BOROUGH OF MANHATTAN COMMUNITY COLLEGE
City University of New York

Department of Mathematics

Title of Course: Ordinary Differential Equations
Course: MAT 501
Semester:
Credits: 3

Class hours: 3
Lab hours (if applicable):
Instructor :
Tel #:
Office:
Email:

Course Description: A first course in the theoretical and applied aspects of ordinary differential equations. Topics include first order equations, exact equations, second order equations, higher order differential equations with constant coefficients, numerical methods and LaPlace Transforms.

Prerequisites/Co-requisites: Calculus II (MAT 302) or the equivalent (Integral Calculus) with departmental approval.

Student Learning Outcomes:

1) Students will be able to solve first order differential equations using the methods of separation of variables, integrating factors and substitution
2) Students will be able to use first order differential equations to model and solve applications of populations, autonomous systems and velocity/acceleration
3) Students will be able to solve higher order homogeneous differential equations with constant coefficients using characteristic equations
4) Students will be able to solve higher order non-homogeneous differential equations using the method of Undetermined Coefficients

Required Text: Differential Equations with Boundary Value Problems, Computing and Modeling by C. Henry Edwards and David E. Penney, 3rd Edition, Pearson Education 2004

Other Resources (if applicable):

Use of Technology (if applicable):

Evaluation & Requirements of Students: At the beginning of the semester, the instructor will advise the students of the determination of the final grade which will be based on a weighted average of homework, quizzes, unit exams, projects, written assignments and the final examination. Students are expected to attend all scheduled classes.

Outline of Topics:

TOPICS	TEXT PAGE
First Order Differential Equations	**1 – 76**
Mathematical Models and Numerical Methods	**77 – 109**
Linear Equations of Higher Order	**144 – 209**
LaPlace Transforms	**435 - 474**

College Attendance Policy

At BMCC, the maximum number of absences is limited to one more hour than the number of hours a class meets in one week. For example, you may be enrolled in a three-hour class. In that class, you would be allowed 4 hours of absence (not 4 days). In the case of excessive absences, the instructor has the option to lower the grade or assign an F or WU grade.

Academic Adjustments for Students with Disabilities

Students with disabilities who require reasonable accommodations or academic adjustments for this course must contact the Office of Services for Students with Disabilities. BMCC is committed to providing equal access to all programs and curricula to all students.

BMCC Policy on Plagiarism and Academic Integrity Statement

Plagiarism is the presentation of someone else's ideas, words or artistic, scientific, or technical work as one's own creation. Using the idea or work of another is permissible only when the original author is identified. Paraphrasing and summarizing, as well as direct quotations require citations to the original source. Plagiarism may be intentional or unintentional. Lack of dishonest intent does not necessarily absolve a student of responsibility for plagiarism.

Students who are unsure how and when to provide documentation are advised to consult with their instructors. The library has guides designed to help students to appropriately identify a cited work. The full policy can be found on BMCC's web side, www.bmcc.cuny.edu. For further information on integrity and behavior, please consult the college bulletin (also available online).