Mathematics 483 — Mathematical Modeling

Fall 2004

Instructors: Werner Horn, Carol Shubin
Office: FOB 404, Tel. 677 7794(Horn); FOB 413, Tel. 677 7813(Shubin)
Office Hours: TBA, or by appointment.
Textbook: Gerald B. Folland, *Fourier Analysis and its Application*
Homework: Homework will be assigned every other week and collected on Tuesdays. It will count for 20% of the grade.

Midterm Exams: There will be two midterm exams, which will account for 15% of the grade each.
Final Exam: A cumulative final exam will account for 30% of the final grade.
Class Project: Each student will have to complete a class project which will count for 20% of the grade.

Contents:

This class will be co-taught by two instructors. Fourier Analysis is one of the most widely applied methods in Mathematics, Science and Engineering. The class will cover Fourier Series and their applications to models from mathematical physics (Chapters 1 - 4 of the text book), Fourier Transforms (Chapter 7) and their applications and finally discrete Fourier Transforms and their use in data analysis in Science and Economics. In each of this subjects, there will be special emphasis on the numerical methods used in real life situations.