Math 574 Syllabus (992)
Part I
Department of Mathematical Sciences

Title: Numerical Methods for Partial Differential Equations
Prerequisite: Math 321 or Math471 or Math 573
Math301 or Math513
Or SE 301
Textbooks: 1)Lapidus and Pinder. **Numerical Solution of Partial Differential Equations.** John Wiley & Sons, 1982
2)Reddy, J. N. **An Introduction to the Finite Element Method,** McGraw-Hill Book Company, 1984.

Course: A basic first course in the numerical solution of partial differential equations including: Finite difference methods and finite element methods.

Week	Topics
1	Classification of second -order linear PDE Basic concepts of finite differences
2-3	F.D. for elliptic equations (consistency - convergence - stability) Solving systems of Linear and Nonlinear equations (Iterative Methods)
4-5	F.D. for parabolic equations
6-7	F.D. for Hyperbolic equations

Grading Policy

Exam I	12%
Mini Project	14%
Computer Assignment & Homework	24%

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office hours: TBA
Also by appointment

Course Homepage: http://msnhomepages.talkcity.com/Terminus/ffairag/ (internet)
Or http://www.dpc.kfupm.edu.sa/~ffairag/ (Intranet)