



FORDHAM UNIVERSITY

THE JESUIT UNIVERSITY OF NEW YORK

Calculus II, Fall 2022

Math 1207-R01



This calculus course is a continuation of Calculus I. Topics include inverse trigonometric and hyperbolic functions and their derivatives; techniques of integration, such as integration by parts, partial fractions, trigonometric integrals and substitutions; approximate integration; improper integrals; volumes; arc length; surface area; parametric curves; area and length in polar coordinates; sequences and series; convergence and divergence tests; power series; and Taylor and Maclaurin series. 4 hours/week, 4 credits.

Meetings

Lectures	TF 8:30-9:45am	FMH 312
Recitations	W 10:30-11:20am	JMH 406

Contact Information

Primary Instructor: John Adamski, PhD
Email: adamski@fordham.edu
Website: <https://johnadamski.com/>
Office: JMH 418
Office Phone: 718-817-0427
Office Hours: Tue 11:30am-1:30pm, Thu 1:30-3:30pm

Recitation Instructor: Emilio Zappa, PhD
Email: ezappa@fordham.edu
Office: JMH 421

Access to Textbook and Online Homework

We will be using the text *Calculus*, 9th edition, by Stewart, Clegg, and Watson. You can purchase online access to this text and the WebAssign online homework platform by going to <http://getenrolled.com> and entering the following class key.

If you are creating a new account, please enter your first and last name as they appear on my.fordham.edu. After this, your 14-day free trial will begin. When your free trial expires you will need to purchase access for the semester. The cost is approximately \$100. If you have taken this class before and previously purchased a WebAssign access code for this textbook, the same code will still work and you do not need to purchase access a second time.

Homework

Calculus II is a very technical course. We will spend the semester learning various techniques for evaluating integrals and series. These techniques are important - they will be required again and again in subsequent math courses. These techniques are also challenging - they will test your algebraic skills as well as your patience. I will do my best to provide guidance and intuition, but your success in this class depends most on your commitment to practice. I will provide you with two types of prescribed practice: online homework and written homework.

Online homework will be assigned and completed through WebAssign. Assignments for each textbook section will appear as those sections are covered in lecture, and the deadline will be set for the following class. If you miss the deadline, you are falling behind. However, late homework will still be accepted without penalty. You can request an automatic extension on any past-due homework, up to 2 weeks late.

Written homework will be distributed as a PDF through <https://johnadamski.com> approximately every 2 weeks. You will write up your solutions on paper and turn them in during class one week later. Solutions to written homework will not be accepted via email. Mathematics is a language, and when you solve a problem you are not just giving an answer, you are providing methods, reasons, and arguments in an organized form order to convince the reader that your answer is correct. Written homework will give you a chance to practice this, and our course grader will give you feedback.

You are encouraged to work together on homework, to discuss the problems and help each other to learn the material. However, simply copying answers is a violation of the university's academic integrity policy, and it defeats the entire purpose of the assignment.

Grades

15%	Online Homework, H_O	
15%	Written Homework, H_W	
20%	Exam 1, E_1	F 9/30
20%	Exam 2, E_2	F 11/11
30%	Final Exam, F	Tu 12/20

$$\text{Course Grade} = .15H_O + .15H_W + .2E_1 + .2E_2 + .3F$$

Exams will be taken in-class with paper and pencil/pen. Exam questions will be similar to assigned homework problems. The use of calculators, notes, and/or formulas sheets is not allowed on any exam.

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. I will keep attendance records.

Resources

- You can come to my office hours or make an appointment by email to meet with me at another time.
- You can go to the Math Help Room (JMH 410 at Rose Hill; QuinnX at Lincoln Center) whenever it is open. The schedule is posted online. It is free, and you don't need an appointment.
- FCRH and FLC students may make tutoring appointments through Knack.
- WebAssign contains many helpful resources, too.

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.

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](#). For more information, see [Undergraduate Academic Integrity Policy](#).

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.

Schedule

Class	Date	Topic
1	F 9/2	Welcome, §6.6 Inverse Trigonometric Functions, §6.7 Hyperbolic Functions
2	Tu 9/6	§6.8 Indeterminate Forms and l'Hospital's Rule
3	F 9/9	§7.1 Integration by Parts
4	Tu 9/13	§7.2 Trigonometric Integrals, §7.3 Trigonometric Substitution
5	F 9/16	§7.4 Integration of Rational Functions by Partial Fractions
6	Tu 9/20	§7.7 Approximate Integration
7	F 9/23	§7.8 Improper Integrals
8	Tu 9/27	Review
9	F 9/30	Exam 1 (§6.6-7.8)
10	Tu 10/4	§8.1 Arc Length
11	F 10/7	§8.2 Area of a Surface of Revolution
12	Tu 10/11	§8.3 Applications to Physics and Engineering
13	F 10/14	§10.1 Curves Defined by Parametric Equations
14	Tu 10/18	§10.2 Calculus with Parametric Curves
15	F 10/21	§10.3 Polar Coordinates
16	Tu 10/25	§10.4 Areas and Length in Polar Coordinates
17	F 10/28	§10.5 Conic Sections
18	Tu 11/1	§11.1 Sequences
19	F 11/4	§11.2 Series
20	Tu 11/8	Review
21	F 11/11	Exam 2 (§8.1-11.2)
22	Tu 11/15	§11.3 The Integral Test and Estimates of Sums
23	F 11/18	§11.4 The Comparison Test
24	Tu 11/22	§11.5 Alternating Series, §11.6 Absolute Convergence, Ratio and Root Test
25	Tu 11/29	§11.8 Power Series
26	F 12/2	§11.9 Representation of Functions as Power Series
27	Tu 12/6	§11.10 Taylor and Maclaurin Series
28	F 12/9	§11.11 Applications of Taylor Polynomials
	TBD	Optional Review
	Tu 12/20	Final Exam (all sections listed above)