JAMESTOWN COMMUNITY COLLEGE
State University of New York

INSTITUTIONAL COURSE SYLLABUS

Course Title: Ordinary Differential Equation

Course Abbreviation and Number: MAT 2680 **Credit Hours:** 3 **Course Type:** Lecture

Course Description: Students will study differential equations of the first and higher order, systems of linear differential equations, and LaPlace transforms. Applications are stressed throughout the course. The course is intended for students majoring in mathematics, computer science, and engineering.

Prerequisite: MAT 1720, MAT 2650 strongly recommended.

General Education Requirements Met
    SUNY
    Math

Student Learning Outcomes:
    Students who demonstrate understanding can:
    1. Prove solutions to differential equations
    2. Solve various types of differential equations
    3. Solve application problems
    4. Interpret and draw inferences from appropriate mathematical models by solving application problems using differential equations [SUNY Gen Ed – Mathematics]
    5. Represent mathematical information symbolically, visually, numerically, or verbally as appropriate in proving solutions to differential equations. [SUNY Gen Ed – Mathematics]
    6. Employ quantitative methods to solve various types of differential equations. [SUNY Gen Ed – Mathematics]

Topical Outline:
- Differential Equations and Their Solutions
- First-Order Equations for Which Exact Solutions are Obtainable
- Applications of First-Order Equations
- Explicit Methods of Solving Higher-Order Linear Differential Equations
- Applications of Second-Order Linear Differential Equations with Constant Coefficients
- The Laplace Transform

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: Spring 2026