Introduction to Numerical Analysis II
Numerical Linear Algebra

Course

Description: In the second part of our introduction to numerical analysis - the study of algorithms, their
analysis and uses in approximating solutions to mathematical problems - we focus on numerical
linear algebra: solving linear systems of equations, factorizing matrices, and computing their
eigenvalues and eigenvectors.

Prerequisites: MATH 2660 (or equivalent), basic programming

Software: Students are allowed to use any high level programming language for coding assignments, but I
recommend using either Matlab or Python. For more information on how Matlab can be accessed, please consult the course website.

Lectures

Time: Tuesdays & Thursdays from 11:00 am - 12:15 pm
Venue: Parker 326

Instructor

Name: Dr. Hans-Werner van Wyk
Office: Parker 242
Tel: (344) 844-6575
Email: hzv0008@auburn.edu
Office hours: TBD

Resources

The material for this course is contained mainly in Chapters 4-8. We also recommend the highly readable Numerical Linear Algebra, by Lloyd N. Trefethen and David Bau III (SIAM 1997) as an additional reference.

Website: Most of the course content will be posted on our course website:
http://auburn.edu/~hzv0008/teaching/MATH5640/MATH5640.html

Canvas: I will use Canvas to administer this course, i.e. to send announcements, record grades, and collect
coding assignments.

Cellphone policy

Cellphones must be turned off during class and exam periods.
Grading Policy

Composition: 40% - homework, projects, programming assignments, and quizzes  
  30% - 2 midterm exams (15% each)  
  30% - final exam  
Letter Grades: A final grade above 90% guarantees an A, above 80% a B, above 70% a C, and above 60% a D.

Exams

Schedule: There will be two in-class exams, announced at least one week in advance, but scheduled tentatively for 02/16/2016 and 03/29/2015. The final exam takes place on May 2 from 12:00pm-2:30pm (the exam schedule can be found on the Registrar’s website).

Honesty: All portions of the Auburn University student academic honesty code (Title XII) found in the Student Policy eHandbook will apply to this class. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Make-up: Make-up exams will be given only under special circumstances. For more information on what constitutes an acceptable excuse for absence and on students responsibilities in arranging make-up exams, consult the Auburn University policy on class attendance. Except in extenuating circumstances, such as continued absence of the student or the advent of University holidays, a make-up exam will take place within two weeks from the time that the student initiates arrangements for it.

Accommodations for Disabilities

Student accommodations can be arranged through the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT). Please submit approved accommodations electronically through AU Access and meet with me to discuss the details as soon as possible (preferably during the first week of classes).

Important Dates

For more information, consult the Auburn academic calendar.

Jan 20: 5th class day - last day to add a course (contact the Math Department) or drop without penalty.
Jan 21-Feb 03: course drop penalty days - dropping a course during this period will result in a $100.00 drop fee.
Feb 03: 15th class day - last day to drop a course without grade assignment and potential tuition refund.
March 03: 36th class day (mid semester) - last day to withdraw from courses without grade assignment (W will be assigned).