JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Calculus & Analytic Geometry III

Course Abbreviation and Number: MAT 2650 **Credit Hours:** 4 **Course Type:** Lecture

Course Description: Students will continue their study of calculus. Topics include solid analytic geometry, calculus of functions of several variables, multiple integration, two- and three-dimensional vectors, and vector calculus (including Green's Theorem and Stokes' Theorem). A computer algebra system such as Mathematica is incorporated into the course.

Prerequisite: MAT 1720.

General Education Requirements Met

SUNY

Math

Student Learning Outcomes:

Students who demonstrate understanding can:

1. Perform operations on vectors, such as dot product and cross product
2. Perform differentiation and integration on vector-valued functions
3. Find partial derivatives of functions of several variables
4. Find limits, determine continuity, and find extrema of functions of several variables
5. Perform double and triple integration
6. Interpret and draw inferences from appropriate mathematical models such as formulas, graphs, tables, or schematics. [SUNY Gen Ed – Mathematics]
7. Represent mathematical information symbolically, visually, numerically, or verbally as appropriate. [SUNY Gen Ed – Mathematics]
8. Employ quantitative methods such as arithmetic, algebra, geometry, or statistics to solve problems. [SUNY Gen Ed – Mathematics]

Topics Covered:

- Vectors in the Plane and in Space
- Vector-Valued Functions
- Partial Differentiation
- Multiple Integration

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

- 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: Fall 2023