

Calculus II MATH 155

4.0 Hours, 4.0 Credits

Department of Mathematics and Statistics
Hunter College

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:

Single Variable Calculus, 2nd Edition, with MyMathlab,
By: Briggs, Cochran, Gillett ,
Pearson Publishing.

Topics to be covered:

Lecture

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|---|------------------------|
| 1 | 6.3 Volumes by Slicing |
| 2 | 6.5 Length of Curves |

3	6.6 Surface Area
4	6.7 Physical Applications (Work) (Only example 2- compressing a spring.)
5	7.1 Inverse Functions
5	7.2 The Natural Logarithm and Exponential Functions
6	7.5 Inverse Trigonometric Functions
6	7.6 L'Hopital's rule
7	8.1 Basic Approaches
7	8.2 Integration by Parts
8	8.3 Trigonometric Integrals
9	EXAM I
10	8.4 Trigonometric Substitution
11	8.5 Partial Fractions
12	8.7 Numerical Integration
13	8.8 Improper Integrals
14	9.1 An Overview
14	9.2 Sequences

15	9.3 Infinite Series
16	9.4 The Divergence and Integral Tests
17	EXAM II
18	9.5 The Ratio, Root and Comparison Tests
19	9.6 Alternating Series
20	10.1 Approximating Functions with Polynomials
21	10.2 Properties of Power Series
22	10.3 Taylor Series
22	10.4 Working with Taylor Series
23	11.1 Parametric Equations
24	11.2 Polar Coordinates
25	11.3 Calculus in Polar Coordinates
26	EXAM III

Suggested policy on Homework, Exams, Grade:

Homework will be assigned on a regular basis and will count for 10% of your grade. We will use MyMathlab, an online homework system. You will receive details about how to login to MyMathlab.

There will be three exams and a cumulative final exam. Your final grade will be determined by 90% 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.

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.

Disabilities: If you have a disability that you believe requires special accommodations: 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 E1214B to secure necessary academic accommodations. For further information and assistance please call (212- 772- 4857)/TTY (212- 650- 3230).