



Department of Mathematics

Syllabus
for
Math 2414.221CL Fall 2021
Calculus II
MW 7:30 pm – 9:20 pm in STEM 115

Professor: Tom English
E-mail: tenglish@com.edu

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

Student hours

Virtual Office Hours: MW 8:00 am - 9:20 am, F 8:00 am - 9:50 am, TTh 11:00 am - 12:20 pm

Note: you are welcome to email me at any time, day or night. I usually monitor email the entire day to ensure prompt resolution of any issues I may assist with.

1. Required Textbook

The textbook used in this course is Thomas' Calculus, Early Transcendentals, by Hass, Heil and Weir, 14th edition, published by Pearson. Note: you will have access to this textbook via MyMathLab and do not have to purchase a printed copy of the textbook.

2. Textbook Purchase

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.

3. 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.

4. Technology

A 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.

5. Course Requirements

Homework Assignments

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

Quizzes and Exams

There are six quizzes, four chapter exams and a comprehensive final exam. All of the quizzes and exams are 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 are no retakes on any of the exams.

6. Determination of Course Grade

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)

7. Make-up Policy

If you are unable to make a scheduled exam, you will be allowed to make up the exam outside of class **provided you notify the instructor prior to the exam and have a legitimate reason for the absence.** All makeup exams must be taken in the Testing Center by appointment.

8. Course Outline

Week	Topic	Section	Due
1	Indefinite Integrals and the Substitution Method	5.5	9-1
	Definite Integral Substitutions and the Area Between Curves	5.6	9-8
	Quiz 1: section 2.1		9-10
	Volumes Using Cross-Sections	6.1	9-14
2	Volumes Using Cylindrical Shells	6.2	9-18
	Quiz 2: Sections 6.1-6.2		9-20
3	Arc Length	6.3	9-27

	Areas of Surfaces of Revolution	6.4	9-27
	Quiz 3: Sections 6.3-6.4		9-30
4	Work and Fluid Forces	6.5	10-2
	Moments and Center of Mass	6.6	10-4
	Quiz 4: Sections 6.5-6.6		10-6
5	Review for Exam 1		
	Exam 1: Sections 5.5-6.6		10-8,9
6	The Logarithm Defined as an Integral	7.1	10-14
	Exponential Change and Separable Differential Equations	7.2	10-17
	Hyperbolic Functions	7.3	10-19
	Quiz 5: Sections 7.2-7.3		10-20
7	Relative Rates of Growth	7.4	10-21
	Review for Exam 2		
	Exam 2: Sections 7.1-7.4		10-24, 25
8	Using Basic Integration Formulas	8.1	10-26
	Integration by Parts	8.2	10-28
	Quiz 6: Sections 8.1-8.2		10-29
9	Trigonometric Integrals	8.3	10-30
	Trigonometric Substitutions	8.4	11-1
	Quiz 7: Sections 8.3-8.4		11-3
10	Integration of Rational Functions by Partial Fractions	8.5	11-5
	Improper Integrals	8.8	11-7
	Quiz 8: Sections 8.5, 8.8		11-8
11	Review for Exam 3		
	Exam 3: Sections 8.1-8.5, 8.8		11-9,10
12	Sequences	10.1	11-12
	Infinite Series	10.2	11-14
	The Integral Test	10.3	11-16
	Quiz 9: Sections 10.1-10.3		11-18
13	Comparison Tests	10.4	11-20
	Absolute Convergence; The Ratio and Root Tests	10.5	11-22
	Quiz 10: Sections 10.4-10.5		11-24
14	Alternating Series and Conditional Convergence	10.6	11-29
	Power Series	10.7	11-30
	Quiz 11: Sections 10.4-10.5		12-1
15	Taylor and Maclaurin Series	10.8	12-3
	Review for Exam 4		
	Exam 4: Sections 10.1-10.8		12-4,5
16	Review for Comprehensive Final Exam		
	Comprehensive Final Exam		12-7,9

W-day: November 19th

9. Attendance Policy

Attendance and classroom participation is required.

10. **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 only permitted to withdraw six times during their college career by State law. The last day to is November 19th for 16-week courses.

11. **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.

12. **Early Alert Program**

The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success is 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.

13. **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.

14. **Concerns about the Instructor**

If you have any questions or concerns about any aspect of this course, please contact me at tenglish@com.edu. If, after discussing your concern with me, you continue to have questions, please contact Department Chair Leslie Richardson at lrichardson@com.edu.

15. Table Mapping SLO's and Core Objectives

Student Learner Outcome	Maps to Core Objective	Assessed via this
1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.	Empirical and Quantitative Skills	Exam
2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of antiderivatives to evaluate definite and indefinite integrals.	Critical Thinking	Exam
3. Define an improper integral.	Critical Thinking	Exam
4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.	Critical Thinking	Quiz
5. Determine convergence or divergence of sequences and series.	Critical Thinking	Exam
6. Use Taylor and Maclaurin series to represent functions.	Empirical and Quantitative Skills	Exam
7. Use Taylor or Maclaurin series to integrate functions not integrable by conventional methods.	Empirical and Quantitative Skills	Exam
8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.	Empirical and Quantitative Skills	Exam

16. 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://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.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.* https://build.com.edu/uploads/sitecontent/files/student-services/Student_Handbook_2019-2020v5.pdf

17. Academic Success & Support Services

College of the Mainland is committed to providing students the necessary support and tools for success in their college career. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

18. ADA Statement

Any student with a documented disability needing academic accommodations is requested to contact Holly Bankston at 409-933-8520 or hbankston@com.edu. The Office of Services for Students with Disabilities is located in the Student Success Center.

19. Counseling Statement: Any student that is needing counseling services is requested to please contact Holly Bankston in the student success center at 409-933-8520 or hbankston@com.edu. Counseling services are available on campus in the student center for free and students can also email counseling@com.edu to setup their appointment. Appointments are strongly encouraged; however, some concerns may be addressed on a walk-in basis.

20. COVID-19 Statement: All students, faculty, and staff are expected to familiarize themselves with materials and information contained on the College of the Mainland's Coronavirus Information site at www.com.edu/coronavirus. In compliance with Governor Abbott's May 18 Executive Order, face coverings/masks will no longer be required on COM campus. Protocols and college signage are being updated. We will no longer enforce any COM protocol that requires face coverings. We continue to encourage all members of the COM community to distance when possible, use hygiene measures, and get vaccinated to protect against COVID-19. Please visit com.edu/coronavirus for future updates.