Numerical Analysis
Syllabus

Course Name and Number: MS390 Numerical Analysis, Fall 2008
Time: Mon., Wed., and Fri. 10:00–11:00
Room: Ayers Hall, room 218

Instructor's Name: Prof. Thomas E. Leathrum
office: Ayers Hall, room 141 **phone:** x5827 **e-mail:** `leathrum@jsu.edu`

Office Hours:

Monday	Tuesday	Wednesday	Thursday	Friday
1:45–2:30	9:00–11:00	1:45–2:45	9:00–11:00	1:45-2:30
	1:00-2:30		1:00-2:30	

Required Textbook:

Numerical Analysis, Eighth Edition, by Richard L. Burden and J. Douglas Faires (Brooks-Cole 2005).

Other Required Materials:

A *scientific calculator* capable of performing calculations with exponential, logarithmic, and trigonometric functions is *required* for this course. Such calculators are quite common and fairly inexpensive. An account allowing you access to campus computing laboratories and electronic mail is also *required* — you probably already have an account, even if you don't know it yet, but if you have any questions about setting up an account, you should speak with one of the laboratory monitors or contact the Office of Academic Computing on the third floor of Ayers Hall. A *graphing calculator* or access to a *computer graphing program* is *not* required, but is *strongly recommended.* Be forewarned that I may not be able to help you with problems specific to your calculator if you are using a model with which I am not familiar. Several computer graphing programs are available, to varying degrees, in campus computing laboratories — for example, we have a site license for Maple, and it is installed on all of the Ayers Hall laboratory computers.

Prerequisites:

- MS352 Linear Algebra: This course will include numerical techniques for computations involving matrices and linear systems — you should already be familiar with the basic definitions, concepts, and techniques for such computations, so that this course can look at details of *efficient* techniques. Also, MS352 Linear Algebra has a prerequisite of MS126 Calculus II — this course will include numerical techniques for definite integrals and some simple differential equations.

- CS230 Fundamentals of Computing: In this course, you will be writing some short programs to implement and compare algorithms and numerical techniques covered

in class — you should be able to write simple programs in a high-level computer language.

Expected Coverage in Textbook:

This course will cover Chapters 1 through 5 in the textbook, as indicated in the Course Schedule handout.

Exams:

Exams in this class will be *open book* — you *will* be permitted to use your books and notebooks on the exam. Furthermore, on the in-class exams, if the allotted time is not enough for you to complete the exam, you may take problems home to complete and submit at the next class meeting, but for each problem on which you elect to do that, there will be a penalty of a few points on the exam.

Exam Schedule:

Three 60-minute in-class exams:
Mon. Sept. 22, Mon. Oct. 20, Mon. Nov. 17
Final Exam Monday December 15, 10:30–12:30

Homework:

Homework problems will be assigned periodically from the problems included in the book, and separate programming assignments will also be given periodically. You will be given roughly one week to complete each assignment. Collaboration is encouraged on howework and programming assignments, but copying is not allowed and each student should complete and submit a separate paper or program for each assignment.

Course Information Available Online:

Some course information, such as handouts and homework assignments, will be available online, at the following address: `http://cs.jsu.edu/mcis/faculty/leathrum/ms390`. Please note that material related to exams, including review sheets and solutions guides, will *not* be available online.

For other information about this course, such as grading policies, see the General Policies handout.