

MATH155 Calculus with Analytic Geometry 2
4.0 Hours, 4.0 Credits
Department of Mathematics and Statistics
Hunter College FALL 2020

Instructor: H. Kone, Ph.D.

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Office Hours: Monday and Tuesday: 10:00 AM – 11:00 AM

Join Zoom Meeting

<https://huntercollege.zoom.us/j/99180832069?pwd=WlpiUkthRnIzWXRWOEIEVE0vWldVZz09>

Meeting ID: **991 8083 2069**

Passcode: **592685**

Class Schedule: Monday & Thursday: 7:10am – 9:00am

Join Zoom Meeting

<https://huntercollege.zoom.us/j/91982483425?pwd=eEdncjFyTzBIcjQvY01VcHgzY1o4Zz09>

Meeting ID: **919 8248 3425**

Passcode: **825311**

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.

Goals:

The student will be expected 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 MATH 150 or the equivalent with a grade of C or better.

Text: *Essential Calculus*, 2nd Edition, James Stewart.

Homework

Lumen Ohm Information:

The course ID: **47398**

The enrolment key: **math155kone01**

Topics to be covered:

Chapter 5

- 5.1. Inverse Functions
- 5.2. The Natural Logarithmic Function
- 5.3. The Natural Exponential Function
- 5.5. Exponential Growth and Decay
- 5.6. Inverse Trigonometric Functions
- 5.8. Indeterminate Forms and L'Hopital Rule

Chapter 6

- 6.1. Integration by parts
- 6.2. Trigonometric Integrals and Substitutions
- 6.3. Partial Fractions
- 6.5. Approximate Integrals
- 6.6. Improper Integrals

Chapter 7

- 7.4. Arc length
- 7.5 Area of a Surface of Revolution
- 7.6 Applications to Physics and Engineering (Just Hooke's law)

Chapter 8

- 8.1 Sequences
- 8.2 Series
- 8.3 The Integral and Comparison Tests
- 8.4 Other Convergence Tests
- 8.5 Power Series
- 8.6 Representing Functions as Power Series
- 8.7 Taylor and Maclaurin Series
- 8.8 Applications of Taylor Polynomials

Chapter 9

- 9.1 Parametric Curves
- 9.2 Calculus with Parametric Curves
- 9.3 Polar Coordinates

Exams

Exam 1 covers chapter 5 and sections 6.1 - 6.2 (Thursday, October 1)

Exam 2 covers sections 6.3 - 6.6, 7.4 - 7.6, and 8.1 - 8.3 (Thursday, November 5)

Exam 3 covers sections 8.4 - 8.8 and 9.1 - 9.3 (Thursday, December 3)

Final Exam (Cumulative)

Policy on Homework, Quizzes, and Exams, Grade:

Homework will be assigned on a regular basis and will count for **10%** of your grade.

Quizzes will be assigned on a regular basis and will count for **15%** of your grade.

We will use Lumen an online homework system. See below for information about accessing your Lumen Homework.

There will be **three exams** and a **cumulative final exam**. Your final grade will be determined by **75%** of your average on the exams plus your homework. The final will be worth two of the other exams.

Your lowest exam grade will be dropped. (If the final is the lowest grade it will be counted as one exam.) If you miss an exam, that will count as your lowest grade, so it will be dropped.

If you miss the final exam you will receive a grade of WU.

If you miss two exams prior to the final, then your status in the course will be in serious jeopardy.

If you stop attending the course and do not withdraw, you will receive a grade of WU.

You may elect to take the course on a credit/no credit basis if you are eligible, but this is subject to the College's rules, which means you that you will not be eligible for credit/no credit grading unless you have taken all the exams, including the Final Exam, and completed most of the homework.