HUNTER COLLEGE of the City University of New York
DEPARTMENT OF MATHEMATICS AND STATISTICS
Fall 2021

Course: **MATH155 Calculus with Analytic Geometry II**	Instructor: Bora Ferlengez
Section: 9	Email: **bora.ferlengez@gmail.com**
Lectures: Mondays and Wednesdays, 7:35pm-9:25pm, Blackboard Collaborate Ultra	Office Hours: Wednesdays, 4:00pm-5:00pm or by appointment, online

Course Description

This is the second semester of a calculus sequence which is an introduction to differential and integral calculus, suitable for all students majoring in science or mathematics, or any other course of study requiring calculus.

Expected Learning Outcomes

The student will be expected work with inverse functions (in particular, exponential and logarithmic functions) to differentiate and manipulate transcendental functions, evaluate definite and indefinite integrals using substitution, integration by parts, trigonometric substitution, and partial fractions, approximate definite integrals using numerical techniques, compute arc lengths of curves and areas of surfaces of revolution in rectangular and polar coordinates, evaluate the convergence of infinite series, and compute and manipulate power series representations of functions.

Prerequisites

Completion of Math150 or the equivalent with a grade of C or higher, or appropriate score on the CUNY math placement exam.

Textbook

ESSENTIAL CALCULUS, **2nd Edition** by James Stewart,
(ISBN-10: 1133112293; ISBN-13: 978-1133112297, Publisher: Cengage Learning)
Please be aware that we will **NOT** use WebAssign this semester, no need to purchase the WebAssign bundle. If you wish, you can purchase a used textbook.

Homework

We will use **Lumen OHM**, an online homework manager. The average of the homework will count for 10% of your letter grade.
To have access to our Lumen course, first go to https://ohm.lumenlearning.com/ and create an account (costs $25), find our course by searching the COURSE ID: 56576, and finally use the Enrollment key: math15509fall21 to enroll.
The due date for a HW set is the midnight before corresponding exam, the idea being that you complete the HW before the exam and that should help a lot to prepare for the exam. Please manage your time wisely and **do not ask for an extension**.
An obvious advice here: **Complete each HW set within a week** the topic is covered in class. Leaving all HW to the last one or two days is a terrible idea which causes nothing but panic and confusion.

Dolciani Learning Center

Dolciani Learning Center is a great place where you can get help from tutors. (http://www.hunter.cuny.edu/dolciani).

Tentative calendar

lec.	date	day	topic

1	Aug-25	Wed	5.1 Inverse Functions
2	Aug-30	Mon	5.2 The Natural Logarithm Function
3	Sep-01	Wed	5.3 The Natural Exponential Function
4	Sep-13	Mon	5.5 Exponential Growth and Decay
5	Sep-20	Mon	5.6 Inverse Trigonometric Functions
6	Sep-22	Wed	5.8 Indeterminate Forms and L'Hospital's Rule
7	Sep-27	Mon	6.1 Integration by Parts
8	Sep-29	Wed	6.2 Trigonometric Integrals and Substitutions
9	Oct-04	Mon	6.3 Partial Fractions
10	Oct-06	Wed	6.5 Approximate Integration
11	Oct-13	Wed	Exam 1
12	Oct-18	Mon	6.6 Improper Integration
13	Oct-20	Wed	7.4 Arc Length*
14	Oct-25	Mon	7.5 Area of Surface of Revolution*
15	Oct-27	Wed	7.6 Applications to Physics and Engineering
16	Nov-01	Mon	8.1 Sequences
17	Nov-03	Wed	8.2 Series
18	Nov-08	Mon	8.3 The Integral and Comparison Tests
19	Nov-10	Wed	Exam 2
20	Oct-15	Mon	8.4 The Other Convergence Tests
21	Oct-17	Wed	8.5 Power Series
22	Oct-22	Mon	8.6 Representing Functions as Power Series
23	Oct-24	Wed	8.7 Taylor and Maclaurin Series
24	Oct-29	Mon	8.8 Applications of Taylor Polynomials
25	Dec-01	Wed	9.1 Parametric Equations and Polar Coordinates
26	Dec-06	Mon	9.2 Calculus with Parametric Curves
27	Dec-08	Wed	Exam 3
28	Dec-13	Mon	9.3 Polar Coordinates
	TBA		Final Exam

Colors represent exams that will cover the corresponding topic.
*The dates may change depending on how fast we advance. We may skip the topics with *.*

Blackboard Collaborate Ultra

For the lectures, we will use Blackboard Collaborate Ultra. You can watch the tutorial I've uploaded to learn how to join a session, to participate or to watch a recording: https://www.youtube.com/watch?v=gBgFLB9JPas

Telegram

We have a Telegram group for the course. It is an instant messaging app (mobile and desktop), that hopefully will improve our connectivity. Since everything will be online, all sorts of glitches and issues are to be expected. By using Telegram, I can make quick announcements, you can ask and discuss mathematics (e.g. hw problems). For personal matters, please send me a private message. For math questions, please use the main group chat, so that other students can benefit from the discussion.

I suggest you install both the desktop and mobile app. Once you install the app and create an account, you can join the course group by using the invitation link: https://t.me/joinchat/2LQbEA4kaZVmNTdh

Zoom

Just in case there is an issue with Blackboard, I may create a Zoom session and let you know on Telegram. I am not sure if you have to create a Zoom account, but do so, just in case.

Microsoft OneNote

We will have a course notebook that I will share with you. That way you will have access to class notes. Being a Hunter College student, you have a Microsoft Office licence: http://www.hunter.cuny.edu/it/it-services/microsoft-office-suite
You can find the class notebook at: https://1drv.ms/u/s!Agd9KJJG1uhNmE2qYPySL9aq-oHd

Exams

- There will be three **online** exams and a cumulative final exam. I will announce the platform and the format of the exams later (they will either be held on Lumen OHM or Blackboard, in case we use Blackboard for exams, I'll upload a mock exam so that you can see how the interface works.)
- During the online exams, I will ask you to join a Zoom session using the camera of your phone and to show me your computer screen and desk (I will explain the details later).
- You can use a scientific calculator (Strict rule: **Graphing calculators, help from internet, etc. not allowed!**).

Grading Policy

There will be 3 quizzes and a final exam. The final exam will count as 2 exams. Of these 5 parts, the lowest is dropped, and the remaining 4 parts are averaged to obtain the exam average. If you stop attending the course (which includes attending the final exam) and do not withdraw, you will receive a grade of WU. I am not allowed to change grades from D to F, please do not email me with this request but you can talk to the mathematics undergraduate advisor.
Your final average is calculated as follows: 0.9 × Exam average + 0.1 × (Lumen Homework)
To receive an incomplete, you must have taken at least two of the in-class exams, have a C average on those exams, and have a legitimate excuse for missing the final exam. **Credit/No Credit grading option is not available** for this course in Fall 21 semester. The letter grade is determined as follows:

Grade	F	D	C	C+	B-	B	B+	A-	A	A+
Percent	≤ 59.9	60.0-69.9	70.0-77.4	77.5-79.9	80.0-82.4	82.5-87.4	87.5-89.9	90.0-92.4	92.5-97.4	≥ 97.5

Meetings with Me

If some topic is not crystal clear for you and you need help, or for any other matters concerning the course, please contact me immediately. We will be using our Telegram group to discuss homework and other problems as a discussion board. Please post a message whenever anything is not clear.
If you prefer to send me an email, please use the email address I've provided above and make sure you **start your subject line with "math155.09"**.
For example, your subject line can look like this: math155.09 – Request for an extra meeting

Pro Tips

- **Please attend the lectures**. If you miss a lecture, contact me and make sure you don't stay behind. In math, new concepts are built on top of earlier concepts. And missing lectures will harm your learning experience greatly.
- Use your time wisely. A good practice would be **keeping a separate notebook** and writing your interpretation of the core ideas of each lecture, problems (HW or in-class) you find interesting or difficult and math tricks you find useful.
- **Use the Telegram group efficiently.** If you have any confusions (getting confused is a healthy part of learning experience), please post a message in the group chat.
- **Mathematical concepts require time to sink in**. Please, please, please, create a suitable learning rhythm for yourself right at the beginning of the semester and don't leave studying to the day before the exam.
- And **act immediately**: If something is missing or wrong (maybe you have issues with preliminaries, or you're confused about a problem, or you received your exam back and see some unexpected mistakes), **don't wait**.
- Practical advice: Never miss **the lecture before an exam**.

Academic Integrity

Hunter College regards acts of academic dishonesty (e.g., plagiarism, cheating on examinations, obtaining unfair advantage, and falsification of records and official documents) as serious offenses against the values of intellectual honesty. The College is committed to enforcing the CUNY Policy on Academic Integrity and will pursue cases of academic dishonesty according to the Hunter College Academic Integrity Procedures.

Disability

In compliance with the American Disability Act of 1990 (ADA) and with Section 504 of the Rehabilitation Act of 1973, Hunter College is committed to ensuring educational parity and accommodations for all students with documented disabilities and/or medical conditions. It is recommended that all students with documented disabilities (Emotional, Medical, Physical and/or Learning) consult the Office of AccessABILITY located in Room 1214B Hunter East to secure necessary academic accommodations. For further information and assistance please call (212-772-4857)/TTY (212-650-3230).

Hunter College Policy on Sexual Misconduct

In compliance with the CUNY Policy on Sexual Misconduct, Hunter College reaffirms the prohibition of any sexual misconduct, which includes sexual violence, sexual harassment, and gender-based harassment retaliation against students, employees, or visitors, as well as certain intimate relationships. Students who have experienced any form of sexual violence on or off campus (including CUNY-sponsored trips and events) are entitled to the rights outlined in the Bill of Rights for Hunter College.

a. Sexual Violence: Students are strongly encouraged to immediately report the incident by calling 911, contacting NYPD Special Victims Division Hotline (646-610-7272) or their local police precinct, or contacting the College's Public Safety Office (212-772-4444).

b. All Other Forms of Sexual Misconduct: Students are also encouraged to contact the College's Title IX Campus Coordinator, Dean John Rose (jtrose@hunter.cuny.edu or 212-650-3262) or Colleen Barry (colleen.barry@hunter.cuny.edu or 212-772-4534) and seek complimentary services through the Counseling and Wellness Services Office, Hunter East 1123.

CUNY Policy on Sexual Misconduct Link:
https://www.cuny.edu/wp-content/uploads/sites/4/pageassets/about/administration/offices/ovsa/policies/Sexual-misconduct-8.30.18-PSM-2018-005.pdf