Presentations: April 29, May 4, and May 6, 2010
Write-up Due: Mon. May 10, 2010

MATH/CS 715: Final Project
Spring 2010

General Description: The goal is to find a journal article or book chapter that you will study. This article will either be on an application problem or on some aspect of spectral, finite element, or mesh-free methods (either on theoretical issues or on improvements to existing methods). Your job is to read the article and to write some original MATLAB code of a spectral, finite element, or mesh-free method method (either some part of the code described in the article or one that you yourself propose). I don't expect you to have a code with all of the bells and whistles, etc... You will not only reproduce some results of the paper, but you must carry out additional experiments to further explain the applicability and/or accuracy of your approach. Presentations will be given at the end of the semester and a 5-page write-up is due on Monday May 10, 2010.

NOTE: You can either work by yourself or with 1 partner.

NOTE: You are free (within reason) to choose the format of your presentation and the format of your paper.

NOTE: Please talk to me (the sooner the better) if you are having problems finding a suitable article or topic.

NOTE: Your grade will depend on the quality of your presentation, quality of the code produced, and quality of the final report.

Details:

1. **[Due March 25th]** Email me (`rossmani@math.wisc.edu`) whether you will be working by yourself or with a partner (and if a partner, his/her name).
2. **[Due April 6th]** Find a journal article that is of interest to you and satisfies one of the following descriptions:
   (a) An article on an application problem where spectral, finite element, or mesh-free methods are used or can be used.
   (b) An article on some aspect of spectral, finite element, or mesh-free methods – either on theoretical aspects or on improvements to existing methods.

   Submit a title and a couple of sentences on your proposed project.
3. **[April 29th, May 5th, and May 7th]** Give presentations (∼15 minutes each)
4. **[Due May 10th]** Turn-in final write-up.