

Department of Mathematics - North Dakota State University
MATH 785 Partial Differential Equations II - Spring 2008, 3 credits

SYLLABUS

INSTRUCTOR: Marian Bocea

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OFFICE HOURS: MWF 9:00AM-9:50AM or by appointment

CLASS MEETS: MWF 8:00AM-8:50AM Room: Minard 202

WEB PAGE: <http://www.ndsu.nodak.edu/ndsu/bocea/Spring2008MATH785.html>

TEXTBOOK: Lawrence C. EVANS, *Partial Differential Equations*. Graduate Studies in Mathematics, Volume 19, American Mathematical Society 2002.

COURSE DESCRIPTION: The course is a continuation of MATH 784 PDE I, which was devoted to the classical theory of Partial Differential Equations. The focus in MATH 785 will shift toward a more detailed understanding of the modern approaches to studying PDEs. The topics covered include the study of the existence of weak solutions, regularity, and maximum principles for second order elliptic PDEs, variational methods for solving boundary value problems, nonvariational techniques, and the theory of viscosity solutions. More details can be found in the attached "Course Schedule". Pre-Requisite: MATH 751.

COURSE OBJECTIVES:

1. Provide a solid understanding of selected modern issues in the field of Partial Differential Equations, as well as an array of strategies for studying linear and nonlinear PDE
2. Prepare the students to apply the methods learned throughout the semester to solve specific problems

EVALUATION OF STUDENT PERFORMANCE: Students will be evaluated based on the following:

1. Homework (50% of the Final Score)
2. (Comprehensive) Final Exam (50% of the Final Score)

GRADES: The final grades for the course will be determined according to the following scale: Final Scores between 90 and 100 will be assigned an **A**; Final Scores between 80 and 89 will be assigned a **B**; Final Scores between 70 and 79 will be assigned a **C**; Final Scores between 60 and 69 will be assigned a **D**.

COURSE POLICIES

ACADEMIC HONESTY: All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct (<http://www.ndsu.nodak.edu/policy/335.htm>).

SPECIAL ACCOMMODATIONS: The *Americans with Disabilities Act* requires that reasonable accommodations be provided for students with disabilities or other special needs. Students eligible for special accommodations are strongly encouraged to share their concerns or requests with me at the beginning of the semester, or as soon as possible thereafter. I will be happy to make appropriate arrangements.

CLASS ATTENDANCE: Class attendance is expected. You will be solely responsible for missed handouts or announcements made during lecture. If you cannot attend a particular lecture, make sure that you stay informed regarding the information provided during that lecture.

You are welcome to discuss with me any questions or concerns about the course during my office hours or by appointment.