Dallas College · School of Engineering, Technology, Math and Science · Mathematics

Calculus II

MATH-2414

Summer 2025 Section 33743 4 Credits 07/14/2025 to 08/14/2025 Modified 07/12/2025

Course Information

Class Meetings:

Bldg	Room	Type	Days	Start Time	End Time
CET	INET	INET	M T W R F S U		

Withdraw Date:08/06/25
Certification Date:07/17/25

Course Description

This course is a study of differentiation and integration of transcendental functions; parametric equations and polar coordinates; techniques of integration; sequences and series; improper integrals.

Requisites

Required: MATH 2413 or equivalent.

State-Defined Learning Outcomes

Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals. Define an improper integral. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals. Determine convergence or divergence of sequences and series. Use Taylor and MacLaurin series to represent functions. Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.

Instructor-Defined Learning Outcomes

Upon successful completion of this course, students will:

1. Use the concepts of definite integrals to solve problems involving area, volume, work, and other physical applications.
2. Use substitution, integration by parts, trigonometric substitution, partial fractions, and tables of anti-derivatives to evaluate definite and indefinite integrals.
3. Define an improper
4. Apply the concepts of limits, convergence, and divergence to evaluate some classes of improper integrals.
5. Determine convergence or divergence of sequences and
6. Use Taylor and Maclaurin series to represent
7. Use Taylor or Maclaurin series to integrate functions not integrable by conventional
8. Use the concept of polar coordinates to find areas, lengths of curves, and representations of conic sections.

Texas Core Objectives

The College defines essential knowledge and skills that students need to develop during their college experience. These general education competencies parallel the Texas Core Objectives for Student Learning. In this course, the activities you engage in will give you the opportunity to practice two or more of the following core competencies:

A. Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
B. Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication;
C. Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;
D. Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal;
E. Personal Responsibility: to include the ability to connect choices, actions and consequences to ethical decision-making; and
F. Social Responsibility: to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.

Required Course Materials

Course Materials Link (https://www.bkstr.com/webApp/discoverView?bookstore_id-1=607&term_id-1=4&dept-1=MATH&course-1=2414&section-1=33743)

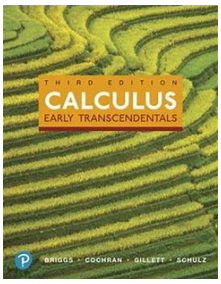
External Webcam

- An external webcam, mic, and the software 'Pearson Lockdown Browser' are required for taking online exams. Internal webcams (those that are built-into the computer) are not allowed, because your webcam must be placed **4 feet away from you** when testing.

- A graphing calculator is allowed. A calculator in the TI-83 or TI-84 family is recommended. Calculators used in this course must not have a computer algebraic system (CAS) or algebraic manipulation ability.

Calculus: Early Transcendentals with Integrated Review

Author: Biggs, Cochran, Gillett, and Schulz
Publisher: Pearson
Edition: 3rd
ISBN: 9780135904190



✔ Graded Work

The "**Criteria**" table below is a summary of all the graded work in this course.

The course work used to determine the grade in this course is described below.

1. Information Sheet
    1. The Information Sheet can be found under “Start Here” in eCampus. It must be uploaded by the due date posted in It must be in your own handwriting (not typed).
    2. This assignment also serves as practice uploading your written work for tests and the final exam.
2. Discussion Board
    1. There is a discussion board introduction found in eCampus under "Assignments & Tests"
    2. Start a new thread by introducing yourself to your classmates. Next, respond to the discussion question and respond to four other students’ initial response to receive full credit.
3. Homework Assignments in MyLab Math
    1. All homework assignments and instructional videos are found on the MyLab Math website by clicking on the ‘Homework Assignments’ tab. These may be worked ahead of their due dates, so work ahead if the due dates conflict with your personal
    2. Almost every assigned homework problem can be repeated up to 4 times by doing a similar problem. MyLab Math will keep the best score of all attempts on the same
    3. Each homework assignment is due by the time and date indicated in MyLab Math. Homework problems not completed by their due date may still be worked until 11:59 pm the night before the exam covering that homework material is given, which is the deadline for those homework assignments. Homework problems worked after their due date, but before their deadline, will be subject to a 15%-point penalty reduction. No homework problems may be worked or submitted for credit after their deadline.

    4. After the due date, homework assignments may be viewed by clicking on *'Gradebook'* (in MyLab Math), then clicking on the assignment link. This allows you to review the problems, but you will not be able to enter any answers into the assignment
4. Quizzes: Reviews in MyLab Math
    1. There are five Quizzes (in MyLab) which act as reviews for the tests.
    2. Each test has a review plus one for the final exam. The problems in the reviews are similar to those found on the tests and the final exam.

5. Unit Tests and Final Exam
    1. There are four tests and a Final
    2. Each test will only be visible on its availability date as listed on the class calendar
    3. Unit tests are timed at 80 minutes, and the Final Exam is timed at 110
    4. No books or notes are permitted to be used by students when taking any test or the final exam. No help from other outside sources, cell phone apps, websites, or other people is permitted when taking an exam.
    5. Each test and the final exam must be completed in one sitting, it cannot be saved and reopened for any reason.
    6. Your test will immediately be submitted if you go to any other website or try to access the course book or homework problems within MyLab Math. Your test will also terminate access if you have any other websites open when you begin an exam. Be sure all other websites are closed on your computer before beginning an exam.
    7. TI 89, TI-Nspires, and any other brand calculator with a computer algebra system (CAS) are **not permitted.** TI-83 or TI-84 are recommended**.**
    8. Tests and the Final Exam will not be reopened for any Be certain you have all browsers closed and are ready to take the exam prior to starting it.
    9. You must submit your written work to eCampus within 15 minutes of completing your exam. Failure to do so will result in a grade reduction or even a zero on the test or final
    10. The Final Exam is required of all. A missed Final Exam will earn a score of zero and that zero will count in the course grade.

The "**Breakdown**" table explains the final letter grade.

Percentages	Letter Grade
90-100%	A
80-89%	B
70-79%	C

60-69%	D
0-59%	F

Criteria

Assignments	Percentage
Discussion Board	2%
Information Sheet	1%
MyLab Math Homework Assignments	17%
4 Quizzes (Exam's Reviews)	6%
3 Tests (@ 18% each)	54%
Final Exam	20%

Type	Weight	Topic	Notes

Breakdown

Percentages	Letter Grade
90-100%	A
80-89%	B
70-79%	C
60-69%	D

0-59%	F

Grade	Range	Notes

Course Schedule

The table below is a summary of course topics covered. The due dates are marked on the class calendar.

Your instructor will notify you of any changes to the schedule during the term.

Week	**Content to be covered**	**Assignments and Due Dates**
1 July 13	Read the course syllabus! ML Orientation Information Sheet 6.2 Regions Between Curves 6.3 Volume by Slicing 6.4 Volume by Shells 6.5 Length of Curves 6.6 Surface Area	Download to your phone the following free scanning Apps **CamScanner**, or any others.

Week	Content to be covered	Assignments and Due Dates
2 July 20	6.7 Physical Applications 7.1 Logarithmic and Exponential Functions 7.3 Hyperbolic Functions Quiz 1: Review for Test 1 (7/21/25) Test 1 (7/22/25) Discussion Board (DB #1) 8.1 Basic Approaches 8.2 Integration by Parts 8.3 Trigonometric Integrals 8.4 Trigonometric Substitutions 8.5 Partial Fractions 8.6 Integration Strategies	
3 July 27	8.7 Other Methods of Integration 8.8 Numerical Integration 8.9 Improper Integrals Quiz 2: Review for Test 2 (7/28/25) Test 2 (7/29/25) 10.1 An Overview 10.2 Sequences 10.3 Infinite Series	

Week	Content to be covered	Assignments and Due Dates
4 August 3	10.4 The Divergence and Integral Tests 10.5 Comparison Tests 10.6 Alternating Series 10.7 The Ratio and Root Tests 10.8 Choosing a Convergence Test 11.1 Approximating Functions with Polynomials 11.2 Properties of Power Series 11.3 Taylor Series 11.4 Working with Taylor Series Quiz 3: Review for Test 3 (8/7/205 Test 3 (8/8/25)	
5 August 10	12.1 Parametric Equations 12.2 Polar Coordinates 12.3 Calculus in Polar Coordinates Quiz 4: Review for Final Exam (8/13/25) Final Exam (8/14/25)	

When	Topic	Notes

Course Policies

Missed Exam Policy

If a student experiences an **extreme circumstance** which causes them to miss a test, a makeup test may be made available at the discretion of the instructor. The student must contact the instructor within 24 hours of the missed test and provide verifiable documentation. Otherwise, the Final Exam score will replace

one missed test.

Other Course Policies

- **No extra credit** of any sort will be given.
- The Final Exam score will replace the score of the lowest of Exams 1-4, if it is higher, as well as being used as the Final Exam score. If two (or more) unit exams have the same lowest score, only one will be replaced by the Final Exam.

Academic Dishonesty in Math Classes

Academically dishonest behavior is, in general, the representation of another's work as one's own. This includes unauthorized collaboration between students, and on exams it includes using books, notes or other unauthorized materials or websites or apps during the exam. Students who behave in academically dishonest ways may have their grade penalized or be subject to disciplinary action by the Dean of Students. Students who collaborate during exams or use unauthorized materials or websites or apps may, at the instructor's discretion, have the exam grade lowered or be given a grade of zero.

You are required to have an external Webcam (not the built in) for the following reason: I want to see you, your screen, and your desktop at all times while taking the test, not just your face. The view MUST be from the same angle as in the picture that will be sent to you before the first test.

When taking an exam, be aware that:

1. All answers typed onto the exam must be **supported** by your uploaded written work that clearly shows progression to your typed exam answer. If written work cannot be read, is unorganized, is not correct, or is missing, then the exam problem will receive little or no credit, regardless of whether the solution is correct. Follow all directions carefully. Simplify all answers completely to receive full credit and use correct mathematical notation. Methods used to solve exam problems must be from this course or courses prior to it.
2. Written exam work uploaded to eCampus after the 15-minute time allowance may not be accepted for grading or subject to a loss of points on your exam.

3. If the exam, eCampus, the internet or anything else fails during an exam, you must immediately take a picture of your computer screen and forward the picture to your instructor and explain the exam failure shown on the picture of your computer screen. You must also upload all exam written work to eCampus within 15 minutes of the exam failure. Your instructor will contact you concerning your exam failure and directions to re-access the exam if allowed under your circumstances.

To take the exam online, you must use an external Webcam (not the fixed camera on your computer monitor) and the Respondus Lockdown Browser. Please read below for more details on taking the exam online. If you don't have an external webcam, then you must take the exam at any of Dallas College Testing Center.

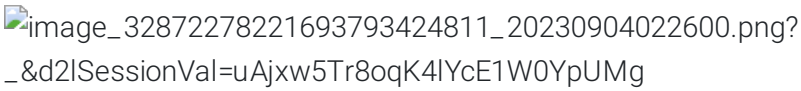
In case you are taking the exam at the Testing Center, you need to fill the Testing Form https://dcccd.libwizard.com/f/AcademicTestingStudent.

Testing: External Webcam and Pearson LockDown Browser

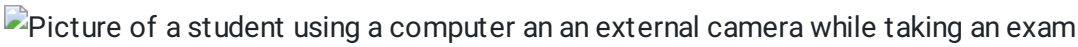
*To test online, you must use an external Webcam (not your computer the camera). Cellphones, additional devices, headphones, notebooks, notes, textbooks, and any other resources are not allowed. You will only be allowed to have a nonCAS calculator, pencil/pen, and 4 blank sheets of loose-leaf paper (not in a notebook) in the testing area. The external webcam must be placed **4 feet away from you** on the side of your writing hand such that the following elements are visible throughout the exam:*

1. *partial view of screen,*
2. *keyboard,*
3. *calculator and paper,*
4. *partial view of your face, torso, and both hands.*

Webcam Placement:



Webcam View:



CAUTION: Your instructor will review your exam video when grading, and your exam grade is subject to penalties. If there is a "Severe Concern", further punitive action may be applied at your instructor's discretion including, but not limited to, getting a grade of zero on the exam and/or forfeiting the privilege to testing online.

Unexpected Class Changes

Attendance and Participation

To be successful, students must be present online and participate in enrolled courses. Because online courses move quickly and require self-discipline, it is important to efficiently manage your time. This would include not waiting until the last minute to turn in assignments or exams. Technology is not fail-proof, so allow time for unforeseen circumstances. Since this is an online class, there is no actual classroom attendance; however, it is considered to meet every day. You should be spending roughly 6-8 hours per day on this course; some days may be more; others may be less.

Late Work & Academic Dishonesty

Late Work Policy

No late work will be accepted. Because you are given assignments in advance and time frame to complete the work, you are expected to honor the due dates. If a due date conflicts with your schedule, work ahead. The three lowest homework assignment grades will be dropped at the end of the semester. This allows for unforeseen circumstances that would prevent a student from completing an assignment.

Missed Exam Policy

If a student experiences an extreme circumstance which causes them to miss a test, a makeup test may be made available at the discretion of the instructor. The student must contact the instructor within 48 hours of the missed test and provide verifiable documentation

Academic Dishonesty in Math Classes

Academically dishonest behavior is, in general, the representation of another's works as one's own. This includes unauthorized collaboration between students, and on exams it includes using books, notes or other unauthorized materials or websites or apps during the exam. Students who behave in academically dishonest ways may have their grade penalized or be subject to disciplinary action by the Dean of Students. Students who collaborate during exams or use unauthorized materials or websites or apps may, at the instructor's discretion, have the exam grade lowered or be given a grade of zero.

Support Contacts

Contact Your Success Coach (https://www.dallascollege.edu/successcoach)
Every Dallas College student has a personalized Success Coach who supports them from day one to graduation. Contact your coach for help navigating college and reaching milestones leading to graduation and a career.

Get Free Tutoring (https://www.dallascollege.edu/tutoring)
Tutoring is free to all current Dallas College students. You can walk in or schedule an appointment at all Learning Commons (https://www.dallascollege.edu/learningcommons) campus locations. Live, online

tutoring is also available via eCampus.

Explore More Free Student Resources (https://www.dallascollege.edu/help)
You have access to many free resources as a Dallas College student, including Counseling and Psychological Services (https://www.dallascollege.edu/counseling), Child Care Resources (https://www.dallascollege.edu/childcare), Housing Resources (https://www.dallascollege.edu/housing), Emergency Aid Funds (https://www.dallascollege.edu/emergencyaid), Food Pantries (https://www.dallascollege.edu/foodpantry), and more!

Submit the Student Care Form (https://www.dallascollege.edu/careform)
Not sure which free college resources can help? Submit the Student Care Form! Our Student Care Network (https://www.dallascollege.edu/studentcare) will connect you to support for physical and mental health, financial concerns, food, clothing, and more.

Contact Technical Support (https://www.dallascollege.edu/techsupport)
Need help with eCampus or another college technology? Our technical support staff can assist you.

Institutional Policies

Dallas College Policies

Please review the **Institutional Policies** (https://www.dallascollege.edu/syllabipolicies) page to learn about accommodations for students with disabilities, class drop and repeat options, Title IX (harassment, discrimination, and sexual misconduct), and more.