# Math 1324.101CL
# Mathematics for Business & Social Sciences
# Spring 2023
# STEAM Building, Room 119
# MW 9:30 - 10:50pm; F 10:00am – 10:50am

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

**Student hours:** **MWF**: 11:00 -12:30pm; and **TTh**: 3:30-5:30pm; **F**: 11:00 -12:00pm
**location:** STEAM **325-3**

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

**ISBN:** 9780134767611
**Title:** Finite Mathematics with Applications in the Management, Natural, and Social Sciences
**Author:** Lial, Hungerford, Holcomb, and Mullins
**Edition:** 12
**Copyright**: 2019
**Publisher**: Pearson

**Course Description:** The application of common algebraic functions, including polynomial, exponential, logarithmic, and rational, to problems in business, economics, and the social sciences are addressed. The applications include mathematics of finance, including simple and compound interest and annuities; systems of linear equations; matrices; linear programming; and probability, including expected value.

**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:** Four 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 16% 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 16% of your grade and will replace your lowest exam grade if it is higher.

- **Required Technology**: A graphing calculator, such as a TI-84 Plus, is required for this course. A TI-89 or higher or a TI-Nspire are not permitted.

- **MyLab Math** (MLM) contained within Brightspace is required for this class.

All Homework and Quizzes will be done in MyLab Math. You can **access D2L Brightspace at** http://com.brightspace.com

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

**Final Average = .64(Exam Average) +.16(Final Exam) +.10(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:**
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.**

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**: Include your **course & section** in the subject line when emailing

**Electronic Device Policies**
You may use your laptop or tablet for taking notes during lectures; 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.

**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. 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.

For their safety, unattended minors of students are not permitted on campus while students are in class. In consideration of fellow classmates, please do not bring children to class.

**<u>Testing Policy</u>**

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
- 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.

**<u>If you leave the classroom at any time during an exam, the exam must be submitted for grading.</u>**

It is strongly advised that students take care of all personal business prior to entering the classroom to take an exam.

**Table Mapping SLO's and Core Objectives**

| Student Learner Outcomes | Maps to Core Objective | Assessed via this assignment |
|---|---|---|
| 1. Apply elementary functions, including linear, quadratic, polynomial, rational, logarithmic, and exponential functions to solving real-world problems | Critical Thinking Skills (CT) | Exam |
| 2. Solve mathematics of finance problems, including the computation of interest, annuities, and amortization of loans. | Empirical and Quantitative Skills (EQS) | Exam |
| 3. Apply basic matrix operations, including linear programming methods, to solve application problems. | Critical Thinking Skills (CT) | Exam |
| 4. Demonstrate fundamental probability techniques and application of those techniques, including expected value, to solve problems. | Visual Communication Skills (CS) | Exam |
| 5. Apply matrix skills and probability analyses to model applications to solve real-world problems. | Critical Thinking Skills (CT) | Quiz |

**Academic Dishonesty:** The 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 | Jan 17 - 21 | Functions | 3.1 | Jan 22 |
| | | Graph of Functions | 3.2 | |
| 2 | Jan 23 - 28 | Linear Functions | 3.3 | Jan 29 |
| | | Quadratic Functions | 3.4 | |
| | | Polynomial Functions | 3.5 | |
| 3 | Jan 30 - Feb 4 | Rational Functions | 3.6 | Feb 5 |
| | | **Quiz 1: Chapter 3** | | |
| | | Exponential Functions | 4.1 | |
| | | Application of Exponential Functions | 4.2 | |
| 4 | Feb 6 -11 | Logarithmic Functions | 4.3 | Feb 12 |
| | | Logarithmic and Exponential Equations | 4.4 | |
| | | **Exam 1: Chapter 3, 4** | | |
| 5 | Feb 13 - 18 | Simple Interest and Discount | 5.1 | Feb 19 |
| | | Compound Interest | 5.2 | |
| | | Annuities, Future Value, and Sinking Funds | 5.3 | |
| 6 | Feb 20 - 25 | Annuities, Present Value, and Amortization | 5.4 | Feb 26 |
| | | **Quiz 2, Chapter 5** | | |
| | | Systems of Two Linear Equations in Two Variables | 6.1 | |
| | | Larger Systems of Linear Equations | 6.2 | |
| 7 | Feb 27 - Mar 4 | Applications of Systems of Linear Equations | 6.3 | Mar 5 |
| | | Basic Matrix Operations | 6.4 | |
| | | Matrix Products and Inverses | 6.5 | |
| 8 | Mar 6 - 11 | **Exam 2: Chapters 5, 6** | | Mar 11 |
| | **Mar 13-19** | **Spring Break** | | |
| 9 | Mar 20 - 25 | Graphing Linear Inequalities in Two Variables | 7.1 | Mar 26 |
| | | Linear Programming: The Graphical Method | 7.2 | |
| 10 | Mar 27 - Apr 1 | Applications of Linear Programming | 7.3 | Apr 2 |
| | | The Simplex Method: Maximization | 7.4 | |
| | | Maximization Applications | 7.5 | |
| **Week** | **Dates** | **Topics** | **Sections** | **Due** |

| 11 | Apr 3 - 8 | **Quiz 3, Chapter 7** | | Apr 9 |
| | | Sets | 8.1 | |
| | | Applications of Venn Diagrams | 8.2 | |
| 12 | Apr 10 - 15 | Introduction to Probability | 8.3 | Apr 16 |
| | | Basic Concepts of Probability | 8.4 | |
| | | Conditional Probability and Independent Events | 8.5 | |
| | | Bayes' Formula | 8.6 | |
| 13 | Apr 17 - 22 | **Exam 3: Chapter 7, 8** | | Apr 23 |
| | | Probability Distributions and Expected Value | 9.1 | |
| | | | | |
| 14 | Apr 24 - 29 | The Multiplication Principle, Permutations and Combinations | 9.2 | Apr 30 |
| | | Applications of Counting | 9.3 | |
| | | Binomial Probability | 9.4 | |
| 15 | May 1 - 6 | **Quiz 4: Chapter 9** | | May 7 |
| | | Frequency Distributions | 10.1 | |
| | | Measures of Center | 10.2 | |
| | | Review for Exam 4 | | |
| | | **Exam 4 Chapter 9, 10** | | |
| 16 | May 8 - 10 | | | **May 10** |
| | | Review for Final Exam | | |
| | | **Final Exam** (comprehensive) | | |

*W-Day is April 24
*Class ends on May 10
*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 Student_Handbook_2022-2023_v4.pdf (com.edu). *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 March 1. The last date to withdraw from the 16-week session is April 24. The last date to withdraw for the 2nd 8-week session is May 3.

**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.