Math2415.01NIN Calculus III
Course Syllabus: Fall 2023

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

Instructor: Dr. Doug Richey
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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	9:00 – 10:50	9:00 – 10:50	9:00 – 10:50	9:00 – 12:20	Online, TEAMS & Appointment	Everyday

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: This is a third course in calculus with advanced topics in calculus, including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. Four hours credit.

Prerequisite(s): MATH 2414 or equivalent with a grade of "C" or better

Student Learning Outcomes:

2415.1   Perform calculus operations on vector-valued functions, including derivatives, integrals, curvature, displacement, velocity, acceleration, and torsion.

2415.2   Perform calculus operations on functions of several variables including partial derivatives, directional derivatives, directional derivatives, and multiple integrals.

2415.3   Find extrema and tangent planes.

2415.4   Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the Divergence Theorem, and Stokes' Theorem.

2415.5   Apply the computational and conceptual principles of calculus to the solutions of real-world problems.

Program Student Learning Outcomes:

<u>Critical Thinking Skills</u>

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.

<u>Communication Skills</u>

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

<u>Empirical and Quantitative Skills</u>

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:

Two major 150 point examinations, a midterm and a final, will be given to comprise 75% of the final grade. The average of a series of special assignments, online engagements, and homework exercises totaling 100 points will be worth 25% of the final grade.

2 Major Exams	75%
Weekly Grade	25%
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 for whatever reason for the absence, unless otherwise indicated by the instructor.

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

Make-up exams will not be given unless the student has coordinated with the instructor prior to the exam. Late work for whatever reason will incur a penalty unless otherwise indicated by the instructor

Required Instructional Materials:
Textbook: Calculus Volume 3
You have access to a free digital textbook on openstax.org. If you would like a printed textbook, which is the preferred option, these are available for purchase.

Publisher: OpenStax   **ISBN Number:** 9781938168079
Rice University
6100 Main Street MS-375
Houston, TX 77005

Minimum Technology Requirements:
Graphing Calculator is required. TI-83/84 is preferred. A free online TI-83 will be available in Blackboard for PCs. 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 will 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.

To use Remote Proctor Now and/or Zoom you must have access to a computer with high-speed internet, a microphone, a Webcam, and appropriate systems rights to download any necessary software. Please note, the college does not provide this equipment.

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:
As an online student you will have a much different "classroom" experience than a traditional student. To ensure that you are fully prepared for your online courses, 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 online 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 ten-week distance learning course where students are required to access graded activities on the Blackboard Learning Management System. Students are required to complete online assignments which include homework from the textbook and discussion forums. It is particularly important students keep up with course materials and assignments. Students are expected to watch instructional videos, read course textbook, and complete assignments located in the syllabus on the Learning Management System, Blackboard by due dates shown there.

Video Recording of Course Activities
Certain portions of this course may be recorded via video conferencing software to assist students in course material review or later viewing by a student who was not able to attend the live session. The recordings will be made available only to students within the course and will cease to be available upon completion of the course. Students may not retain, reproduce, or share recordings.

Communications:
Emails will be responded to with 24 hours. If you do not receive a response within 24 hours, then the email was not received.   Posts in the Discussion Forum "Questions, Comments, and/or Concerns?" will be monitored by the instructor. Responses by the instructor will be within 72 hours of post. Students are expected to abide by Netiquette rules when communicating online. See this link for details: Netiquette Rules.

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 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.

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.

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

NOTE: Reading sections 1.1, 1.3, 1.5, 2.1 - 2.7, 6.1, 6.3, 6.5 are optional with no homework problems assigned. You may review them depending upon your background and freshness of memory. Below are sections to be read, studied, and problems to complete.

Week 1 – Section 1.2, Problems 63, 70, 77, 84, 91, 98, 105, 112, 119
            Section 1.4, Problems 189, 196, 203, 210

Week 2 – Section 3.1, Problems 7, 14, 21
            Section 3.2, Problems 42, 49, 56, 63, 70, 77

Week 3 – Section 4.1, Problems 7, 14, 21, 28, 35
            Section 4.2, Problems 63, 70, 77, 84, 91

Week 4 - Section 4.3, Problems 112, 119, 126, 133, 140, 147
            Section 5.1, Problems 7, 14, 21, 28, 35

Week 5 – **Midterm Examination July 9ᵗʰ, 2023**

Week 6 – Section 5.2, Problems 63, 70, 77, 84, 91, 98, 105
            Section 5.3, Problems 126, 133, 140, 147, 154

Week 7 – Section 5.4, Problems 182, 189, 196, 203, 210
            Section 6.2, Problems 39, 40, 41, 42

Week 8 – Section 6.4, Problems 147, 149

Section 6.6, Problems 269, 271

Week 9 – Section 6.7, Problems 327, 329
Section 6.8, Problems 385, 387

Week 10 – Final Examination August 10th, 2023