



Passaic County Community College
Academic Year: 2023-2024
Standard Syllabus

Department Chair: Janet Delaney
Program Coordinator: Kristina Fleming

Course Code: MA 115

Course Title: Applied Calculus

Department: Mathematics

Semesters Offered: Fall

Course Description: This course covers the study of the concept of limits, differentiation, and integration of algebraic, trigonometric, exponential, and logarithmic functions. Emphasis is placed on the use of calculus as a tool to solve application problems.

Prerequisites: MA 109 or Test Placement or permission of the Department Chairperson

Credits: 4

Lecture Hours: 4

Lab/Studio Hours: 0

Clinical/Fieldwork Hours: 0

Required Textbook/Materials: Technical Calculus with Analytic Geometry, by Peter Kuhfittig; **Some sections of the course may use Open Educational Resources*

Additional Time and Supplemental Requirements: Based on a 15 week semester, students are required to spend an additional 8 hours per week on assignments outside of class time.

Course Learning Outcomes: Upon successful completion of this course, students will be able to:

- Discuss the basic concepts of calculus including limits and fundamental theorems.
- Apply the basic concepts of calculus including limits and fundamental theorems.
- Differentiate functions (polynomial, rational, and transcendental).
- Integrate functions (polynomial, rational, and transcendental).
- Solve applications problems using the methods of differential calculus (such as rates of change, related rates and optimization).
- Utilize various techniques of integration.
- Solve application problems using integral calculus.

General Education Outcomes: This is not a general education course.

Grading Standard: Final evaluation of class performance will be based on the following:

Participation	5%
Homework	10%
Tests	60%
<u>Final Exam</u>	<u>25%</u>
Total	100%

**Subject to change or could vary slightly by course section*

Course Content:

Schedule and suggested topics, readings, and assignments subject to change based on instructor and instructional resource)

- Introduction to Analytic Geometry
- Introduction to Calculus
- Applications of the Derivative
- Derivative of Transcendental Functions
- The Integral
- Application of Integral
- Integration Techniques
- Partial Derivatives

Department Policies:

ACADEMIC HONESTY POLICY – The Mathematics department at Passaic County Community College highly values the honesty and the integrity of each student while helping them to pursue their academic goals. All students must abide by the following academic honesty policy. Students are expected to be honest and ethical at all times in their completion of any coursework. Any dishonesty will not be tolerated in this course. This includes, but is not limited to, cheating, plagiarizing, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person, or obtaining solutions from any website or outside source. Students who are found to be dishonest will receive academic sanctions, such as an "F" grade on the assignment or exam, and the instructor will reserve the right to report the incident to the Academic Affairs Office for possible further disciplinary action.

CALCULATOR POLICY – Graphing calculators without symbolic operations ability are permitted in any calculus sequence course. Therefore, permitted calculators include TI-83, TI-83 Plus, and TI-84. TI-84 Plus and higher (including the TI n-spire) calculators are not permitted. Cell phone calculators are also not permitted. The instructor reserves the right to limit the use of the calculator on certain course assessments.

College Policies:

For Information regarding:

- PCCC's Academic Integrity Code
- Student Conduct Code
- Student Grade Appeal Process

Please refer to the PCCC Student Handbook and PCCC Catalog

Panther Alert: The College will announce delayed openings, closings, and other emergency situations through the Panther Alert System. Students are encouraged to sign up for Panther Alert Notifications by logging into their student accounts through the PCCC website at www.pccc.edu and following Panther Alert System instructions.

Notification for Students with Learnings Disabilities: If you have a disability, and believe you need accommodations in this class, please contact the Office of Accessibility Services at 973-684-6395, or email ods@pccc.edu. You should do so as soon as possible at the start of each semester. If you require testing accommodations, you must remind me (the instructor) one week in advance of each test.

