

JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Calculus/Analytic Geometry II

Course Abbreviation and Number: MAT 1720

Credit Hours: 4

Course Type: Lecture

Course Description: Students will further their study of calculus. Topics include applications of the definite integral such as volume, surface area and arc lengths, logarithmic and exponential functions, trigonometric and hyperbolic functions, techniques of integration, polar coordinates, parametric equations, improper integrals, and sequences and series including power series and Taylor series. An approved graphing calculator is required. A computer algebra system such as DERIVE is incorporated into the course.

Prerequisite: MAT 1710.

General Education Requirements Met

SUNY

Math

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Compute antiderivatives and definite integrals for specified functions
2. Demonstrate different techniques of integration
3. Use integration to find areas, volumes, and arc length
4. Determine or explain the behavior of an infinite series using various tests
5. Use the polar coordinate system to graph equations and compute area
6. Interpret and draw inferences from appropriate mathematical models for areas, volumes, and/or arc length. [SUNY Gen Ed – Mathematics]
7. Represent mathematical information symbolically, visually, numerically, and/or verbally as appropriate in the polar coordinate system. [SUNY Gen Ed – Mathematics]
8. Employ quantitative methods to solve problems such as computing antiderivatives and definite integrals, utilizing different techniques of integration, and/or explaining the behavior of infinite series. [SUNY Gen Ed – Mathematics]

Topics Covered:

- Additional Applications of the Integral
- Methods of Integration
- Infinite Series

Information for Students

- Expectations of Students
 - [Civility Statement](#)
 - [Student Responsibility Statement](#)
 - [Academic Integrity Statement](#)
- [Accessibility Services](#)
Students who require accommodations to complete the requirements and expectations of this course because of a disability must make their accommodation requests to the Accessibility Services Coordinator.
- [Get Help: JCC & Community Resources](#)
- [Emergency Closing Procedures](#)
- Course grade is determined by the instructor based on a combination of factors, including but not limited to, homework, quizzes, exams, projects, and participation. Final course grade can be translated into a grade point value according to the following:

A=4.0	B+=3.5	B=3	C+=2.5	C=2	D+=1.5	D=1	F=0
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- Veterans and active duty military personnel with special circumstances (e.g., upcoming deployments, drill requirements, VA appointments) are welcome and encouraged to communicate these to the instructor.

Effective Date: Spring 2026