

MAT 4220 PARTIAL DIFFERENTIAL EQUATIONS

2007/2008 2nd term

Lecturer: Dr. Juncheng Wei

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TA:

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Objectives:

First-order PDEs, Wave Equation and Diffusion Equation on a line, Boundary value Problems, Separation Variables, Laplace Equation, Green's Function

Text Book Walter A. Strauss, Partial Differential Equations, An Introduction, John Wiley & Sons, Inc., 1992

Prerequisite

- Simple ODEs (1st order ODEs)
- Multivariate calculus (Integration By Parts, Green's Identity, Stokes Formula, Gauss Formula)
- Some elementary analysis

Additional References

- H.F. Weinberger, A First Course in Partial Differential Equations, Blaisdell, Waltham, Mass., 1965.

Syllabus and Teaching Scheme

We will cover the following sections.

Chapter 1, 1.1 -1.6

Chapter 2, 2.1-2.5

Chapter 3, 3.1-3.5

Chapter 4, 4.1-4.3

Chapter 5, 5.1-5.6

Chapter 6, 6.1-6.4

Chapter 7, 7.1-7.4

(Optional) Chapter 11, 11.1-11.3

Assignments:

There will be 8 to 10 assignments. (I will post them on my web page: www.math.cuhk.edu.hk/wei.) There will be 4 quizzes and one midterm. One final examination is scheduled.

Lecture notes, assignments, solutions to assignments, quizzes and examinations will be posted on my web when they are ready.

Assessment Scheme

Final Examination	1	50%
Midterm Examination	1	30 %
4 Quizzes	4	20 %
Total		100 %

Office Hours:

Every Monday, Wednesday, Friday: 9:00am to 12:00am

Language: I will use English in class. You can speak to me in Cantonese or English or Putonghua.

Final Remark: Any questions? Please send me an email or drop by my office LSB 216.