Math 1342.037IN
Elementary Statistical Methods
Fall 2022
Online

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

Student hours: **MWF**: 11:00 -12:30pm; and **TTh**: 3:30-5:30pm
location: TEAMS/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 10: 0-13-578018-7
ISBN 13: 978-0-13-578018-3
Title: Statistics: Informed Decisions Using Data with Integrated Review with Pearson eText
Author: Michael Sullivan III
Edition: 6
Copyright: 2021
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:

- **Videos:** Video assignments will be given each week for every section covered in this course. Watching the required videos will count as 1% of your grade.
- **Homework:** Homework assignments will be given each week for every section covered in the course. Homework assignments will count as 9% 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.
- **Discussions:** Participation in four discussion forums is required to give students opportunities to exchange and clarify ideas. Cumulatively, these will count as 5% of your grade.

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:

Final Average = .60(Exam Average) +.15(Final Exam) +.01(Videos) +.09(Homework) +.10(Quizzes) + .05(Discussions)

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: Your final exam grade will replace your lowest test grade. If you neglect to take a test by its due date, this grade will be the one replaced unless you have prior instructor approval to makeup this test at an alternate time. The late penalty for past due assignments is 20% of your grade. Occasionally, extra credit points will be offered to the entire class; however, individually, extra credit assignments will not be available.

Attendance Policy: Students at COM are expected to participate every week for which they are registered. Per COM policy, students are required to log on to their course at least twice per week, but it may be necessary to log on more times each week to complete the assignments required of this course. 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.

I have established a *Virtual Office* within the course that can be used to ask questions about the course and to clarify assignments. I will try to answer any questions posted within the *Virtual Office* 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).

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 will 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	Aug. 22-28	Introduction to the Practice of Statistics	1.1	Aug. 28
		Observational Studies versus Designed Experiments	1.2	
		Simple Random Sampling	1.3	
2	Aug. 29-Sept. 4	Other Effective Sampling Methods	1.4	Sept. 4
		Bias in Sampling	1.5	
		The Design of Experiments	1.6	
3	Sept. 5-11	Organizing Qualitative Data	2.1	Sept. 11
		Organizing Quantitative Data: The Popular Displays	2.2	
		Additional Displays of Quantitative Data	2.3	
		Graphical Misrepresentations of Data	2.4	
4	Sept. 12-18	**Quiz 1** (1.1-1.6, 2.1-2.4) – SLO 1 and 2		Sept. 18
		Measure of Central Tendency	3.1	
		Measures of Dispersion	3.2	
		Measures of Central Tendency and Dispersion from Grouped Data	3.3	
5	Sept. 19-25	Measures of Dispersion and Outliers	3.4	Sept. 25
		The Five-Number Summary Boxplots	3.5	
		Discussion 1: Boxplots (D2L)		
		Review for Exam 1		
6	Sept. 26-Oct. 2	**Exam 1** (1.1-1.6, 2.1-2.4, 3.1-3.5)		**Sept. 28**
		Scatter Diagrams, Correlation, and the Coefficient of Determination	4.1	Oct. 2
		Least Squares Regression	4.2	
7	Oct. 3-9	**Quiz 2** (4.1-4.2) – SLO 7		Oct. 9
		Probability Rules	5.1	
		The Addition Rule and Complements	5.2	
8	Oct. 10-16	Independence and the Multiplication Rule	5.3	Oct. 16
		Conditional Probability and the General Multiplication Rule	5.4	
		Counting Techniques	5.5	
		Discussion 2: Probability (D2L)		
9	Oct. 17-23	**Quiz 3** (5.1-5.5) – SLO 3 and 4		Oct. 23
		Discrete Random Variables	6.1	
		The Binomial Probability Distribution	6.2	
		Review for Exam		

Week	Dates	Topics	Sections	Due
10	Oct. 24-30	**Exam 2** (4.1-4.2, 5.1-5.5, 6.1, 6.2)		**Oct. 26**
		Properties of Normal Distribution	7.1	
		Applications of Normal Distribution	7.2	Oct. 30
		Discussion 3: Z-scores (D2L)		
11	Oct. 30-Nov. 6	**Quiz 4** (6.1, 6.2, 7.1, 7.2) – SLO 5		
		Distribution of the Sample Mean	8.1	Nov. 6
		Distribution of the Sample Proportion	8.2	
12	Nov. 7-13	Estimating a Population Proportion	9.1	
		Estimating a Population Mean	9.2	Nov. 13
		Quiz 5 (9.1, 9.2) – SLO 6		
		Review for Exam 3		
13	Nov. 14-20	**Exam 3** (7.1, 7.2, 8.1, 8.2, 9.1, 9.2)		**Nov. 16**
		The Language of Hypothesis Testing	10.1	
		Hypothesis Tests for a Population Proportion	10.2	Nov. 20
		Discussion 4: Type I and Type II Errors (D2L)		
14	Nov. 21-23	Hypothesis Tests for a Population Mean	10.3	
		Inference about Two Population Proportions	11.1	Nov. 27
		****Thanksgiving Holiday****		
15	Nov. 28-Dec. 4	Inference about Two Means: Dependent Samples	11.2	
		Inference about Two Means: Independent Samples	11.3	Dec. 4
		Quiz 6 (10.1-10.3, 11.1-11.3) – SLO 8		
		Review for Exam 4		
16	Dec. 5-8	**Exam 4** (10.1-10.3, 11.1-11.3)		**Dec. 6**
		Review for Final Exam		
		Final Exam (comprehensive)		**Dec. 8**

****W-Day: November 18, 2022****

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 Michelle Brezina at 409-933-8124 or mvaldes1@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

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 8-week session is October 5. The last date to withdraw from the 16-week session is November 18. The last date to withdraw for the 2nd 8-week session is December 1.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN 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 FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN 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.

Resources to Help with Stress:
If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.