Math 896-602 Applications of Analysis
Second Summer Session, July 16—August 16, 2007
Prerequisites: Math 825-826 or permission of instructor
Instructor: Allan Donsig (`adonsig1@unl.edu`; 472-8128; Avery 307)
Meeting: 1:15-3:15 MTWR, Avery Hall 112
Text: *Real Analysis with Real Applications* by K.R. Davidson and A.P. Donsig

This course will apply real analysis, meaning the core material in Math 825-826, to classical and modern topics of interest in applied mathematics and related fields. The goals are to give one or more substantial results in each topic and to show how these results depend on the fundamental ideas of real analysis, rather than a comprehensive development of each topic. Put briefly, this is an "applications sampler" focused on the role of real analysis.

The choice of topics depends on participants' interests. Possible topics are:

- Discrete Dynamical Systems
- Convex Optimization
- Wavelets
- Polynomial Approximation
- Fourier Series

While it is not really an application, I would be glad to develop part of advanced calculus, in particular, up to the inverse and implicit function theorems, if participants are interested.

Most material will be drawn from the relevant chapters in the text, with perhaps some additional material based on lecture notes.

If you have questions, please contact me.