Math 4220/5220 - Introduction to Partial Differential Equations

1 Course Outline

Text: *Partial Differential Equations - an introduction* by Walter A. Strauss, second edition. Published by Wiley.

This course will introduce the theory and methods of applied partial differential equations. Topics covered will include:

- First order linear and quasi-linear partial differential equations.
- The heat equation, wave equation and Laplace's equation.
- Fourier Series.
- Harmonic Functions.
- Eigenvalue problems.
- Nonlinear PDE's.

Other topics may also be studied depending on time and student interest.

All homework assignment and handouts will be available from the web page in pdf format. If you have any problems downloading of viewing/printing these documents please let me know.

2 General Information

Instructor David Iron

Times Mon. Wed. Fri. 10:35-11:25

Location The lectures will be held in Dunn 101

Web Page http://www.mathstat.dal.ca/~iron/math5220/index.html

Office hours Tuesday and Thursday 2:30-4:00

3 Instructor Information

Name David Iron

Office Chase 322

Phone (902) 494-2385

email `iron@mathstat.dal.ca`

4 Grading

Homework 40%

Term Test 25%

Final Exam 35%

The final exam will be 3 hours long and written. The midterm test will be held in class on Thursday Octorber 27^{th}.

For students enrolled in 4220, each homework and test will contain optional bonus questions. For students enrolled in 5220 all of the assignment and test questions will be graded normally.

5 Grading Scheme

The grading scheme is as follows: A− >79% , B>63% ,B-≥ 60% , C− >50% , D>45% .

6 Final Notes

- Late homework will be penalized at 10% per day.
- Homework will be accepted as on time up to 6:00pm on the due date. Email submissions will be accepted, but must be in either pdf or postscript format. I will not accept Word documents or any other proprietary formats.
- The university policy states that all cases of academic misconduct *must* be handled through official channels. I have no latitude in this matter. I do encourage people to work in groups, but I must insist that each student write up their own homework. Please read the paragraph on academic honesty on pages 21-26 in the Calendar.
- Students with permanent or temporary disabilities who would like to discuss classroom or exam accommodations are asked to contact me as soon as possible. For information on available services see *http://www.dal.ca/~services/ssd.html*.