MATH 524

NONLINEAR OPTIMIZATION

Fall 1996

Instructor Information:

Professor: Bob Sharpley
Office: 313D LeConte
Office Hours: MWF 11:10-12:00 or by appointment.

Prerequisite:

Multivariable Calculus (e.g. Math 241 or Math 550) and Linear algebra (e.g. Math 526 or Math 544)

Text:

The Mathematics of Nonlinear Programming, by Peressini, Sullivan, and Uhl, Springer-Verlag, New York, 1988.

Grading:

The course grade is computed from 3 Test grades (20% each), Homework (10%) and the Final Exam (30%).

Course Content:

Nonlinear optimization addresses problems of maximizing or minimizing functions under possible constraints. For smooth functions, this involves extensions of Newton's method and LaGrange multipliers. Particular attention will be focused on convex sets and functions. Algorithms and the companion analysis will also be provided for nonsmooth functions, primarily in one variable. The topics covered will include Chapters 1-4 of the text. Additional material in the form of computational algorithms will be also be provided. Exams will be over the lectures and attendence is therefore required according to standard University policy.

Make-up Policy:

Make-up exams are not normally given.

Important Dates:

Classes Begin	Thursday	Aug.22
Last Drop Date (no record)	Wednesday	Aug. 28
Labor Day (no classes)	Monday	Sept. 2
Test 1	**Friday**	**Sept. 20**
Last Drop Date (without penalty)	Thur.	Oct. 3
Test 2	**Monday**	**Oct. 21**
Fall Break	Mon.-Tues.	Oct. 14-15
Election Day (no classes)	Tuesday	Nov. 5
Test 3	**Monday**	**Nov. 18**
Thanksgiving (no classes)	Wed.-Sun.	Nov. 27-Dec. 1
Last Day of Classes	Friday	Dec. 6
Reading Day	Saturday	Dec. 7
Final Exam	**Monday** [9 AM]	**Dec. 9**