COURSE DESCRIPTION
SCIENTIFIC PROGRAMMING
MA 660-1F
SPRING 2015

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: Dr. Carmeliza Navasca
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Office: CH 475B
Phone: (205) 934-8621
Office Hours: Mon Wed 12:00 -1:00 pm, 4:30-5:30 pm (or by appointment)

Course Info

Meeting times: MonWedFri, 1:25–2:15 PM
Meeting location: CH 458
Required Textbook: (1) `http://people.cas.uab.edu/~mosya/teaching/660new3.pdf`
Recommended Textbook: (1) *Numerical Linear Algebra* by Lloyd N. Trefethen and David
Bau III, SIAM, 1997
(2) *Matrix Computations* by Gene H. Golub and Charles F. Van Loan, Johns Hopkins
University Press, 2012
(3) *Matrix Analysis* by Roger A. Horn and Charles R. Johnson, Cambridge University
Press, 2012

Important Dates

First day of our class: January 5, 2015
Last day to drop without paying full tuition: January 12, 2015
Spring Break: March 23–27, 2015
Last day to withdraw with a "W": March 30, 2015
Last day of our class: April 17, 2015
Midterm Date: February 18, 2015
Final Exam Date: Friday, April 24, 2015

Course Policies

- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements may be sent to that address.
- 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* (`http://uab.edu/blazernet`) website.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at *dss@uab.edu*.

Date: January 5, 2015.

Course Description

Vector and matrix norms; SVD; stability, condition numbers, and error analysis; QR factorization; least squares problems; computation of eigenvalues and eigenvectors; iterative methods

Class Management via Canvas

- Homework problems and matlab assignments will be posted in canvas (`http://www.uab.edu/online/canvas`).
- Canvas will be used to post handouts, class announcements, codes, grades and etc. Students should log in to Canvas at least once a week!

Assessment Procedures

- Student achievement will be assessed by the following measures:
  - **Weekly homework.** Homework (theoretical problems and matlab assignment) will be due weekly. There will be no extension of deadlines for any reason. Homework contributes 40% to the course average.
  - **Final exam** The midterm exam contributes 30% to the course average.
  - **Final exam** The final exam contributes 30% to the course average.

Past JPE Problems

These problems are posted in `https://secure.cas.uab.edu/mathshare/files/jpe.html`. You can use them for practice. We will have some review sessions for these JPE problems.

Academic Misconduct

UAB Faculty expects all members of its academic community to function according to the highest ethical and professional standards. 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 Code of Conduct as detailed in the most current UAB Student Catalog. Please consult this resource for additional information regarding the specific procedures to be undertaken when a student violates the UAB Academic Code of Conduct. See `http://main.uab.edu/Sites/undergraduate-programs/general-studies/academic-success/67537/`

Non-harassment, Hostile Work/Class Environment

The UAB College of Arts and Sciences expects students to treat fellow students, their Course Instructors, other UAB faculty, and staff as adults and with respect. No form of hostile environment or harassment will be tolerated by any student or employee.