



Math 1342.135CL
Elementary Statistical Methods
Summer 2022
STEAM Building, Room 107
MTWTHF 9:15-10:50am

Instructor Information: Theophilus, Boye, tboye@com.edu, 409-933-8758

Student hours: Monday, Tuesday, Wednesday, Thursday: 11:00am-12:00pm;
location: STEAM 325-3

Required Textbook/Materials: Minimally, you are required to purchase the access code for MyMathLab to access the eText for the textbook and all course assignments. A hard copy of the textbook is recommended, but not required.

ISBN: 9780134856254

Title: Statistics: Informed Decisions Using Data with Integrated Review, Books a la Carte Edition plus MyStatLab with Pearson eText

Author: Michael Sullivan

Edition: 5

Copyright: 2017

Publisher: Pearson

Course Description: This course includes collection, analysis, presentation, and interpretation of data and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals, and hypothesis testing.

Course requirements:

- **Homework:** Homework assignments will be given each week for every section covered in the course. Homework assignments will count as 15% of your final grade.
- **Quizzes:** Six quizzes will be given. Cumulatively, the quizzes will count as 10% of your final grade.
- **Unit Exams:** Four exams will be given, and you will be provided with a review to prepare for each exam. Each test will count as 15% of your grade.
- **Final Exam:** The comprehensive final exam will be given at the end of the course during Week 16. The final exam will count as 15% of your grade and will replace your lowest exam grade if it is higher.

Required Technology:

A TI-84 Plus graphing calculator is required for this course. A TI-89 or higher or a TI-Nspire are not permitted. Internet capability is also required to gain access to course materials and online assignments via MyMathLab software.

Determination of Course Grade/Detailed Grading Formula:

Grading Formula:

$$\text{Final Average} = .60(\text{Exam Average}) + .15(\text{Final Exam}) + .15(\text{Homework}) + .10(\text{Quizzes})$$

Grading Scale:

The course grade will be determined using the following scale:

Grade A: Final Average [89.5, 100]

Grade B: Final Average [79.5, 89.5)

Grade C: Final Average [69.5, 79.5)

Grade D: Final Average [59.5, 69.5)

Grade F: Final Average [0, 59.5)

Late Work, Make-Up, and Extra-Credit Policy: If you are unable to make a scheduled exam, you will be allowed to make up the exam outside of class provided you notify the instructor prior to the exam and have a legitimate reason for the absence. All makeup exams must be taken in the Testing Center by appointment. The late penalty for past due assignments is 20% of your grade. Extra credit assignments will not be available.

Attendance Policy: Attendance is required for all class meetings. When students are not actively participating (e.g., contributing to discussions and completing weekly online homework), the faculty member can initiate an instructor drop and, subsequently, the student will receive a **W** for the course.

Communicating with your instructor: ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.

- **Email:** Used the **email** tool in blackboard to ask any questions about the course and to clarify assignments. I will try to answer any questions posted within the within the same day. Please use email for concerns of a personal nature. I will respond to your email as quickly as possible (usually within 12 hours).

Electronic Device Policies

You may use your laptop or tablet for taking notes during lecture; however, that privilege will be lost if I find that you are using them for non-course-related reasons (e.g., news, social media, shopping).

All other electronic devices should be **silenced and hidden**. If there is an emergency and your phone must be on/visible, please inform me of this at the beginning of class

Table Mapping SLO's and Core Objectives

| Student Learner Outcome | SLO Assessed via this Assignment | SLO Maps to Core Objective | Core Objective Assessed via this Assignment |
|---|----------------------------------|---|---|
| 1. Explain the use of data collection and statistics as tools to reach reasonable conclusions | Quiz 1 | | |
| 2. Recognize, examine, and interpret the basic principles of describing and presenting data | Quiz 1 | Empirical and Quantitative Skills (EQS) | Question on Exam 1 |
| 3. Compute and interpret empirical and theoretical probabilities using the rules of probabilities and combinatorics | Quiz 3 | Critical Thinking Skills (CT) | Question of Exam 2 |
| 4. Explain the role of probability in statistics | Quiz 3 | | |
| 5. Examine, analyze, and compare various sampling distributions for both discrete and continuous random variables. | Quiz 4 | | |
| 6. Describe and compute confidence intervals | Quiz 5 | | |
| 7. Solve linear regression and correlation problems | Quiz 2 | | |
| 8. Perform hypothesis testing using statistical methods | Quiz 6 | | |

Academic Dishonesty: College of the Mainland is committed to a high standard of academic integrity. All students are responsible for honesty and independent effort. Incidents of academic and scholastic dishonesty (including cheating, plagiarism, and collusion) will be dealt with in a manner that is consistent with College Policy and the Student Conduct. Any student found to have been academically dishonest on an assignment, quiz, or exam will receive a zero for that assignment, quiz, or exam, and he or she will be referred to the Office of Student Conduct for further disciplinary action. Please read the section on Standards of Student Conduct and Discipline and Penalties in the online Student Handbook.

Student Concerns: If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Mr. Leslie Richardson, Math Department Chair, at (409) 933-8329 or at lrichardson@com.edu.

Course outline:

| Week | Dates | Topics | Sections | Due |
|-------------------------------------|----------------|---|-----------------|---------------|
| 1 | Jun 6 -Jun 10 | Introduction to the Practice of Statistics | 1.1 | Jun 12 |
| | | Observational Studies versus Designed Experiments | 1.2 | |
| | | Simple Random Sampling | 1.3 | |
| | | Other Effective Sampling Methods | 1.4 | |
| | | Bias in Sampling | 1.5 | |
| | | The Design of Experiments | 1.6 | |
| 2 | Jun 13 -Jun 17 | Organizing Qualitative Data | 2.1 | Jun 19 |
| | | Organizing Quantitative Data: The Popular Displays | 2.2 | |
| | | Additional Displays of Quantitative Data | 2.3 | |
| | | Graphical Misrepresentations of Data | 2.4 | |
| | | Quiz 1 (1.1-1.6, 2.1-2.4) – SLO 1 and 2 | | |
| | | Measure of Central Tendency | 3.1 | |
| | | Measures of Dispersion | 3.2 | |
| | | Measures of Central Tendency and Dispersion from Grouped Data | 3.3 | |
| 3 | Jun 20 -Jun 24 | Measures of Dispersion and Outliers | 3.4 | Jun 26 |
| | | The Five-Number Summary Boxplots | 3.5 | |
| | | Review for Exam 1 | | |
| | | Exam 1 (1.1-1.6, 2.1-2.4, 3.1-3.5) | | |
| | | Scatter Diagrams, Correlation, and the Coefficient of Determination | 4.1 | |
| | | Least Squares Regression | 4.2 | |
| 4 | Jun 27 -Jul 1 | Quiz 2 (4.1-4.2) – SLO 7 | | Jul 3 |
| | | Probability Rules | 5.1 | |
| | | The Addition Rule and Complements | 5.2 | |
| | | Independence and the Multiplication Rule | 5.3 | |
| | | Conditional Probability and the General Multiplication Rule | 5.4 | |
| | | Counting Techniques | 5.5 | |
| 5 | Jul 5 - Jul 8 | Quiz 3 (5.1-5.5) – SLO 3 and 4 | | Jul 10 |
| | | Discrete Random Variables | 6.1 | |
| | | The Binomial Probability Distribution | 6.2 | |
| | | Review for Exam | | |
| | | Exam 2 (4.1-4.2, 5.1-5.5, 6.1, 6.2) | | |
| | | | 7.1 | |
| | | Properties of Normal Distribution | | |
| Applications of Normal Distribution | 7.2 | | | |
| Week | Dates | Topics | Sections | Due |
| 6 | | Quiz 4 (6.1, 6.2, 7.1, 7.2) – SLO 5 | | Jul 17 |

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|----|-----------------|---|------|---------------|
| | Jul 11 - Jul 15 | Distribution of the Sample Mean | 8.1 | |
| | | Distribution of the Sample Proportion | 8.2 | |
| | | Estimating a Population Proportion | 9.1 | |
| | | Estimating a Population Mean | 9.2 | |
| | | Quiz 5 (9.1, 9.2) – SLO 6 | | |
| | | Review for Exam 3 | | |
| 7 | Jul 18 - Jul 22 | Exam 3 (7.1, 7.2, 8.1, 8.2, 9.1, 9.2) | | Jul 24 |
| | | The Language of Hypothesis Testing | 10.1 | |
| | | Hypothesis Tests for a Population Proportion | 10.2 | |
| 8 | Jul 25 - Jul 29 | Hypothesis Tests for a Population Mean | 10.3 | Jul 31 |
| | | Inference about Two Population Proportions | 11.1 | |
| 9 | Aug 1- Aug 5 | Inference about Two Means: Dependent Samples | 11.2 | Aug 7 |
| | | Inference about Two Means: Independent Samples | 11.3 | |
| | | Quiz 6 (10.1-10.3, 11.1-11.3) – SLO 8 | | |
| | | Review for Exam 4 Exam 4 (10.1-10.3, 11.1-11.3) | | |
| 10 | Aug 8 - Aug 12 | Review for Final Exam | | Aug 12 |
| | | Final Exam (comprehensive) | | |

*W-Day is August 1

*Class ends on August 12

*Calendar is subject to change

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook. <https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf. *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.* https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

Counseling Statement: Any student needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or hbankston@com.edu. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to set up their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a “W” grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 5-week session is July 1. The last date to withdraw from the 10 -week session is **August 1st**. The last date to withdraw for the 2nd 5-week session is August 5.

F_N Grading: The F_N grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The F_N grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the F_N grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an F_N grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland’s Coronavirus Information site at www.com.edu/coronavirus. In compliance with Governor Abbott's May 18 Executive Order, face coverings/masks will no longer be required on COM campus. Protocols and college signage are being updated. We will no longer enforce any COM protocol that requires face coverings. We continue to encourage all members of the COM community to distance, when possible, use hygiene measures, and get vaccinated to protect against COVID-19. Please visit com.edu/coronavirus for future updates.