Loyola University Maryland
Department of Mathematics and Statistics
MATH 490 – Partial Differential Equations

MWF 9:00AM-9:50AM, KH 005

Instructor: Dr. Prince Chidyagwai
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Office Hours: MWF 2:00 - 3:00 PM, or by appointment

Textbook: *Applied Partial Differential Equations with Fourier Series and Boundary Value Problems by Richard Haberman*

Prerequisites: MA 304 (Ordinary Differential Equations) and MA 351 (Calculus III)

Course Description: This course is an introduction to partial differential equations and the role they play in applied mathematics.

Course Objectives: By the end of the course students should be able to

1. See PDEs as a useful tool for describing and modeling physical phenomena.
2. Use the understanding of the behavior of basic PDEs to build an intuition for how more complicated PDEs will behave.
3. Know the appropriate solution strategy for a particular PDE problem and correctly carry it out.

Topics: We will cover the following topics (Chapters $1-7$): *Heat equation, Method of Separation of Variables, Fourier Series, Wave Equation, Eigen-value problems, Numerical methods for PDEs, survey of high-dimensional PDEs*

Exams: There will be two semester exams and a final exam.

Grading: Homework - 30%, Semester Exams - 40%, Final Exam - 30%. Final grades will be determined according to the following scale:

93-100: A	90-92: A-	87-89: B+
83-86: B	80-82: B-	77-79: C+
73-76: C	70-72: C-	68-69: D+
65-67: D	63-64: D-	0-62: F

Class participation and improving performance on the exams will be considered when assigning borderline grades.

Homework: Homework will be assigned regularly in class and posted also posted on the course website. Answers without any justifications are note acceptable. All work must include a detailed description of your solution technique.

Academic Integrity and Standards of Conduct: The guidelines of academic integrity and standards of conduct are presented in the Undergraduate catalogue. The Loyola University Honor Code states that all students of the Loyola community have been equally entrusted by their peers to conduct themselves honestly on all academic assignments. In this class you may work with your peers on assigned homework. However, you should write up submissions by yourself. You may not consult your books or notes for in class exams. Please refer to the Community Standards Handbook for more information and further clarification of the honor code standards, type of violations, adjudication process, and sanctions that may be imposed for violations.

Extra Help: Dot not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course.

Important Dates:

Add/Drop Deadline	Friday, January 19
Withdrawal Deadline	Tuesday, April 3
Exam 1	Friday, February 23 (in class)
Exam 2	Friday, April 6 (in class)
Final Exam	Friday, May 4, 1:00 PM

Student Athletes: Please provide me with your athletic travel letters indicating when you will not be able to make it to class due to athletic commitments. You will be required to make up any assignments or exams that you miss.

Learning Disabilities: Any student with a disability documented with the Disability Support Service Office (DSS) requiring accommodations in this course is encouraged to contact me as soon as possible. If you have a disability that has not yet been documented, please contact the DSS Office (410-617-2602) for assistance.