



Department of Mathematics

Syllabus
for
Math 1314.001I2 Spring 2025
College Algebra

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Student hours:

Office Hours: MW 9:30-10:50 am, 2:00-3:00 pm, TR 2:00 – 3:15 pm on Teams or on campus.
Other times by appointment.

1. Required Textbook/Materials

The textbook used in this course is: College Algebra, by Beecher, Penna, Bittinger, fifth edition, published by Pearson.

A graphing calculator is needed for this course. A Texas Instruments TI 83 Plus or TI 84 Plus is recommended. A TI 89 or higher cannot be used in this course.

You will need reliable access to the internet to gain access to course materials using the MML (MyMathLab) accessed through your D2L Brightspace course. You can get access on campus in the computer lab 322 on the 3rd floor of the STEAM building, the Library, and the Tutoring Center, ICB 109

2. Course Description

College Algebra is an in-depth study and applications of polynomial, rational, radical, exponential, and logarithmic functions, and systems of equations using matrices.

3. Course Requirements

Homework Assignments

There is an assigned homework for each section to be completed online using MML.

Quizzes and Exams

There are 4 quizzes, 4-chapter exams and a comprehensive final exam. All the quizzes and

exams are to be done online using MML. You can retake each quiz just once to improve your score; the higher score will be the one that counts.

There are no retakes on any of the exams.

4. **Determination of Course Grade/Detailed Grading Formula**

Grading Formula:

The course grade will be determined by the following formula:

$$\text{Final Average} = 64\% \text{Chapter Exam Average} + 16\% \text{Final Exam} \\ + 10\% \text{Homework Average} + 10\% \text{Quiz Average}$$

The Final Exam score will replace the lowest Chapter Exam Score when it is larger.

Grading Scale:

Grade A: Final Average in [89.5, 100]
Grade B: Final Average in [79.5, 89.5)
Grade C: Final Average in [69.5, 79.5)
Grade D: Final Average in [59.5, 69.5)
Grade F: Final Average in [0, 59.5)

5. **Make-up policy**

You will be given two days to take a chapter exam and three days to take the final exam. If you are unable to make a scheduled exam within days specified in the course outline, you will be allowed to make up the exam provided that you notify the instructor before the end of the scheduled exam period and have a legitimate reason for not being able to take the exam.

6. **Attendance Policy**

You must log in and be active in MML at least three times each week. In addition to time spent in doing homework, taking quizzes and exams it will be necessary to study, using the course materials, at least 4 hours per week to be successful in the class.

7. **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. **The email account used to register for MML must be your COM email.**

I will make every effort to respond to your email within 24 hours of receiving it.

8. Table Mapping SLO's and Core Objectives

| Student Learner Outcomes | SLO assessed via this assignment | SLO maps to Core Objective | Core Objective assessed via this assignment |
|--|----------------------------------|---|---|
| 1. Demonstrate and apply knowledge of properties of functions, including domain and range, operations, compositions, and inverses. | Exam 1 | | |
| 2. Recognize and apply polynomial, rational, exponential and logarithmic functions and solve related equations. | Exam 2, Exam 3 | Critical Thinking Skills (CT) | 2 application problems on Exam 3 |
| 3. Apply graphing techniques. | Quiz 3 | Communication Skills (CS) | Graphing question on Exam 1 |
| 4. Evaluate all roots (zeros) of higher degree polynomials and rational functions. | Quiz 2 | | |
| 5. Recognize, solve and apply systems of linear equations using matrices. | Exam 4 | Empirical and Quantitative Skills (EQS) | 2 application problems on Exam 4 |

9. 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 Handbook. 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 sections on *Standards of Student Conduct and Discipline and Penalties* in the on-line Student Handbook.

10. Concerns about the Instructor

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 the Dean of Instruction for STEM, Arts & Humanities, Dr. Barney, at (409) 933-8727, rbarney@com.edu.

11. Course Outline

| <u>Week</u> | <u>Topic</u> | <u>Sections</u> | <u>Due Date</u> |
|-------------|--|-----------------|-----------------|
| 1 | Introduction to Graphs | 1.1 | Mar 12 |
| | Functions and Graphs | 1.2 | 14 |
| | Linear Functions, Equations of Lines | 1.3, 1.4 | 24 |
| | Linear Functions, Zeros | 1.5 | 24 |
| | Quiz 1: Sections 1.1-1.5 | | 25 |
| 2 | Inc, Dec, Piecewise Functions | 2.1 | 26 |
| | Algebra of Functions, Composition | 2.2, 2.3 | 29 |
| | Transformations | 2.5 | 31 |
| | Review | | |
| 3 | Exam 1: Chapter 1, 2 | | Apr 1-2 |
| | Quadratic Functions | 3.2 | 3 |
| | Graphs of Quadratic Functions | 3.3 | 4 |
| | Polynomial Functions | 4.1 | 7 |
| | Graphs of Polynomial Functions | 4.2 | 7 |
| 4 | Remainder, Factor Theorems | 4.3 | 9 |
| | Rational Functions | 4.5 | 11 |
| | Poly Inequalities | 4.6 | 14 |
| | Quiz 2: Finding Zeros. Sections 3.2, 4.3, 4.5 | | 14 |
| | Review | | |
| 5 | Exam 2: Chapter 3, 4 | | 15-16 |
| | Inverse Functions | 5.1 | 17 |
| | Exponential Functions | 5.2 | 21 |
| | Logarithmic Functions | 5.3 | 21 |
| | Quiz 3: Graphing Techniques. Sections 5.1-5.3 | | 22 |
| | Properties of Log Functions | 5.4 | 22 |
| | Exponential, Log Equations | 5.5 | 23 |
| 6 | Modeling, Review | 5.6 | 24 |
| | Review | | |
| | Exam 3: Chapter 5 | | 25-26 |
| | Solve Linear Systems in 2 variables | 6.1 | 28 |
| 7 | Solving Systems in 3 variables | 6.3 | 30 |
| | Applications | 6.2 | May 2 |
| | Quiz 4: Sections 6.1-6.4 | | 3 |
| 8 | Review | | |
| | Exam 4 Chapter 6 | | 5-6 |
| | Review | | |
| | Final Exam | | 6-7 |

**** W-day: April 30th ****

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_2024-2025_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, Student Accessibility Services Coordinator

Phone: 409-933-8919

Email: AccessibilityServices@com.edu

Location: COM Doyle Family Administration Building, 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 February 26th. The last date to withdraw from the 16-week session is April 21st. The last date to withdraw for the 2nd 8-week session is April 30th.

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.

Nondiscrimination Statement:

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.