



MATH-152 Calculus I

Fall 2021 | Online | 4 Credits

August 24, 2021 – December 14, 2021

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Office Hours: As arranged, scheduled using <https://susangrapevine.youcanbook.me/>

COURSE OVERVIEW

At its heart, Calculus is the study of change. For example, Algebra provides the tools and mechanisms needed to explore the average rate of change over an interval. Calculus provides the tools and mechanisms needed to explore change at a single instant, thus allowing mathematicians, engineers, and other professionals to model and understand more realistic and complicated situations. This course will introduce and develop the mechanisms of differentiation and integration (the two main operations in Calculus). Students will explore and learn the meaning and application behind these operations.

COURSE DESCRIPTION

A study of the basic concepts and techniques of calculus for students in all disciplines. Topics include limits, differentiation, integration, and applications. This course is intended for students without any previous calculus credit. Prerequisite: grade of C- or higher in Mathematics 116 or equivalent or score of 70 or more on the ALEKS assessment.

LEARNING OUTCOMES

By the end of the course, students will be able to:

1. Demonstrate mastery of the mathematical concepts that have driven the development of our understanding of the inner working of creation and technology over the past 400 years. (RO, CD)
2. Learn how to work with and apply techniques of limits, differentiation, and integration using standard methods of calculus. (CS)
3. Apply these tools and concepts to mathematical and real-world problems in a variety of settings. (CS, CR)

REQUIRED MATERIALS AND TEXTS

1. The required text for this course is available at no cost as an open-source e-text. Access to the e-text will be provided in the Canvas shell for the course. The text used is
Boelkins, M., Austin, D., & Schlicker, S. (2020). [Active calculus](#). Grand Valley State University.
2. Students will use an online homework system called Edfinity to complete preview activities and exercises for each textbook section covered in the course.
 - Access to the Edfinity system can also be purchased directly through the Canvas course (\$25) by clicking on the first Edfinity activity in Module 1. (Students will need to click on the button to load the assignment/tool in a new window.)

- All Edfinity exercises will be accessed directly through Canvas assignments. For an optimal user experience, upgrade to the latest version of Google Chrome or Firefox on a Windows/Mac computer. Other browsers like Safari and devices like Chromebooks can cause issues when you access Edfinity via Canvas.

PROCTOR REQUIREMENT

All exams for this course are proctored. Proctors will observe students taking the exams to ensure students are using only permitted resources while completing the exams.

Students who are in high school should ask a teacher, administrator, or counselor at the school to serve as the proctor. Students who are in college should use their school's testing center for exams if one is available. If a testing center is not available, college students should ask their advisors for help identifying proctors. Students who are homeschooled should contact the course instructor to discuss exam proctoring. All proctors should have an official school email address (one ending in ".edu").

Students are responsible for arranging dates and times to complete exams with their proctors. Students must have access to computers and the Internet while completing the exams.

ASSESSMENT

Final course grades for this course will be assigned based on the weighted average of the five categories below and will also be contingent on how students perform on the Derivatives Gateway Exam. Each of these categories and the gateway exam are described in more detail below.

5%	Preview Activities
20%	Activity Discussions
15%	Exercises
10%	Projects
5%	Reflections
40%	Exams
5%	Misc. Assignments

Preview Activities

Preview activities will be assigned for each section. Students should complete the preview activities as they start the learning process for each section. Preview activities are completed in Edfinity. Students are given unlimited attempts for each problem to encourage perseverance and promote mastery of the content covered.

Activity Discussions

Activities from the textbook for each section covered will be assigned for students to complete. Students should work on all the assigned activities. Students will be placed in discussion groups where they can discuss the activities and help each other learn the content. Then, each student will be required to post his or her solution to usually one, sometimes two, of the activities to the discussion. Solutions will be reviewed and scored.

Exercises

Exercises will be assigned for each section. Students should work on the exercises after completing the section preview activity and after studying the section. Exercises are completed in Edfinity. Students are given unlimited attempts for each problem to encourage perseverance and promote mastery of the content covered.

Exams

Students will complete proctored exams in this course. Each student will be responsible for finding a proctor. Students will complete chapter exams after completing chapters 1, 2 and 4. Students will complete a cumulative final exam at the end of the term.

Reflections, Projects, and Misc. Assignments

Students will complete two reflections and one project related to Chapter 3. Any other assignments will be categorized as miscellaneous.

Derivative Gateway Exam

Regardless of the majors or careers students are pursuing, they will be required to know how to find derivatives of all types. To earn a course grade of B- or higher, students must pass a test demonstrating that they can find derivatives of functions. The highest course grade students can earn without passing the Derivatives Gateway Exam is C+.

GRADING

Letter grades will be earned based on the following scale. Students who do not pass the Derivatives Gateway Exam are not eligible to be awarded a course grade of B- or higher even if their overall course percentage would warrant such a grade.

93% to 100%	A	80% to 82.9%	B-	67% to 69.9%	D+
90% to 92.9%	A-	77% to 79.9%	C+	63% to 66.9%	D
87% to 89.9%	B+	73% to 76.9%	C	60% to 62.9%	D-
83% to 86.9%	B	70% to 72.9%	C-	Below 60%	F

RESOURCES

There are many resources available to students. Please make use of them! Here are a few:

- Post question(s) in the Get Help discussion board.
- Send a message to your instructor using the Canvas Inbox or book an appointment with your instructor.
- Use the textbook and instructional videos.
- Ask classmates!

DUE DATES AND LATE WORK POLICY

Students will complete learning and assessment assignments each week to progress through the course content. These assignments will be due on Thursdays and Mondays at 5:00 pm Central time (except during Thanksgiving week when the Thursday due date is moved to Wednesday). The nature of online learning requires each student to plan his or her time accordingly to integrate course work into other life commitments. It is each student's responsibility to complete course assignments on time. All due dates/times will be clearly communicated in the course. Generally, no late work will be accepted in this class. Make-up work might be allowed in cases of extreme extenuating circumstances but only after a conversation with the course instructor and if the course instructor agrees to accept the make-up work. Scores on any make-up work that is allowed will be reduced by 25%.

Students are also not permitted to work ahead in the course. All students will work through the course at the same pace.

DISCLAIMER:

The student is expected to have read and understood the information contained in this syllabus and to comply with the requirements as set forth herein. However, the information contained in this syllabus is subject to change at any time at the discretion of the instructor with notice to the student.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students who require assistance or accommodations based on the impact of a documented disability must contact the Coordinator of Services for Students with Disabilities to access accommodations: Mrs. Marliss Van Der Zwaag, Office: L168 (AEC), Phone: ext. 6490, Email: marliss.vanderzwaag@dordt.edu.

ACADEMIC INTEGRITY

Dordt University is committed to developing a community of Christian scholars where all members accept the responsibility of practicing personal and academic integrity in obedience to biblical teaching. For students, this means not lying, cheating, or stealing others' work to gain academic advantage; it also means opposing academic dishonesty. Students found to be academically dishonest will receive a minimum of a 0 on the assignment in question. If a student is found to be academically dishonest again, the student will be dropped from the course. Any academic dishonesty will be reported to the Student Life Committee for possible institutional sanctions (from a warning to dismissal from the university). Appeals in such matters will be handled by the student disciplinary process.