MTHSC 360 - Intermediate Mathematical Computing

Professor: Daniel D. Warner   Class Room: E-1
Office: O-203   Class Hours 2:30 - 3:20 MWF
Office Hours: 1:00 – 2:30 MWF   Phone: 656-5244

Course Objectives
1. To acquire facility in using the computer as a tool for solving mathematical problems.
2. To learn the fundamental concepts and techniques of procedural programming. These include: flow control, modular construction, elementary data structures and their array-based implementations, recursion, and graphics
3. To develop problem-solving and communication skills by solving programming projects.

Policies
1. Attendance is not mandatory, but you will be responsible for all material covered in class. Roll will be taken until I know all the students.
2   The grade will be based on approximately 8 projects and final exam. As a general rule projects which are not completed on time will not count toward the final grade. The final exam will be in an interview format and will review the results of the final project as well as your portfolio.
3. You will be required to keep a portfolio of your work. The portfolio should consist of paper and magnetic copies of each project. This should include source code, sample runs, and the results from any specified test cases. You should also include any written material documenting your design and development.

References
MatLab User's Guide, The MathWorks, 1993
Mastering MatLab

Topics
1. The basic syntax of the MatLab language.
2. Flow control, plotting, and arrays.
3. Scripts, functions, arguments, and local variables.
4. Recursion, induction, and problem solving.
5. Graphs and trees.
6. Stacks, queues, priority queues, and sorting.
7. 3-D Wireframe graphics.