AMSC/CMSC 460: Computational Methods
Prof. Doron Levy

This course is an introduction to computational mathematics.

Class webpage: http://www2.math.umd.edu/~dlevy/classes/amsc460-spring17
The webpage will be updated continuously. Please check frequently for updates.

Instructor: Prof. Doron Levy

Contact Information:
      Email: dlevy@math.umd.edu
      My office is on the third floor of the Math building, Room 3305
      Phone: 301-405-5140 (dial 55140 from any campus phone)
      Webpage: http://www.math.umd.edu/~dlevy

Office Hours: TTh 10-11, and by appointment

Grader: Dana-Adriana Botesteanu, dboteste@math.umd.edu

Classroom: MATH B0427

Lecture: TTh 11-12:15

Textbook: Numerical Computing with Matlab by Cleve Moler. The book is available online for free at www.mathworks.com/moler. The textbook will be mostly used for supplementing the lectures with computational examples and homework. The lectures will mostly follow my Numerical Analysis lecture notes. These lecture notes are available for download from the course's webpage.

Grading Policy: Homework 20%, each midterm 20%, final exam 40%

HW Policy: Homework will be assigned on the web. Homework is due in class. Late homework will not be graded. To avoid confusion, do not leave any homework in my mailbox, under the door, etc. Such homework will not be graded.

Makeup Policy: There will be no makeup exams. In case of a medical or family emergency, please contact me by email before the exam. In cases of a justified and documented absence (for a medical or family emergency - and I was contacted before the exam) the weight of the missed exam will be shifted to the final exam.

Exams: There will be 2 midterm exams and one final exam. All midterm exams will be held in class instead of a lecture. **If you have any conflicts with the assigned dates of the exams please contact me by email up to one week before the exam.**

        Midterm 1: Tuesday 3/7, in class
        Midterm 2: Thursday 4/6, in class
        Final Exam: Saturday 5/13, 8-10, in class

Matlab: Some of the homework problems will require basic programming skills. This is not a programming class, so it will be assumed that you have some programming knowledge. You are asked to use Matlab for the computer assignments. Access to Matlab is available on the University computer systems. You can also purchase a student version of the program for your own computer. There are various online resources that teach basic Matlab programming. In case you do not know how to work with Matlab, you should go over some of these resources quickly. Links to several online resources are available on the course webpage.

A tentative plan for the course:
1) Solving nonlinear equations
2) Floating point arithmetic
3) Linear systems
4) Interpolation
5) Approximation
6) Numerical differentiation
7) Numerical integration
8) Initial value problems for ODEs

Academic Integrity: All work that you submit must be your own. You are welcomed to discuss the material with each other in a general way, but you may not consult any one else's written work, drafts, etc. Any marked similarity in form or notation between submissions with different authors will be regarded as evidence of academic dishonesty so protect your work. You must cite any reference you use and clearly mark any quotation or close paraphrase that you include. Such citation will not lower your grade, although extensive quotation might. Homework should be done individually. The university expects all students to adhere to the University Honor Pledge: "*I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.*"

Disabilities: Students who require special examination conditions must register with the office of the Disabled Students Services (DSS) in Shoemaker Hall. Documentation must be provided and discussed with me in person within the first week of classes. Proper forms must be filled out and provided before every exam.