COURSE DESCRIPTION
SCIENTIFIC PROGRAMMING
MA 3/560–1B, FALL 2017

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: Professor Yanni Zeng
Office: CH 496A
Phone#: (205) 934-2154
E-mail: ynzeng@uab.edu
Office Hours: Monday and Wednesday, 10:15am – 11:15am (or by appointment)

Meeting times: MWF 9:05am-9:55am
Meeting location: HHB 221
Prerequisite: Grade of C or better in MA 126 or equivalent
Credits: 3 semester hours

Important dates:
- First day of classes: Aug 28, 2017
- Labor Day Holiday: Monday, Sept 4, 2017
- Last day to drop without paying full tuition: Sept 5, 2017
- Last day to withdraw with a “W”: Oct 20, 2017
- Fall/Thanksgiving Break: Nov 20 - 24, 2017
- Last day of class: Dec 8, 2017

Course policies:
- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements will be sent to that address.
- Turn off all cell phones during class.
- If your are contacted by the Early Alert Program, you should consider taking advantage of the services it offers. Various services to assist you are also listed in the Student Resources section of the Blazernet web site.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at dss@uab.edu.
The two lowest homework grades will be dropped to account for any missed assignments due to illness or any other circumstance.

Course description:
Programming and problem solving using Matlab. Emphasizes the systematic development of algorithms and programs. Topics include iteration, functions, arrays, Matlab graphics and image processing. Assignments and projects are designed to give the students a computational sense through complexity, dimension, inexact arithmetic, randomness, simulation and the role of approximation. Typesetting with LATEX is required for graduate students.

Aims of the course:
Upon successful completion of the course a student
- develops and implements algorithms from a given problem;
- develops programming skills to produce working codes;
- learns the basic principles of scientific computing, i.e. algorithms and software tools for science, math and engineering problems

Class Management via Canvas:
- Homework and project assignments will be posted in Canvas (http://uab.instructure.com).
- Canvas will be used to post handouts, class announcements, codes and other pertinent links. Students should log in to Canvas at least once a week!

Assessment procedures:
- Student achievement will be assessed by the following measures:
  - **Attendance.** Attendance in the course is crucial for your success and counts for 10% of the grade. The roll will be taken at the beginning of every session.
  - **Weekly homework.** Homework will be due on Fridays. There will be no extension of deadlines for any reason (however, the lowest two grades will be dropped). Homework contributes 45% to the course average.
  - **Three projects.** Each project contributes 15% to the course average.
  - Students registered in MA 560 are required to use LATEX to typeset their assignments and projects.
- Your course performance is your course average. This is a number between 0 and 100.
- Your final grade is determined according to the following table:

<table>
<thead>
<tr>
<th>Course performance:</th>
<th>88-100</th>
<th>75-74</th>
<th>62-74</th>
<th>50-61</th>
<th>below 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Grade:</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>F</td>
</tr>
</tbody>
</table>

Tips:
- By working steadily and regularly, you will increase your chances to succeed in this course.
Remember, being a full-time student is a full-time job.

**Academic honor code:**

The University of Alabama at Birmingham expects all members of its academic community to function according to the highest ethical and professional standards. Academic misconduct undermines the purpose of education. Such behavior is a serious violation of the trust that must exist among faculty and students for a university to nurture intellectual growth and development. Academic dishonesty and misconduct includes, but is not limited to, acts of abetting, cheating, plagiarism, fabrication, and misrepresentation. Candidates are expected to honor the UAB Academic Honor Code as detailed in the most current UAB policies. Please consult this resource (http://www.uab.edu/students/one-stop/policies/academic-honor-code) for additional information regarding the specific procedures to be undertaken when a student violates the UAB Academic Honor Code.