COURSE DESCRIPTION
NUMERICAL LINEAR ALGEBRA
MA 660-1F
SPRING 2019

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 10:15-11:45am (or by appt)

Course Info

Meeting times: MonWedFri 1:25–2:15 PM
Meeting location: Sterne 229
Recommended Textbook: (1) Numerical Linear Algebra by Lloyd N. Trefethen and David Bau III, SIAM, 1997

Important Dates

First day of our class: January 7, 2019
Martin Luther King Holiday: January 21, 2019
Last day to drop without paying full tuition: January 14, 2019
Spring Break: March 11–17, 2019
Last day to withdraw: March 1, 2019
Last day of our class: April 19, 2019
Midterm Date: March 6, 2019
Final Exam Date: Friday, April 26, 2019

Course Policies

• Please make sure that you are able to receive e-mail through your Blazer-ID account.
• If you are contacted by the Early Alert Program, you should consider taking advantage of the services it offers.
• If you wish to request a disability accommodation please contact DSS at 934-4205 or at dss@uab.edu.

Date: January 7, 2019.
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; implementation of algorithms

Class Management via Canvas

- Homework problems will be posted in canvas (http://www.uab.edu/online/canvas). Other class materials (class announcements, codes, grades and etc.) will be in canvas. Students should log in to canvas at least three times a week! (I prefer to receive emails via canvas.)
- I will NOT collect your homework in class. Homework will be uploaded in canvas before the due date.

Assessment Procedures

- Student achievement will be assessed by the following measures:
  - **Weekly homework.** Homework will be due weekly. There will be no extension of deadlines for any reason. Homework contributes 40% to the course average.
  - **Project.** The project contributes 10% to the course average.
  - **Midterm exam.** The midterm exam contributes 20% to the course average.
  - **Final exam.** The final exam contributes 30% to the course average.

- Your final grade is determined according to the following table:

<table>
<thead>
<tr>
<th>Course performance:</th>
<th>88-100</th>
<th>75-87</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>

Past JPE Problems

These problems are posted in https://www.uab.edu/cas/mathematics/graduate/phd/qualifying-exams-testbank. We will have several review sessions based on these JPE problems. Moreover, you are encouraged to do the additional problems given in the homework assignments.

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 Student Catalog. Please consult this resource (https://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.

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.