College of the Mainland

Math 1342.037IN
Elementary Statistical Methods
Fall 2023
Online

Instructor Information: Kristi Kelley, kkelley9@com.edu , 409-933-8287

Student hours and location: MW: 9:30 - 11 AM in STEAM 325.05
TTH: 1:30 - 2 PM; 4:30 - 5 PM in STEAM 325.05
TTH: 9 - 10 AM (Virtual) in TEAMS
Click the Teams link above to join virtual office hours.

Microsoft Teams: Join the class team by clicking the link or by using the join code: **jgqlg4j**
You need to use your COM credentials when logging into Microsoft Teams. You may need to un-install Teams and re-download the version for schools.

Remind101: To get text reminders about assignments that are due and to be able to text me from your phone, join your class's Remind101 by one of the methods below:
  1) Join Remind101 by clicking the link. Click here to join Remind101
  2) Join by texting **@math134203** to the number 81010

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. *The cost of the access code is included in tuition for this course. You will go to D2L to access MyMathLab.*

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

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.

Recommended Materials:
            -A small 3 ring binder (to keep class notes in)
            -Spiral bound notebook (to do your homework in) OR notebook paper and a bradded folder
            -Pens and Pencils (You MUST complete your exam with a pencil or ERASEABLE pen)
            -index cards
            -highlighters
                    Points may be deducted for use of a non-erasable pen.

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 10% of your final grade.
  ▪ **Quizzes:** Six online quizzes will be given. Cumulatively, the quizzes will count as 10% of your final grade.
                    You are required to upload Exam Scratchwork to D2L

  ▪ **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 Scratchwork:

- Pages are to be numbered and uploaded in order.
- Problems need to be numbered and worked out in numerical order.
- Scratchwork is to be neat and organized.
- I will grade 4-5 problems on your exams based on your scratchwork. If there is no scratchwork provided for the problem I grade or if it is not worked out in an organized manner, points may be deducted or no points may provided for the problem regardless of it is correct in MyMathLab.

Determination of Course Grade/Detailed Grading Formula:
Grading Formula:
　　　　Final Average = .60(Exam Average) +.15(Final Exam) + .10(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: Any questions worked after the due date will have a 20% late penalty. 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. Occasionally, extra credit points may 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.

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.

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://www.com.edu/student-services/docs/Student_Handbook_2023-2024_v2.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.*

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 Kimberly Lachney at 409-933-8919 or klachney@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 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

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.

Course outline:

Math 1342-037IN– Fall 2023		
Week	**Assignment**	**Due Date** **(by 11:59PM)**
1 Aug 28 – Sept 3	*MyMathLab Orientation* 1.1 Introduction to the Practice of Statistics 1.2 Observational Studies versus Designed Experiments 1.3 Simple Random Sampling Discussion 1: Observational vs. designed experiment Discussion (D2L) -*Original post due Friday 9/1 and two responses due Sunday 9/3*	Su - 9/3
2 Sept 4 – 10 <mark>Holiday: 9/4 M</mark>	1.4 Other Effective Sampling Methods 1.5 Bias in Sampling 1.6 The Design of Experiments 2.1 Organizing Qualitative Data	Su – 9/10
3 Sept 11 - 17	2.2 Organizing Quantitative Data: The Popular Displays 2.3 Additional Displays of Quantitative Data 2.4 Graphical Misrepresentations of Data **Quiz 1 (1.1-1.6, 2.1-2.4) – SLO 1 and 2**	Su – 9/17
4 Sept 18 - 24	3.1 Measure of Central Tendency 3.2 Measures of Dispersion 3.3 Measures of Central Tendency and Dispersion from Grouped Data	Su – 9/24
5 Sept 25 – Oct 1	3.4 Measures of Dispersion and Outliers 3.5 The Five-Number Summary Boxplots *Review for Exam 1* Discussion 2: Box plot discussion (D2L) - *Original post due by Fri 9/29 and two follow up posts due by Sun. 10/1*	Su – 10/1 *Start Exam 1 Review*
6 Oct 2 - 8	**Exam 1 (1.1-1.6, 2.1-2.4, 3.1-3.5)** 4.1/4.2 Scatter Diagrams, Correlation, Coefficient of Determination, & Least Squares Regression **Quiz 2 (4.1-4.2) – SLO 7**	Rev: T – 10/3 **Exam 1: W – 10/4** 4.1/4.2, quiz 2: Su – 10/8
7 Oct 9 - 15	5.1 Probability Rules 5.2 The Addition Rule and Complements 5.3 Independence and the Multiplication Rule	Su – 10/15
8 Oct 16 - 22	5.4 Conditional Probability and the General Multiplication Rule 5.5 Counting Techniques **Quiz 3 (5.1-5.5) – SLO 3 and 4** Discussion 3: Probability (D2L) - *Original post due by Fri 10/20 and two follow up posts due by Sun. 10/22*	Su – 10/22
9 Oct 23 - 29	6.1 Discrete Random Variables 6.2 The Binomial Probability Distribution	Su – 10/29 *Start Exam 2 Review*

	Review for Exam 2	
10 Oct 30 – Nov 5	**Exam 2 (4.1, 4.2, 5.1-5.5, 6.1, 6.2)** 7.1 Properties of Normal Distribution 7.2 Applications of Normal Distribution **Quiz 4 (6.1, 6.2, 7.1, 7.2) – SLO 5**	Rev: T – 10/31 **Exam 2: W – 11/1** 7.1,7.2, Q4: Su – 11/5
11 Nov 6 - 12	8.1 Distribution of the Sample Mean 8.2 Distribution of the Sample Proportion Discussion 4: Z-scores (D2L) - *Original post due by Fri 11/10 and two follow up posts due by Sun. 11/12*	Su – 11/12
12 Nov 13 - 19	9.1 Estimating a Population Proportion 9.2 Estimating a Population Mean *Review for Exam 3* **Quiz 5 (9.1, 9.2) – SLO 6 – Opens Apr 12th**	Su – 11/19 *Start Exam 3 Review*
13 Nov 20 – 26 <mark>Holiday: 11/23 - 26 Th-Su</mark>	**Exam 3 (7.1, 7.2, 8.1, 8.2, 9.1, 9.2)** 10.1 The Language of Hypothesis Testing 10.2 Hypothesis Tests for a Population Proportion	*Rev: T – 11/21* **Exam 3: W – 11/22** 10.1, 10.2: Su – 11/26
14 Nov 27 – Dec 3	10.3 Hypothesis Tests for a Population Mean 11.1 Inference about Two Population Proportions	Su – 12/3
15 Dec 4 - 10	11.2 Inference about Two Means: Dependent Samples 11.3 Inference about Two Means: Independent Samples *Review for Exam 4* **Quiz 6 (10.1-10.3, 11.1-11.3) – SLO 8**	Su – 12/10 *Start Exam 4 Review*
16 Dec 11 - 15	**Exam 4 (10.1-10.3, 11.1-11.3)** Final Exam Review **Final Exam**	*Rev: M – 12/11* **Exam 4: T – 12/12** **Rev & F.E: Th – 12/14**

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9 Oct 23 - 29	6.1 Discrete Random Variables 6.2 The Binomial Probability Distribution *Review for Exam 2*	Su – 10/29 *Start Exam 2 Review*
10 Oct 30 – Nov 5	**Exam 2 (4.1, 4.2, 5.1-5.5, 6.1, 6.2)** 7.1 Properties of Normal Distribution 7.2 Applications of Normal Distribution **Quiz 4 (6.1, 6.2, 7.1, 7.2) – SLO 5**	Rev: T – 10/31 **Exam 2: W – 11/1** 7.1,7.2, Q4: Su – 11/5
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16 Dec 11 - 15	**Exam 4 (10.1-10.3, 11.1-11.3)** Final Exam Review **Final Exam**	*Rev: M – 12/11* **Exam 4: T – 12/12** **Rev & F.E: Th – 12/14**

Calendar is subject to change
Census Date: 9/13/2023
Withdraw Date: 11/28/23