# Math 1342.102CL
# Elementary Statistical Methods
# Fall 2023
# ICB Building, Room 206
# T/TH 1:30 PM-2:50 PM; 2:51 PM-3:20 PM

**Instructor Information:** Ms. Smith
Email: jsmith56@com.edu –
***Include*** *your **course & section in the subject line** when emailing.*
Office phone: 409-933-8647
Office:  STEAM Bldg., Suite 325, room 10

**Student Hours (Office Hours); Location: STEAM 325-10**
1.  11:20 am - 1:20 pm; 4:00 pm - 4:45 pm Monday/Wednesday
2.  11:20 am - 12:20 pm, Tuesday/Thursday

**Required Textbook/Materials:**
1.  The textbook for this course is: Statistics: Informed Decisions Using Data with Integrated Review with Pearson eText, by Michael Sullivan III, 6$^{th}$ edition, Pearson Education, 2021.
2.  Access to a desktop computer or laptop and internet service outside of class are required to gain access to the required online assignments. Computers and internet access are available on campus during specified times.  *Some devices like iPads/tablets, Chromebooks, and cellphones present problems with gaining access to online MyLab Math assignments.*
    *Note: MyLab Math generally does not like Safari.  Download Chrome or Firefox if you have an Apple computer.*
3.  *MyLab Math/Statistics (MLM)* software is required for Math 1342.
4.  MyMathLab*(Statistics)* provides access the eText for the textbook and all course assignments.  **(No Purchase Necessary)**

***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.

**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:**
*MyLab Math (MLM) Online Assignments–* **Go to your Brightspace course.**
You can **access D2L Brightspace at COM** at http://com.brightspace.com.

- **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.

**Determination of Course Grade/Detailed Grading Formula:**
*Grading Formula:*

> **Final Average = .60(Exam Average) +.15(Comprehensive Final Exam) +.15(Homework) +.10(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:**
**Assignments-**The late penalty for past due assignments is 20% of your grade. You cannot make up a quiz. A specified deadline will be given, and you will not be allowed to submit late. If the quiz assignment is not submitted or is not submitted by the deadline, a grade of zero will be recorded for the quiz assignment grade.

**Test-**As a general rule, there are no make-up exams. A make-up exam will only be allowed at the discretion of the instructor and only under extenuating circumstances and is limited to one exam. If it is necessary to miss an exam, you are required to petition the instructor **before** the exam is given to be considered for a make-up exam. Only extenuating circumstances of a serious nature that are documented will be considered. Realize not being prepared for the exam is not a legitimate reason for a make-up exam nor is scheduling work/appointments during the class period. **All other missed tests will be assigned a zero, and the zero(s) will be used to calculate final grade in course**. 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 will be offered to the entire class; however, individually, extra credit assignments will not be available.

**Attendance Policy:** Students at COM are expected and attend and participate in every session of all classes for which they are registered. When students are not actively participating (e.g., attending class and completing weekly online homework), the faculty member can initiate an instructor drop and, subsequently, the student will receive a **W** for the course.
You cannot make-up classes, and it is your responsibility to be punctual and regular at attending class. If you find that you are having trouble arriving on time, adjust your schedule accordingly. Tardiness or leaving early can cause you to be counted absent. Also, please be advised that it is **your** responsibility to get caught up when a class is missed.

**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 | | |
| **Student Learner Outcome** | **SLO Assessed via this Assignment** | **SLO Maps to Core Objective** | **Core Objective Assessed via this Assignment** |
| 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 | | |

*The core objective, Communication Skills, will be assessed this semester.

**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.

*Additional Policies*
*Unattended Minors/Children in Class*
For their safety, unattended minors of students are not permitted on campus while students are in class. In consideration of fellow classmates and staff, please do not bring children to class.

*Productive Workplace*
Students are expected to bring all tools necessary for success to class every day. These tools include writing implements, notebook/note paper, and an approved calculator. **Food and drinks, except for bottled water, are not allowed in classrooms.** All other items (backpacks, purses, bags, laptops, etc.) must be placed between your feet. In addition, headsets/wireless earbuds and cell phones are to be placed in your backpack, etc. before class starts.

*Class Notes*
Every week, class notes for each section to be covered that week will be posted on D2L for you to print and follow along during the lectures. It is highly suggested you print these notes for each class session.

*Classroom Conduct Policy*
Arriving on time, staying the entire class period, eliminating distractions like cell phones, using appropriate language (no cursing), respecting your classmates and the instructor, and cleaning up after yourself are all expectations for students in the classroom. Please abide by these expectations so that the class setting is enjoyable for all students. Regarding cell phones, they should be turned off or set on airplane mode and in your backpack/purse (not on your desk). It is extremely disruptive to the learning environment, so you will be asked to leave if it is a continuous problem. You are not allowed to use laptops during class. You may ONLY use a tablet for not taking purposes. Infractions may result in an automatic withdrawal from the class. Cell phones **cannot** be used during tests or quizzes and refer to testing policies for additional

information. Please notify me before class if you have an emergency that requires you to answer your phone during class.  Take an emergency phone call outside of the classroom.

## *Recording of Class*
Students may not record all or part of class and/or all or part of a livestream without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the Student Disability Services. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform.  If any instructor's recordings are provided, students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings may result in a disciplinary referral and/or disciplinary action.

## *Testing Policy*
Prohibited devices include, but are not limited to:
- Cell phones; smart phones; smart watches
- Audio players/recorders, tablets, laptops, notebooks, or any other personal computing devices
- Separate timers
- Cameras or any other photographic equipment
- Any devices, including digital watches, that can be used to record, transmit, receive, or play back audio, photographic, text, or video content.

If your device makes a sound or is in your possession when the device goes off, you may be dismissed, and your score may be recorded as a zero.
**If you leave the classroom at any time during an exam, the exam must be submitted for grading.**  Therefore, it is strongly advised that students take care of all personal business prior to entering the classroom to take an exam.

**Learning Outcomes:** Upon the completion of this course, the student will:
- Explain the use of data collection and statistics as tools to acquire reasonable conclusions.
- Recognize and interpret data.
- Compute and interpret theoretical and empirical probabilities.
- Explain the role of probability in statistics.
- Examine and analyze different sampling distributions.
- Perform hypothesis testing using statistical methods.

**Course outline:**
Tentative Schedule

| Week | Dates | Topics | Sections | Due |
|------|-------|--------|----------|-----|
| 1 | Aug. 28-Sep. 3 | Introduction to the Practice of Statistics | 1.1 | Sep. 3 |
| | | Observational Studies versus Designed Experiments | 1.2 | |
| | | Simple Random Sampling | 1.3 | |
| | | Other Effective Sampling Methods | 1.4 | |
| | | Bias in Sampling | 1.5 | |

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|---|---|---|---|---|
| 2 | Sept. 4-10 | Bias in Sampling | 1.5 | Sept.10 |
| | | The Design of Experiments | 1.6 | |
| | | Organizing Qualitative Data | 2.1 | |
| | | Organizing Quantitative Data: The Popular Displays | 2.2 | |
| 3 | Sept. 11-17 | Organizing Quantitative Data: The Popular Displays | 2.2 | Sept. 17 |
| | | Additional Displays of Quantitative Data | 2.3 | |
| | | Graphical Misrepresentations of Data | 2.4 | |
| 4 | Sept. 18-24 | **Quiz 1** (1.1-1.6, 2.1-2.4) – SLO 1 and 2 | | Sept. 24 |
| | | Measure of Central Tendency | 3.1 | |
| | | Measures of Dispersion | 3.2 | |
| | | Measures of Central Tendency and Dispersion from Grouped Data | 3.3 | |
| 5 | Sept. 25- Oct. 1 | Measures of Dispersion and Outliers | 3.4 | Oct. 1 |
| | | The Five-Number Summary Boxplots | 3.5 | |
| | | Review for Exam 1 | | |
| 6 | Oct. 2-Oct. 8 | **Exam 1** (1.1-1.6, 2.1-2.4, 3.1-3.5) | | **Oct. 3** |
| | | Scatter Diagrams, Correlation, and the Coefficient of Determination | 4.1 | Oct. 8 |
| | | Least Squares Regression | 4.2 | |
| 7 | Oct. 9-Oct. 15 | **Quiz 2** (4.1-4.2) – SLO 7 | | Oct. 15 |
| | | Probability Rules | 5.1 | |
| | | The Addition Rule and Complements | 5.2 | |
| 8 | Oct. 16-22 | Independence and the Multiplication Rule | 5.3 | Oct. 22 |
| | | Conditional Probability and the General Multiplication Rule | 5.4 | |
| | | Counting Techniques | 5.5 | |
| 9 | Oct. 23-29 | **Quiz 3** (5.1-5.5) – SLO 3 and 4 | | Oct. 29 |
| | | Discrete Random Variables | 6.1 | |
| | | The Binomial Probability Distribution | 6.2 | |
| | | Review for Exam | | |
| 10 | Oct. 30-Nov. 5 | **Exam 2** (4.1-4.2, 5.1-5.5, 6.1, 6.2) | | **Oct. 31** |
| | | Properties of Normal Distribution | 7.1 | Nov. 5 |
| | | Applications of Normal Distribution | 7.2 | |
| 11 | Nov. 6-12 | **Quiz 4** (6.1, 6.2, 7.1, 7.2) – SLO 5 | | Nov. 12 |
| | | Distribution of the Sample Mean | 8.1 | |
| | | Distribution of the Sample Proportion | 8.2 | |
| 12 | Nov. 13-19 | Estimating a Population Proportion | 9.1 | Nov. 19 |
| | | Estimating a Population Mean | 9.2 | |
| | | **Quiz 5** (9.1, 9.2) – SLO 6 | | |
| | | Review for Exam 3 | | |

| 13 | Nov. 20-26 | **Exam 3** (7.1, 7.2, 8.1, 8.2, 9.1, 9.2) | | **Nov. 21** |
| | | The Language of Hypothesis Testing | 10.1 | |
| | | Hypothesis Tests for a Population Proportion | 10.2 | Nov. 26 |
| | | ****Thanksgiving Holiday**** | | |
| 14 | Nov. 27-Dec. 3 | Hypothesis Tests for a Population Mean | 10.3 | Dec. 3 |
| | | Inference about Two Population Proportions | 11.1 | |
| 15 | Dec. 4-10 | Inference about Two Means: Dependent Samples | 11.2 | Dec. 10 |
| | | Inference about Two Means: Independent Samples | 11.3 | |
| | | **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. 12** |
| | | Review for Final Exam | | |
| | | **Final Exam** (comprehensive) | | **Dec. 14** |

**PLEASE NOTE:** The syllabus is subject to change at the discretion of the instructor.
W-day- Nov 28th

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## 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.