency
8	3.2	Measures of Dispersion
9	3.3	Measures of Central Tendency and Dispersion from Grouped Data
10	3.4	Measures of Position and Outliers
11	3.5	The Five-Number Summary and Boxplots
<b>Exam 1</b>		
12	5.1	Probability Rules
13	5.2	The Addition Rule and Complements
14	5.3	Independence and the Multiplication Rule
15	5.4	Conditional Probability and the General Multiplication Rule
16	5.5	Counting Techniques
17	6.1	Discrete Random Variables
18	6.2	The Binomial Probability Distribution
19	7.1	Properties of the Normal Distribution
20	7.2	Applications of the Normal Distribution
21	7.3	Assessing Normality
22	7.4	The Normal Approximation to the Binomial Probability Distribution
<b>Exam 2</b>		
23	8.1	Distribution of the Sample Mean
24	8.2	Distribution of the Sample Proportion
25	9.1	Estimating a Sample Proportion
26	9.2	Estimating a Sample Mean
27	10.1	The Language of Hypothesis Testing
28	10.2	Hypothesis Tests for a Population Proportion
29	10.3	Hypothesis Tests for a Population Mean
<b>Exam 3</b>		