



**Math 2413.221C3**  
**Calculus I**  
**Fall 2024**  
**T/TH 5:00 pm – 7:20 pm**

**Instructor Information:** Carol Switoyus  
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(409)933-8220

**Student hours and location:** MW 8:30 am – 9:15 am, 11:00 am – 1:30 pm Steam #325-17  
T 10:30 am – 11:30 am Virtual

**Required Textbook/Materials:** The textbook used in this course is: *Calculus Early Transcendentals* by Thomas, 14<sup>th</sup> edition. E-Book via MyMathLab in Brightspace - D2L (**No Purchase Necessary**). We will be using MyMathLab for all assignments and some assessments.

**Course Description:** This course covers limits and continuity; the Fundamental Theorem of Calculus, definition of the derivative of a function and techniques of differentiation, applications of the derivative to maximizing or minimizing a function; the chain rule, mean value theorem, and rate of change problems; curve sketching; definite and indefinite integration of algebraic, trigonometric, and transcendental functions, with applications to include calculation of areas.

**Course requirements:**

**HW/Daily:** There will be a homework assignment for each section covered to be done online using MyMathLab. It is your responsibility to make sure the assignments are submitted by the due date and time.

**Quizzes/Exams:** There will be quizzes to be done online using MyMathlab. You can retake each quiz just once to improve your score; the higher score will be the one that counts. There will be four chapter-exams and a comprehensive final to be completed in class. **There are no retakes on any of the exams. All due dates are on the course outline.**

**Determination of Course Grade/Detailed Grading Formula:** The course grade will be determined by the following formula:

$$\text{Final Average} = 60\% \text{Chapter Exam Average} + 20\% \text{Final Exam} + 10\% \text{Homework Average} + 10\% \text{Quiz Average}$$

**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)

**Late Work, Make-Up, and Extra-Credit Policy:** Late homework and quizzes can be submitted, but there is a 20% grade penalty on late assignments. Tests must be taken on days assigned unless you notify me in advance of any issues. There is no extra credit.

**Attendance Policy:** Attendance and participation are required.

**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 will also be sending out information to your COM email address, please be sure to check it regularly.

Student Learner Outcome	Maps to Core Objective	Assessed via this Assignment
1. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.	Critical Thinking	Exam 1, Exam 4
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.	Communication Skills	Exam 3
3. Determine whether a function is continuous and/or differentiable at a point using limits.	Critical Thinking	Exam 1
4. Use differentiation rules to differentiate algebraic and transcendental functions.	Critical Thinking	Exam 2
5. Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.	Empirical and Quantitative Skills	Exam 2
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.	Empirical and Quantitative Skills	Exam 4
7. Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus	Critical Thinking	Exam 4

**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.

**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 Leslie Richardson – Mathematics Department Chair at lrichardson@com.edu.

**Course outline:**

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Week	Date	Sections Covered
1	Aug 19-23	2.1 Rates of Change and Tangents to Curves 2.2 Limit of a Function and Limit Laws <b>HW 2.1-2.2 due 8/25</b> <b>Quiz 1 (2.1) due 8/25</b>
2	Aug 26-30	2.4 One Sided Limits 2.5 Continuity 2.6 Limits Involving Infinity; Asymptotes <b>HW 2.4-2.6 due 9/1</b> <b>Quiz 2 (2.2 – 2.4) due 9/1</b> <b>Quiz 3 (2.5 – 2.6) due 9/1</b>
3	Sep 2-6	3.1 Tangents and the Derivative at a Point 3.2 The Derivative as a Function <b>HW 3.1, 3.2 due 9/8</b> <b>Quiz 4 (3.1 – 3.2) due 9/8</b>
4	Sep 9-13	<b>Exam 1 (2.1 – 3.2) 9/10</b> 3.3 Differentiation Rules 3.4 The Derivative as a Rate of Change <b>HW 3.3, 3.4 due 9/15</b> <b>Quiz 5 (3.3) due 9/15</b>
5	Sep 16-20	3.5 Derivatives of Trigonometric Functions 3.6 The Chain Rule <b>HW 3.5, 3.6 due 9/22</b> <b>Quiz 6 (3.4 – 3.5) due 9/22</b>

- 6 Sep 23-27 3.7 Implicit Differentiation  
3.10 Related Rates  
**HW 3.7-3.10 due 9/29**  
**Quiz 7 (3.6, 3.7, 3.10) due 9/29**
- 7 Sep 30-Oct 4 **Exam 2 (3.3 – 3.7, 3.10) 10/1**  
3.8 Derivatives of Inverse Functions & Logarithms  
3.9 Inverse Trigonometric Functions  
**HW 3.8, 3.9 due 10/6**  
**Quiz 8 (3.8) due 10/6**
- 8 Oct 7-11 4.1 Extreme Values of Functions  
4.2 The Mean Value Theorem  
**HW 4.1, 4.2 due 10/13**  
**Quiz 9 (3.9 – 4.1) due 10/13**
- 9 Oct 14-18 4.3 Monotonic Functions and the First Derivative Test  
4.4 Concavity and Curve Sketching  
**HW 4.3-4.4 due 10/20**  
**Quiz 10 (4.2 – 4.3) due 10/20**
- 10 Oct 21-25 4.5 Indeterminate Forms and L'Hopital's Rule  
4.6 Applied Optimization  
**HW 4.5-4.6 due 10/27**  
**Quiz 11 (4.4 – 4.5) due 10/27**  
**Quiz 12 (4.6) due 10/27**
- 11 . Oct 28-Nov 1 **Exam 3 (3.8, 3.9, 4.1 – 4.6) 10/29**  
4.8 Antiderivatives  
5.1 Area and Estimating with Finite Sums  
**HW 4.8, 5.1 due 11/3**  
**Quiz 13 (4.8 – 5.1) due 11/3**
- 12 Nov 4-8 5.2 Sigma Notation and Limits of Finite Sums  
5.3 The Definite Integral  
**HW 5.2, 5.3 due 11/10**  
**Quiz 14 (5.2 – 5.3) due 11/10**
- 13 Nov 11-15 5.4 The Fundamental Theorem of Calculus  
5.5 Indefinite Integrals and Substitution Method  
**HW 5.3-5.5 due 11/17**  
**Quiz 15 (5.4) due 11/17**

- 14 Nov 18-22 **Exam 4 (4.8 – 5.4) 11/19**  
Review for Comprehensive Final Exam
- 15 Nov 25-29 Review for Comprehensive Final Exam  
**Thanksgiving Holiday – No class Thursday 11/28**
- 16 Dec 2-6 **Comprehensive Final Exam 12/3**
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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\\_2024-2025\\_v2.pdf](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 1<sup>st</sup> 8-week session is October 2. The last date to withdraw from the 16-week session is November 15. The last date to withdraw for the 2<sup>nd</sup> 8-week session is November 26.

**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](mailto:deanofstudents@com.edu) or [communityresources@com.edu](mailto: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.