Topics in Analysis, Math 653
Fall 2002

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In this Partial Differential Equations (PDE) topics course we plan to discuss the Laplace, Heat, and Wave equations as models of linear elliptic, parabolic, and hyperbolic equations. From the nonlinear PDE we shall discuss Burgers, KdV, CH, and Schrödinger equations. The objective is to introduce the students to some aspects of the basic theory of PDE. We shall assume no prior knowledge in PDE. However it is expected that students are familiar with basic Real Analysis (Lebesgue integration and differentiation). This course should be of interest to graduate students in Mathematics, Sciences, Engineering, and Mathematical Economics.

References

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[J]   F. John, *Partial Differential Equations*, Springer, (1982).

[S]   J. Smoller, *Shock Waves and Reaction-Diffusion Equations*, Springer, (1983).

[SS] C. Sulem and P. Sulem, *The Nonlinear Schrödinger Equations*, Spriger, (1999).

[Ta] M. E. Taylor *Partial Differential Equations, Basic Theory*, Springer, (1996).

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