Department of Mathematics

Syllabus
for
Math 2413.021IN Spring 2021
Calculus I

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: MTWRF 9:30-11:00 am **Virtual Office Hours**: MTWRF 9:30-11:00 am
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 online access to this text via MyMathLab and do not have to purchase a printed copy of this 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:

Final Average = 64%Chapter Exam Average + 16%Final Exam
+ 10%Homework Average + 10%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	Rate of Change and Tangent Lines	2.1	1-23
	Limit of a Function and Limit Laws	2.2	1-23
	Quiz 1: Section 2.1		**1-23**
2	Precise Definition of a Limit	2.3	1-30
	One-sided Limits	2.4	1-30
3	Continuity	2.5	1-30
3	Limits involving Infinity and Asymptotes	2.6	2-6
	Review		
4	**Exam 1: Chapter 2**		**2-13**
	Tangent Lines, Derivative at a point	3.1	2-15
	Derivative of a Function	3.2	2-15
5	Derivative Rules	3.3	2-20
	The Derivative as a Rate of Change	3.4	2-20
	Derivative of Trigonometric Functions	3.5	2-20
6	The Chain Rule	3.6	2-27
	Quiz 2: Sections 3.1-3.6		**2-27**
	Implicit Differentiation	3.7	3-1
7	Derivatives of Inverse Functions and Logs	3.8	3-6
	Inverse Trigonometric Functions	3.9	3-6
	Related Rates	3.10	3-6
8	**Quiz 3: Section 3.10**		**3-13**
	Review		
	Exam 2: Chapter 3		**3-13**
9	Extreme Values of a Function on a Closed Interval	4.1	3-27
	The Mean Value Theorem	4.2	3-27
	Monotonic Functions, The First Derivative Test	4.3	3-27
10	Concavity, Curve Sketching	4.4	4-6
	Quiz 4: Section 4.4		**4-6**
	Indeterminate Forms, L'Hopital's Rule	4.5	4-6
11	Applied Optimization	4.6	4-10
	Quiz 5: Section 4.6		**4-10**
	Antiderivatives	4.8	4-10
12	Review		
	Exam 3: Chapter 4		**4-17**
13	Area, Estimating with Finite Sums	5.1	4-24
	Sigma Notation, Limits of Finite Sums	5.2	4-24
	The Definite Integral	5.3	4-24
14	Fundamental Theorem of Calculus	5.4	5-1
15	**Quiz 6: Section 5.4**		**5-8**
	Review		
	Exam 4: Chapter 5		**5-8**
16	**Review**		
	Final Exam: Chapters 2-5		**5-13**

W-day: April 26th

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 April 26th 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. Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.	Critical Thinking	Quizzes 1, 6
2. Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.	Communication Skills	Quiz 4
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	Quiz 3, 5
6. Evaluate definite integrals using the Fundamental Theorem of Calculus.	Empirical and Quantitative Skills	Quiz 6

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.. Students are required to watch a training video, complete the self-screening, and acknowledge the safety guidance at: www.com.edu/selfscreen. In addition, students, faculty, and staff must perform a self-screening prior to each campus visit. Finally, students, faculty, or staff which have had symptoms of COVID-19, received a positive test for COVID-19, or have had close contact with an individual infected with COVID-19 must complete the self-report tool.