NORTHEAST TEXAS
COMMUNITY COLLEGE

MATH 2413.085 Calculus I

Course Syllabus: Summer 2026

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

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Weekday	Office Hours
Monday	Online
Tuesday	Online
Wednesday	Online
Thursday	Online
Friday	Online

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:
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 an application to calculation of areas.

Prerequisite: MATH 2412 (Precalculus) or its equivalent.

Student Learning Outcomes:

2413.1 Develop solutions for tangent and area problems using the concepts of limits, derivatives, and integrals.

2413.2 Draw graphs of algebraic and transcendental functions considering limits, continuity, and differentiability at a point.

2413.3 Determine whether a function is continuous and/or differentiable at a point using limits.

2413.4 Use differentiation rules to differentiate algebraic and transcendental functions.

2413.5 Identify appropriate calculus concepts and techniques to provide mathematical models of real-world situations and determine solutions to applied problems.

2413.6 Evaluate definite integrals using the Fundamental Theorem of Calculus.

2413.7 Articulate the relationship between derivatives and integrals using the Fundamental Theorem of Calculus.

Core Curriculum Purpose and Objectives:
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.

Program 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:

The breakdown of the course requirements is as follows:

%	Requirement
40%	Online Homework Assignments
30%	Midterm Exam
30%	Final Exam

Semester grades will be earned as follows

Percentage	Letter Grade
90% and above	A
80 %–89%	B
70 %–79%	C
60%–69 %	D
59.9% and below	F

A series of online homework (Lumen OHM) will be worth 40% of your final grade. Midterm and Final Exams will contribute 60% of the final grade (30% each).

Homework via Lumen OHM is graded when submitted.

Make-up exams will not be given unless the student has coordinated with the instructor prior to the exam.

Lumen OHM homework will require the use of "Late Passes" if not completed by the scheduled due date. Each student has 255 last passes that extend the assignment due date for 48 hours. Students may use more than one late pass per assignment that is past due. Any missed work will be made-up at the discretion of the instructor. It is the student's responsibility to contact the instructor.

Required Instructional Materials:
Inclusive Access Course: A discounted textbook fee is added to your student account to cover the cost of the required access code. Inclusive Access Content: 978-1-938168-02-4. You have access to a free digital textbook on openstax.org. If you would like a printed textbook, these are available for purchase.

Publisher: Lumen **ISBN:** 978-1-938168-02-4

Optional Instructional Materials:
The textbook is available for free in Blackboard as a PDF or digital version. Print copy is not required by

highly recommended.

Minimum Technology Requirements:
Graphing Calculator is required. TI-83/84 is preferred. A free online TI-83/84 will be available in Blackboard for PCs. A free online graphing calculator for Windows is available in Blackboard. Desmos is a free graphing utility available to students (Desmos.com).

Below are some technical requirements for using Blackboard that will help your experience in this course.

You will see the NTCC Tech Support email address and phone number below. Please contact them if you run into any technical problems during the semester. Please let your instructor know you are having difficulties as well.

If you need further NTCC technical support services, please contact Austin Baker or Mary Lou Pemberton at:

abaker@ntcc.edu or 903-434-8279
mpemberton@ntcc.edu or 903-434-8270

Blackboard will work on both a Mac and a PC. (Chrome Books are known to have issues with Blackboard.) It is best to access Blackboard through Fire-Fox or Chrome as your web browser. If you have trouble with any of the activities working properly, you might change your web browser as your first solution. The Default Browser in Windows 10 is Edge. This browser does not do well with Blackboard! If you go to Windows Accessories you will find Internet Explorer still on your computer but is not your default browser. If you have any difficulties navigating with Edge, close it and go to Internet Explorer.

You can download Blackboard Student for your smart phone from the Play store or the App store.

More information is available for Technology Requirements and Support under the Student Resources – Technical Support Tab in Blackboard.

Required Computer Literacy Skills:
To ensure that you are fully prepared for your course, following is a list of expectations and requirements: Students in a hybrid and/or on-line program should be comfortable with and possess the following skill sets:

1. Self-discipline
2. Problem solving skills
3. Critical thinking skills
4. Enjoy communication in the written word

As part of your learning experience, you can expect to utilize a variety of technology mediums as part of your curriculum:

1. Communicate via email including sending attachments
2. Navigate the World Wide Web using a Web browser such as Internet Explorer
3. Use office applications such as Microsoft Office (or similar) to create documents
4. Be willing to learn how to communicate using a discussion board and upload assignments to a classroom Web site
5. Be comfortable uploading and downloading saved files
6. Have easy access to the Internet
7. Navigate Blackboard, including using the email component within Blackboard. Instructions and tutorials for this are provided in your course.

For more information or technical assistance on using the Learning Management System, please refer to the Home Page, Orientation Module, in the important technical requirement, information and support folder in Blackboard.

Course Structure and Overview:
This is a 10-week online course where students are required to access graded activities on the Blackboard Learning Management System. A typical class involves general participation by all members in discussions regarding mathematical principles and procedures being studied. Students are required to complete online homework and exams. It is particularly important for students to keep up with course materials and assignments since this is a very fast-paced course. Students are expected to watch instructional videos, read course textbook, and complete online assignments located in the Learning Management System, Blackboard by the due dates.

Communications:
Emails and TEAMs messages will be responded to with 24 hours. If you do not receive a response within 24 hours, then the email or text was not received. The fastest ways to reach Dr. Reagan are by email Lreagan@ntcc.edu and TEAMs messaging.

The college's official means of communication is via your campus email address. I will use your campus email address 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:
No late work will be accepted without prior approval by the instructor. Students are always expected to be respectful toward classmates and the professor. Review Student Conduct in the Student Handbook. It is the student's responsibility to check Blackboard for important information/announcements regarding the course. Students should be working on course material via Blackboard every week. Do not wait until the last minute to complete and submit assignments in case of technology issues.

Alternate Operations During Campus Closure and/or Alternate Course Delivery Requirements:
In the event of an emergency or announced campus closure due to a natural disaster or pandemic, it may be necessary for Northeast Texas Community College to move to altered operations. During this time, Northeast Texas Community College may opt to continue delivery of instruction through methods that include, but are not limited to, online through the Blackboard Learning Management System, online conferencing, email messaging, and/or an alternate schedule. It is the responsibility of the student to monitor NTCC's website (http://www.ntcc.edu/) for instructions about continuing courses remotely, Blackboard for each class for course-specific communication, and NTCC email for important general information.

Additionally, there may be instances where a course may not be able to be continued in the same delivery format as it originates (face-to-face, fully online, live remote, or hybrid). Should this be the case, every effort will be made to continue instruction in an alternative delivery format. Students will be informed of any changes of this nature through email messaging and/or the Blackboard course site.

Statement Regarding the Use of Artificial Intelligence (AI) Technology:
Employees and students shall be permitted to explore artificial intelligence (AI) and implement its use in and out of the classroom in accordance with policy and administrative regulations. The use of AI shall only be as a support tool to enhance student outcomes or as necessary to engage in research and shall never take the place of faculty, staff, and student decision-making. Any use of AI must comply with law,

policy, and administrative regulations relating to student and employee privacy and data security. A student shall only use AI tools with faculty permission and shall be expected to produce original work and properly credit sources, including AI tools used in creating the work.

Example:
APA (7th edition)
OpenAI. (2026). ChatGPT (March 25 version) [Large language model]. https://chat.openai.com/
MLA (9th edition)
OpenAI. ChatGPT. 25 Mar. 2026, https://chat.openai.com/.

Employees or students who use AI tools to deceptively harm, bully, or harass others shall be disciplined in accordance with policy. [See DH, DIA series, FFD series, FFE, FLB, and the FM series] AI Use by Employees and Students. Northeast Texas Community College 225500 TECHNOLOGY RESOURCES CRB ARTIFICIAL INTELLIGENCE (LOCAL) DATE ISSUED: 12/8/2025 1 of 1 UPDATE 50 CRB(LOCAL)-AJC Adopted: 12/16/2025

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 accommodation 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 accommodation as required to afford equal educational opportunity. It is the student's responsibility to request accommodation. 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.

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Weeks	Topic	Due Dates
Week 1	Module 3: Understanding Limits (3.1 – 3.2)	**ALL ASSIGNMENTS DUE BY MIDNIGHT
	Complete the Syllabus Acknowledgement Agreement & Introduction Discussion in Bb	Syllabus Acknowledgement due 6/11
	Read e-text & watch section videos for 3.1 & 3.2 in the Module 3 folder	
	Complete online homework: Sections 3.1 & 3.2	3.1 due 6/11 3.2 due 6/14
Week 2	Module 4: Limits & Continuity (4.1, 4.2, & 4.3)	
	Read textbook and watch videos in Module 4 folder	
	Complete online homework for sections 4.1, 4.2, & 4.3	4.1 due 6/14 4.2 due 6/17 4.3 due 6/21
Week 3	Module 5: Introduction to Derivatives (5.1 – 5.4)	
	Review textbook section material & watch videos in Module 5.	
	Complete assigned online HW problems.	5.1 due 6/21 5.2 due 6/24 5.3 due 6/28 5.4 due 6/28
Week 4	**Midterm Review & MIDTERM EXAM** **Make sure ALL homework and the Midterm Review is complete before taking the Midterm Exam,	**Midterm Review due 7/2** **Midterm Exam will open at 8:00 a.m. on 7/2 and close at midnight on 7/3**
Week 5 & Week 6	Module 6: Techniques for Differentiation (6.1 – 6.5)	
	Review textbook section material & watch videos in Module 6. Complete assigned homework problems.	6.1 due 7/8 6.2 due 7/12 6.3 due 7/15 6.4 due 7/19 6.5 due 7/19

Week 7	Module 7: Analytical Applications for Derivatives (7.1 – 7.5)	
	Review textbook section material & watch videos in Module 7.	
	Complete assigned online Module 7 HW problems.	7.1 due 7/22 7.2 due 7/22 7.3 due 7/26 7.4 due 7/29 7.5 due 7/29
Week 8	Module 8: Contextual Applications of Derivatives (8.1, 8.5)	
	Review textbook section material & watch videos	
	Complete assigned online Module 8 HW.	8.1 due 8/2 8.5 due 8/5
Week 9	Module 9: Integration (9.1 – 9.3)	
	Review textbook section material & watch videos	
	Complete assigned online Module 9 HW problems.	9.3 due 8/9
Week 10	Review for Final Exam (complete and study prior homework covered since the midterm)	
	Final Exam Review & Final Exam **Covers Week 5 – Week 10**	***Final Exam Review due 8/12*** ***FINAL EXAM will open at 8:00 a.m. on 8/12 and close at midnight on 8/13***