MATH 2413.001 – Calculus I, Traditional F2F
Course Syllabus: Spring 2020

"Northeast Texas Community College exists to provide personal, dynamic learning experiences empowering students to succeed."

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	10:30 – 11:00	10:30 – 11:00	10:30 – 11:00	10:30 – 11:00		Professor checks email multiple times daily.
	1:00 – 1:30	1:00 – 3:30	1:00 – 4:00	12:30 – 1:30		
	3:00 – 4:30					

This syllabus serves as the documentation for all course policies and requirements, assignments, and instructor/student responsibilities.

Information relative to the delivery of the content contained in this syllabus is subject to change. Should that happen, the student will be notified.

Course Description: Calculus I is a standard first course in the calculus series. Topics include differentiation of algebraic and trigonometric functions, differentiation formulas, applications of the derivative, mean value theorem, maxima/minima, points of inflection, curve sketching, antiderivatives, definite and indefinite integrals, upper and lower sums, and the fundamental theorem of calculus.

Prerequisite(s): MATH 2412 (Precalculus) or equivalent with a "C" or better

Student Learning Outcomes:
Upon successful completion of this course, students will:

2413.1 Determine the limit of a function graphically, numerically, and analytically.

2413.2 Calculate derivatives using the definition of the derivative as the limit of a difference quotient.

2413.3 Calculate derivatives of algebraic, trigonometric, and implicit functions.

2413.4 Apply methods of calculus to graph polynomial, rational, and trigonometric functions.

2413.6 Problem-solve a broad base of application problems involving differentiation including but not limited to Rolle's Theorem and the Mean Value Theorem.

2413.7 Calculate and apply antiderivatives of algebraic and trigonometric functions.

2413.8 Understand the relationship between antiderivative and integral by way of the Fundamental Theorem of Calculus.

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

College Student Learning Outcomes:

Critical Thinking Skills

CT.1   Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

CS.1   Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

EQS.1 Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

EQS.2 Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

EQS.3 Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

Evaluation/Grading Policy:

Three major 100 point examinations, evenly spaced throughout the semester, will count for 45% of the final grade (15% each). Homework will be worth 25%. Quizzes will be work 10% of your final grade. A comprehensive final examination will contribute 20% to the overall grade.

3 Major Exams	45% (15% each)
Homework Grade	25%
Quizzes	10%
Comprehensive Final Exam	20%
TOTAL	100%

Make-up exams will not be given unless the student has coordinated with the instructor at least two days prior to the exam. Late work will incur a penalty of 10 points per day, unless otherwise indicated by the instructor.

Grading System

"A"	90-100%
"B"	80-89%
"C"	70-79%
"D"	60-69%
"F"	< 60%

Required Instructional Materials:
Larson/Edwards, Calculus, 11th Edition Binder Text, and a WebAssign Passcode

Publisher: Cengage

ISBN Number: 1-285-85848-4 LARSON / CALCULUS BINDER TEXT W/WEBASSIGN

Optional Instructional Materials: None

Minimum Technology Requirements:
Graphing Calculator is required. TI-84 is preferred, but other models may be approved by the instructor.

Required Computer Literacy Skills:
1) Communicate via email;
2) Saving and reloading saved files;
3) Navigate Blackboard to access posted materials and WebAssign assignments.

Course Structure and Overview:
This is a 16-week traditional course where students are required to access graded activities on WebAssign via the Blackboard Learning Management System. Class will meet twice a week. A typical week involves general participation by all students in discussions involving mathematical and statistical principles and the algorithms needed to apply these principles. Students are required to complete online homework assignments on WebAssign by the due dates. In addition, students are expected to take class notes during each class, watch instructional videos, and read the course textbook. To be successful, it is very important for students to keep up with course materials and assignments.

Communications:
Emails and Remind messages will be responded to within 24 hours. Students may contact the instructor via Remind texting or via email. Students are expected to abide by Netiquette rules when communicating online. See this link for details: **https://coursedesign.colostate.edu/obj/corerulesnet.html**.

The college's official means of communication is via your campus email address. Your instructors will use your campus email and Blackboard to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

Institutional/Course Policy:

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. Excused absences may be permitted at the discretion of the instructor for illness, official college activities, or personal emergencies. The student is responsible for

initiating procedures for make-up work. All other missed assignments will not be accepted unless otherwise stated and is completed to the satisfaction of the instructor. Students absent on an exam day must have informed the instructor prior to missing the exam. If the instructor is not informed prior to missing the exam, the exam will not be allowed to be made up and the student will receive a zero for that exam.

There will be no cell phone usage in the classroom unless requested by your instructor. Students will be warned if caught using a phone during class. A student will be removed from class if the disruption continues. If a student has an emergency, they may step out in the hallway to answer a call.

No late work will be accepted without prior approval by the instructor. It is the student's responsibility to check Blackboard, their NTCC email account, WebAssign, and Remind for important information/announcements regarding the course. Students should be working on course material via Blackboard and WebAssign every week. Do not wait until the last minute to complete and submit assignments in case of technology issues.

NTCC Academic Honesty/Ethics Statement:
NTCC upholds the highest standards of academic integrity. The college expects all students to engage in their academic pursuits in an honest manner that is beyond reproach using their intellect and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. This course will follow the NTCC Academic Honesty and Academic Ethics policies stated in the Student Handbook. Refer to the student handbook for more information on these subjects.

ADA Statement:
It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with the Academic Advisor/Coordinator of Special Populations located in Student Services and can be reached at 903-434-8264. For more information and to obtain a copy of the Request for Accommodations, please refer to the special populations page on the NTCC website.

Family Educational Rights and Privacy Act (FERPA):
The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Tentative Course Timeline (*note* instructor reserves the right to make adjustments to this timeline at any point in the term):

Submission of homework problems will be determined on a section-by-section basis. Changes on individual problem sets may be made in class. Select sections will be given through WebAssign.

Week 1:
Section 1.1 A Preview of Calculus
Section 1.2 Finding limits Graphically and Numerically

Week 2:
Section 1.3 Evaluating Limits Analytically
Section 1.4 Continuity and One-Sided Limits
Section 1.5   Infinite Limits

Week 3:
Section 2.1 The Derivative and the Tangent Line Problem
EXAM #1 (Chapter 1 & Section 2.1)

Week 4:
Section 2.2 Basic Differntiation Rules and Rates of Change
Section 2.3 Product and Quotient Rules and Higher-Order Derivatives

Week 5:
Section 2.4 The Chain Rule
Section 2.5 Implicit Differentiation

Week 6:
Section 2.6 Related Rates
EXAM #2 (Chapter 2)

Week 7:
Section 3.1 Extrema on an Interval

Week 8:
Section 3.2 Rolle's Theorem and the Mean Value Theorem
Section 3.3 Increasing and Decreasing Functions and the First Derivative Test

Week 9: SPRING BREAK!!

Week 10:
Section 3.4 Concavity and the Second Derivative Test
Section 3.5   Limits at Infinity

Week 11:
Section 3.6 A Summary of Curve Sketching
Section 3.7 Optimation Problems
Section 3.8 Newton's Method
Section 3.9 Differentials

Week 12:
EXAM #3 (Chapter 3)

Week 13:
Section 4.1 Antiderivatives and Indefinite Integration
Section 4.2 Area

Week 14:
Section 4.3 Riemann Sums and Definite Integrals
Section 4.4 The Fundamental Theorem of Calculus

Week 15:
REVIEW FOR FINAL EXAM

Week 16:
COMPREHENSIVE FINAL