COURSE SYLLABUS

Course Number   2301692
Course Title   *Special Topics in Analysis*
Course credit   3 credits
Academic year   1/2008
Programme   M.Sc., Ph.D. (Mathematics)
Course type
Instructor   Dr. Zen Harper   (*email:* zen_harper@yahoo.co.uk)
Prerequisites   *basic Real Analysis*

Course description

Part 1: Fourier series; Hilbert space methods;
        Fourier transforms; distribution theory, tempered distributions.

Part 2: Introduction to Banach algebras; connections with Fourier analysis.

Part 3: Introduction to Hardy spaces.

Objectives

To give students a good understanding of various topics in Analysis, necessary for further study and research in many areas.

Course evaluation: Exercises 15%;   Midterm exam 35%;   Final exam 50%

Books:

A. Zygmund, *Trigonometric series;*

T. W. Korner, *Fourier analysis;*

Y. Katznelson, *An introduction to harmonic analysis;*

P. Duren, *Theory of H^p spaces*.