Math 150.07 – Calculus with Analytic Geometry I
Hunter College - City University of New York

Fall 2020   **Course Format:** Online
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Course Outline, Topics, and Learning Goals
This course is a one-semester introduction to differential and integral calculus. The course format is Online and will be largely self-paced. While homework assignments may be completed in advance, online quizzes may only be completed during the availability window posted on Lumen. Instructional materials are provided in the required textbook and through instructional videos and other materials posted to Lumen Learning (see below).

Course materials focus on understanding theory as well as how the theory applies to solving problems. Important proofs are in your textbook. While quizzes and exams will usually not require you to prove any theorems, the proofs outlined in the course materials are important for understanding the basic ideas in this course. A complete list of topics, corresponding textbook sections, recommended practice problems, and a tentative schedule is listed at the end of the syllabus.

Textbook – *Required!*
Essential Calculus, Second Edition, James Stewart
ISBN 9781133112297

Consider buying a used copy or renting a hard copy online (as little as $25 for the semester) to save money.

Please arrange to have a copy of the textbook not later than the first week of the semester (by August 28).

Online Learning Account – *Required!*
You are required to sign up for a Lumen Learning account. All graded work, including homework, quizzes, and the final exam, will be submitted through Lumen. *It is therefore impossible to earn credit for this course without signing up for an account.*

Lumen Registration Info (register by August 26)
Registration website: http://ohm.lumenlearning.com/
Course ID: 46486
Enrollment Key: Cauchy
Cost: approximately $25

Your first assignment (Intro to Lumen) is due on Tuesday, September 1. It is therefore imperative that you create your Lumen account immediately at the start of the semester.

Lumen may grant you a 14-day trial while you purchase your subscription. It is **YOUR** responsibility to make sure that your subscription is paid and remains active continuously so that you can complete your work by the deadlines posted. No extensions will be granted if you fail to subscribe to Lumen in a timely manner.

Please contact Lumen directly if you have any trouble with registration.

You *are responsible for all material posted online AND all material covered in the relevant sections of the textbook. You are therefore expected to have both an online subscription to Lumen **and** a copy of the textbook.*

Homework
There will be roughly two graded homework assignments per week on Lumen. These assignments are in addition to the five online Lumen quizzes and final exam (details below).

It is **YOUR** responsibility to check due dates for online homework and complete assignments before the date and time they are due. Keep in mind that the website may be busy during high traffic hours, so it is strongly recommended that you complete assignments well in advance of the time they are due. **DO NOT ASK FOR AN EXTENSION.** Except in extreme cases such as serious hospitalization or death of a close family member (with documentation) *no homework extensions will be given.* Make sure you complete your homework well in advance of the due date in case of any technical challenges.

Homework assignments may be completed at any time prior to the due date posted on Lumen.

In addition to online homework, each textbook section is followed by a problem set with optional, but helpful, practice. Recommended problems for each section are listed at the end of the syllabus (pay particular attention to those marked with a *). Some quiz problems may resemble homework problems so the more seriously you take the homework, the better prepared you will be for quizzes.

Note: when submitting answers on Lumen, be VERY careful about your use of parentheses and make sure you are familiar with the Order of Operations. For example, x^3/4 means $\frac{x^3}{4}$ (i.e. cube x, then divide by 4), whereas x^(3/4) means $x^{\frac{3}{4}}$ (i.e. x, raised to the power of three fourths). You are expected to complete the Intro to Lumen assignment to familiarize yourself with the syntax of the Lumen system.

Quizzes

There will be 5 online *timed* quizzes. Quizzes are available after the due date for the final homework assignment in their respective chapter. You will be given approximately a one-week window to complete each quiz. Quizzes are timed once you begin each quiz. Quizzes must be completed within the time frame posted on Lumen.

Important: once you click to begin a quiz, the timer will start and will not stop even if you close the quiz without answering any questions. Therefore, it is critical that you do **NOT** start any quiz or exam until you have the full time specified to dedicate to finishing it. No extensions or resets will be granted if you accidentally open a quiz before you are ready to complete it.

QUIZZES ARE TIMED. ONCE YOU OPEN A QUIZ, THE TIMER WILL START IMMEDIATELY. IT IS NOT POSSIBLE TO EXTEND THE LENGTH OF A QUIZ IF YOU FAIL TO SUBMIT YOUR ANSWERS IN TIME. IF YOU MISS A QUIZ IT WILL BE COUNTED AS YOUR LOWEST GRADE. IF YOU MISS TWO QUIZZES YOU MAY RECEIVE A GRADE OF NCR FOR THE CLASS. THERE ARE NO MAKEUP QUIZZES.

During quizzes, you may NOT communicate with anyone else (another student, friend, family member, etc.) other than your instructor for this course while taking your online quiz. Doing so is a violation of academic integrity and any suspicion of such action will be taken very seriously and fully investigated. Attempting to look up identical or nearly identical problems online while taking a quiz is also a violation of academic integrity. Further, it is a violation of academic integrity to discuss quiz problems with any other individual (another student, friend, family member, etc.) other than your instructor for this course, either before, during, or after you have completed the quiz. Quizzes are designed to be completed "closed book" - without the use of a graphing calculator (4 function calculator permitted), notes, or reference material.

There are no makeups or extensions for online quizzes. It is therefore imperative that you complete each quiz by the due date and time posted on Lumen. The time posted is the deadline to submit (not to start) your quiz. You must start each quiz well in advance of the time due to ensure you have enough time to complete it.

Practice problems from your textbook and graded homework on Lumen provide the best way to prepare for online quizzes.

Final Exam

There will be one final exam on Lumen. You will be given approximately a one-week window to complete it. Like quizzes, the Final Exam will be TIMED.

The final exam counts as two quizzes.

Important: once you click to begin your final exam, the timer will start and will not stop even if you close the exam without answering any questions. Therefore, it is critical that you do **NOT** start the final exam until you have the full time specified to dedicate to finishing it. No extensions or resets will be granted if you accidentally open the exam before you are ready to complete it.

The same policy in place for quizzes applies to the final exam: you may NOT communicate with anyone else (another student, friend, family member, etc.) other than your instructor for this course while taking your final exam. Doing so is a violation of academic integrity. Attempting to look up identical or nearly identical problems online while taking the final exam is also a violation of academic integrity as is discussing exam problems with any other individual (another student, friend, family member, etc.) other than your instructor for this course, either before, during, or after you have completed the exam. Any suspicion of a violation of this policy will be taken seriously and fully investigated.

Grading Policy

Online Quizzes and Final Exam	90%
Graded Online Homework	10%

The final exam counts as **TWO** quizzes. You will therefore have 7 quiz/exam grades in total. Your lowest grade of these 7 will be dropped. If one of your quiz grades is your lowest grade, it will be dropped. If the final exam is your lowest grade, the final exam will count as one quiz instead of two (and no quiz grade will be dropped in that case)*. **There are no makeups for quizzes or the final exam.** If you do not submit a quiz prior to the due date, that grade is the grade that will be dropped. If you miss a second quiz, the second grade will count as a 0 and your status in the course will be in serious jeopardy. All students must submit the final exam to earn a passing grade.*

Academic Integrity

Academic dishonesty is unacceptable and will not be tolerated. Cheating, forgery, plagiarism and collusion in dishonest acts undermine the college's educational mission and students' personal and intellectual growth. Hunter students are expected to bear individual responsibility for their work, to learn the rules and definitions that underlie the practice of academic integrity, and to uphold its ideals. Ignorance of the rules is not an acceptable excuse for disobeying them. Any student who attempts to compromise or devalue the academic process will be sanctioned.

Cheating in any form will not be tolerated. Anyone caught in violation of academic integrity will face serious consequences, including an automatic grade of F in the course.

Course Outline and Tentative Calendar
Dates are tentative and subject to change! Please check Lumen regularly for updated due dates!!

Textbook Section and Topic	Suggested Textbook Practice	Tentative Lumen Due Date
Intro to Lumen OHM and Contact Info Form		Tues, Sept 1
1.3 The Limit of Limits	1.3/1,3,4,11,13,29,30,33	Thurs, Sept 3
1.4 Calculating Limits	1.4/1,3,5,8,9,11-15,(odd), 21,24,25,28	Thurs, Sept 3
1.5 Continuity	1.5/ 2, 5-7, 10, 13,15- 17, 19, 24, 31,32 39-40, 51	Wed, Sept 9
1.6 Limits involving Infinity	1.6/ 1,2,3-7, 13-25 (odd), 35, 42, 45, 47, 53, 57	Wed, Sept 9
Chapter 1 Quiz		*September 10 - 17*
2.1 Derivatives and Rates of Change	2.1/ 1*,3*,9,11*,12,15,18,23*, 27, 35*, 41	Mon, Sept 14
2.2 The Derivative as a Function	2.2/3*, 5, 15, (19-25 odd)*, 25, 39 (try not to look up the answer!)	Mon, Sept 14
2.3 Basic Differentiation Formulas	2.3/ (1-25 odd)*, 31*, 32, 37, 45*, 53	Mon, Sept 21
2.4 The Product and Quotient Rules	2.4/2*,(3-19 odd)*,27, 35,36,41*,46	Mon, Sept 21
2.5 The Chain Rule	2.5/1*,4*,(7-17 odd)*,35*, 47,53*	Tues, Sept 29
2.6 Implicit Differentiation	2.6/1*, (3-11 odd)*, 16, 21*, 25*, 27	Tues, Sept 29
2.7 Related Rates	2.7/1*,2,4*, 10, 11*,14, 15, 18, 19,20* , 26 (HINT: the area of a trapezoid is 1/2 (sum of bases)(height)).	Mon, Oct 5
2.8 Linear Approximation and Differentials	2.8/ 1*,3*,7*,11*,13,17*, 21,27	Mon, Oct 5
Chapter 2 Quiz		*October 6 - 14*
3.1 Maximum and Minimum Values	3.1/1*, 2*, 3, 13, (23-33 odd)*, 37, 55	Tues, Oct 13
3.2 The Mean Value Theorem	3.2/ 1*,3*, 5, 9*, 11, 17*, 19*, 23	Tues, Oct 13
3.3 Derivatives and the Shapes of Graphs	3.3/1*,5*, 7*, 12*, 21*, 27*	Mon, Oct 19
3.4 Curve Sketching	3.4/ (1-17 odd)*	Mon, Oct 19
3.5 Optimization Problems	3.5/2*,3*, 7*, 9, 11*, 25, 37,45*, 51	Mon, Oct 26
3.7 Anti-derivatives	3.7/(1-13 odd)*, 17, 45	Mon, Oct 26

Chapter 3 Quiz		Oct 27 – Nov 3
4.1 Areas and Distances	4.1/5*, 8*, 15*, 17*	Mon, Nov 2
4.2 The Definite Integral	4.2/1*, 15*,16*,17*	Mon, Nov 2
4.3 Evaluating Definite Integrals	4.3/(1- 29 odd)*	Mon, Nov 9
4.4 The Fundamental Theorem of Calculus	4.4/(5- 13 odd)*, 8*	Mon, Nov 9
4.5 The Substitution Rule	4.5/ 3*,5*, (7-15 odd)*	Mon, Nov 16
Chapter 4 Quiz		November 17 – 24
7.1 Areas Between Curves	7.1/ 1*, 2*, 4*, 11*	Mon, Nov 23
7.2 Volumes	7.2/ 1*, 5*, 9, 27, 31*	Mon, Nov 30
7.3 Volumes by Cylindrical Shells	7.3/ 3*,7*, 9, 17*, 39	Mon, Nov 30
Chapter 7 Quiz		December 1 – 8
Final Exam		December 10 – 17