Methods of Applied Mathematics—Spring 2008
(MATH 5593—Section 1)

Instructor: Dr. Jiahong Wu; Office: MS424;
Telephone: (405) 744-5788; E-mail: jiahong@math.okstate.edu

Hours of Class Meeting:
TR, 12:30 p.m. – 1:45 p.m. @ ES 211A

Office Hours:
TR, 11:00 a.m.—12:20 p.m. @ MS 424

Textbook:
Jon Davis, *Methods of Applied Mathematics with a Matlab Overview*, Birkhauser, Boston, 2003.

Exams and Homework Schedule:
- A set of homework problems will be assigned every two weeks.
- Midterm Exam: Thursday , February 21, 12:30 p.m. – 1:45 p.m. @ ES 211A
  Final Exam: Tuesday, April 29, 10:00 a.m. – 11:50 a.m. @ ES 211A

Grading Policy:
- Homework—30% , Midterm exam—30%,
  Final Exam—35%, Attendance—5%, Extra credit for short lecture—3%.
- Cut-offs for letter grades: A (90-100); B (75-89); C (60-74); D (45-59); F (0-44).

TA :
There will be no TA for this class, but you can always see me during my office hours or make appointments at any time during the semester.

Miscellaneous:
- A make-up for the midterm exam will be given only in case of legitimate excuses. There will be no make-up for the final exam.
- Class attendance is very important.
- There will be no class on March 15 -23 (Saturday-Sunday, Spring Break).

Math 5593: Methods of Applied Mathematics

This course intends to provide the fundamental concepts and techniques that are useful in mathematical physics, continuum mechanics and many applied mathematics areas such as control and communications. We will combine theoretical results with computational techniques. The major topics that will be covered in this course include:

1. Fourier series
2. Elementary boundary-value problems
   Wave equations, potential equations, discrete boundary value problems
3. Sturm-Liouville theory and boundary-value problems
4. Complex variables
5. Laplace transforms
6. Fourier transforms
7. Numerical linear algebra
8. Discrete variable transforms
   (z-transforms, discrete Fourier transforms)
9. Additional topics such as wavelet applications.