FORDHAM UNIVERSITY

THE JESUIT UNIVERSITY OF NEW YORK

Math for Business: Calculus, Spring 2025

Math 1109-L02, CRN 42893

Monday/Wednesday 11:30am-12:45pm , Room LL 508

This course is an introduction to differential and integral calculus. Topics include derivatives of polynomial, rational, exponential, and logarithmic functions; curve sketching; optimization problems; definite integrals; and applications to business and economics. Upon successful completion of this course, students should be able to set up basic mathematical models and solve them using appropriate tools in the context of real-world problems.

3 hours/week, 3 credits.

Contact Information

Instructor:	Ryan Utke
Email:	rutke@fordham.edu
Website:	ryanutke.github.io/teaching
Office Hours	Monday 10-11am, Room 812

Communication

Course materials, information (including grades), and announcements will be posted in Blackboard. Students who wish to contact their instructor should send an email to the address above that includes their full name, course, and section number. If your question references a specific homework problem, please include a screenshot/photo of the problem and/or your work in order to receive a quicker reply.

Textbook

We will closely follow the textbook *Brief Applied Calculus*, 1st Edition, by Stewart and Clegg. You are NOT required to purchase a physical copy of the textbook. However, you MUST purchase online access to the ebook and the WebAssign homework assignments through the publisher's website by following the steps below.

1. Login to Fordham.edu and open Blackboard.

2. Open the Blackboard page for this course and click "Textbook and WebAssign" on the Course Content page.

3. Follow the prompts to complete the registration process. Here are more detailed instructions.

4. When prompted to choose a purchasing option, select Temporary Access. This will last approximately 14 days, which should be long enough to decide if you want to continue with this course and section. When your temporary access expires, you will need to purchase access for the semester.

The cost of Single-Term-Access to the textbook and WebAssign assignments for this course, directly from the publisher Cengage, is approximately $114. If you are enrolled in another course using Cengage materials (e.g. ECON 1100, 1200, 2140, or 2142), a better option would be to purchase Cengage Unlimited for $130. This gives you access for the semester to everything provided by Cengage for all of your courses. Please consult the course syllabus for your other classes to confirm that they are using Cengage materials before purchasing.

This video provides a 5-minute tutorial on using the digital textbook and completing online homework assignments.

Homework

Online homework will be assigned through WebAssign for each class. Ideally students will complete the assignment before the next class, but students have a full week to work on them before they are due. You will receive instant feedback on whether your answers are correct or not, and you will have 5 attempts at answering each question before it is marked wrong. After the due date for an assignment has passed, submissions will no longer be accepted and answers to the questions will be displayed. You are encouraged to ask questions in class and during office hours about any question(s) you find confusing.

Quizzes

There will be approximately 11 quizzes given. You are required to justify your answers to quiz problems by showing your work. Mathematics is not only about solving problems, but also about being able to explain how the solution was found and why it is correct. Quizzes will be graded and returned to you with comments within approximately one week. There are no makeup quizzes. Anyone not in attendance with an unexcused absence will miss out on these points. The lowest quiz grade will be dropped.

Exams

There are two in-class midterm exams and a cumulative final exam. The tentative dates of these exams are listed below along with links to sample exams and solutions.

Midterm Exam 1	Wed 02/19
Midterm Exam 2	Wed 04/02
Final Exam	Mon 05/05

Note that all classes follow this final exam schedule.

Textbooks and notes are not permitted on exams. A formula sheet with relevant derivative and antiderivative formulas will be provided for the midterm and final exams. These formula sheets are posted to Blackboard.

Make-up exams will only be permitted for excused absences. In order to qualify for a make-up exam, the student must contact their instructor within 24 hours of the absence by email and submit an Excused Absence form through the portal on fordham.edu by selecting "My Pages" and going to the "Electronic Forms" section. Any student that misses an exam without an excused absence will receive a score of zero on that exam.

Calculators

You are allowed to use a TI 30X IIS scientific calculator on homeworks, quizzes, and exams. No other calculators or electronic devices are allowed.

Grades

If you wish to dispute a grade, you must do so within 7 days of receiving it. After that time, grades cannot be changed. At the end of the course, your final grade will be calculated as follows.

15%	Online Homework Average, H
15%	Quiz Average, Q
20%	Midterm Exam 1, M_1
20%	Midterm Exam 2, M_2
30%	Final Exam, F

$$\text{Course Grade} = .15H + .15Q + .2M_1 + .2M_2 + .3F$$

Course grades will be converted to letter grades according to Fordham's grading policies.

Course Grade	Letter Grade	Quality Description	GPA
93 − 100	A	Excellent; honors-level work, outstanding	4.00
90 − 92	A-	Still excellent	3.67
87 − 89	B+	Very good; high level of performance	3.33
83 − 86	B	Good; solid and above average level	3.00
80 − 82	B-	Good; still above average	2.67
77 − 79	C+	Average level of performance	2.33
73 − 76	C	Satisfactory; acceptable level of performance	2.00
70 − 72	C-	Minimally acceptable	1.67
60 − 69	D	Passing, but unsatisfactory; below average performance	1.00
0 − 59	F	Failure; inferior performance	0.00

The instructor reserves the right to adjust this scale, but you are guaranteed at least the grade assigned by this chart.

Time Commitment

It is recommended that you dedicate between 2 and 3 hours each week outside of the classroom per credit for which you are registered. Since our class is a three-credit course, you should be spending between 6 and 9 hours per week preparing and reviewing for this course. These numbers are averages, of course. Some weeks you may spend less time, while other weeks you may spend more time.

Attendance

I want to help you all succeed in this course. I want you all to help each other succeed in this course. We can't do that if we don't all come to class and participate. So please attend every class. It is both the simplest and most important thing you can do to ensure your successful completion of this course. I will keep attendance records and follow the university's attendance policy that students may be dropped from the course after more than 4 absences.

Resources

- You can come to my office hours without making an appointment. Just stop by with your questions. Think of this as free tutoring provided by your professor. You can also

make an appointment with me by email to meet at another time, in-person or over Zoom.

- The Math Department operates a Math Help Room at each campus. They are free, and you do not need an appointment. Just drop in anytime they are staffed. The Rose Hill location is JMH 410, and the Lincoln Center location is Lowenstein 810/812. Here is a link to the Math Help Room schedules. Note that even when there are no faculty members around, the Math Help Room remains open for students looking for a good space to study.

- Students looking for additional assistance outside of the classroom are encouraged to consider working with a peer tutor through Knack. Tutors are paid by Fordham – students do not pay. To view available tutors and get started, visit fordham.joinknack.com.

- There are many additional resources posted to Blackboard. These include videos, notes, slides, practice problems with solutions, and more. Please click around and explore!

Academic Integrity

From the university's website:

> A university, by its nature, strives to foster and recognize originality of thought, which can be recognized only when people produce work that is theirs alone, properly acknowledging information and ideas that are obtained from the work of others. It is therefore important that students must maintain the highest standards with regard to honesty, effort, and performance.
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> As a Jesuit, Catholic university, Fordham is committed to ensuring that all members of the academic community strive not only for excellence in scholarship but also for integrity of character. In the pursuit of knowledge and personal development, it is imperative that students present their own ideas and insights for evaluation, critique, and eventual reformulation. As part of this process, each student must acknowledge the intellectual contributions of others.

By being enrolled at Fordham University, students are bound to comply with the University Code of Conduct, which includes, but is not limited to the Standards of Academic Integrity. All portions of the Undergraduate Academic Integrity Policy will apply to this class. Your work on every evaluation must be your own. Cheating on a homework assignment or quiz will result in a grade of zero on that homework assignment or quiz. Cheating on an exam will result in an F in the course.

Disabilities

Under the Americans with Disabilities Act, all members of the campus community are entitled to equal access to the programs and activities of Fordham University. If you have (or think that you might have) a disability that may impact your participation in the activities,

coursework, or assessment of this course, you may be entitled to accommodations through the Office of Disability Services. You can contact them at disabilityservices@fordham.edu, 718-817-0655, or by visiting the lower level of O'Hare Hall (Rose Hill campus) or Lowenstein 408 (Lincoln Center campus).

Whether or not you have documentation for accommodations, your success in this class is important to me. If there are aspects of this course that are not accessible to you, please let me know as soon as possible so that we can work together to develop strategies to meet both your needs and the requirements of the course.

Important Dates

M 1/13	First day of classes
M 1/20	Martin Luther King Jr. Day, no classes
M 2/17	Presidents' Day, no classes
T 2/18	Classes follow a Monday schedule
M 3/17 – Su 3/23	Spring Recess, no classes
Th 4/17 – M 4/21	Easter Recess, no classes
W 4/23	Last day to withdraw
W 4/30	Last day of classes
Th 5/1 – F 5/2	Reading days
M 5/5 – M 5/12	Final exams

Schedule

The following is a general plan for the course. We may deviate from this schedule, but all such deviations will be announced in class.

Class	Date	Lesson
1	Mon 01/13	Syllabus, 1.1 Functions and their Representation
2	Wed 01/15	1.2 Combining & Transforming Functions, 1.3 Linear Models
	MLK Jr Day	
3	Wed 01/22	1.5 Exponential Models
4	Mon 01/27	1.6 Logarithmic Functions, 2.1 Measuring Change
5	Wed 01/31	2.2 Limits
6	Mon 02/03	2.2 Limits
7	Wed 02/05	2.3 Rates and Change and Derivatives
8	Mon 02/10	2.4 The Derivative as a Function, 3.1 Derivative Shortcuts
9	Wed 02/12	3.2 Introduction to Marginal Analysis
	President's Day	
10	*Tue 02/18	Review
11	Wed 02/19	Exam 1 (Sections 1.1-3, 1.5-6, 2.1-4, 3.1-2)
12	Mon 02/24	3.3 The Product and Quotient Rules
13	Wed 02/26	3.4 The Chain Rule
14	Mon 03/03	3.5 Implicit Differentiation and Logarithms
15	Wed 03/05	3.6 Exponential Growth and Decay
16	Mon 03/10	4.2 Maximum and Minimum Values
17	Wed 03/12	4.3 Derivatives and the Shapes of Curves
	Spring Recess	
18	Mon 03/24	4.4 Asymptotes
19	Wed 03/26	4.7 Optimization in Business and Economics
20	Mon 03/31	Review
21	Wed 04/02	Exam 2 (Sections 3.3-6, 4.2-4, 4.7)
22	Mon 04/07	5.1 Cost, Area, and the Definite Integral
23	Wed 04/09	5.2 The Fundamental Theorem of Calculus
24	Mon 04/14	5.3 The Net Change Theorem and Average Value
	Easter Recess	
25	Wed 04/23	6.1 Areas Between Curves
26	Mon 04/28	6.2 Applications to Economics
—	Mon 05/05	Final Exam 1:30pm-3:30pm (all sections listed above)

Note that all classes follow this final exam schedule.