University of New Brunswick, Saint John
Winter 2011

Math 6132 (1B): Theory of Partial Differential Equations

TIME, LOCATION:	MWF 12:30-13:20, IH107
INSTRUCTOR:	Trevor Jones
OFFICE:	IH 6^3
EMAIL:	trevor.jones@unb.ca
WEBSITE:	http://www.math.unb.ca/~thj

TEXT: *Partial Differential Equations, An Introduction*, 2nd Edition, by Strauss
additional material will be distributed as necessary

GRADES:
20% Assignments and quizzes
30% Test (February 4 and March 21)
50% Final Exam: To be scheduled.

NOTE: Late assignments will not be accepted. Selected questions from assignments must be type-written using LaTeX. All assignments must be e-mailed in PDF format to thj.math@gmail.com by no later than 11:59pm local time on the day due. Time received with be the standard for late assignments. On the first page of each assignment, your name and UNB e-mail address must be clearly written. Corrected assignments will be returned via your UNB e-mail address.

SYLLABUS: Methods of solution for first order equations. Classification of second order equations. Characteristics, analytic and numerical methods of solution for hyperbolic, elliptic and parabolic equations. In addition, we will also consider Cauchy problems, the Cauchy-Kowalewski Theorem, quasi-linear equations, and the Monge Cone. Additional topics may chosen by the instructor.

OUTCOMES: It is expected, upon successful completion of this course, that the student

- will demonstrate an understanding of the concepts of partial differential equations and their applications to other areas of study

- will be able to justify conclusions using valid mathematical arguments

- will be able to communicate results using appropriate styles, conventions, and terminology

- will be able to accurately perform calculations without the aid of a calculator or computer

- will be able to transfer expertise between different topics in mathematics

- will gain familiarity with typesetting mathematical documents