

320. Computer Methods in the Mathematical Sciences I. (Fall 2017)

Instructor: Ryan Hynd (rhynd@math.upenn.edu)

Office: DRL 4N42

Office Hours: Tuesdays 4 – 6pm

Grader: TBA

Lectures: Mondays and Wednesdays 12 – 1:30pm

Class location: DRL 4C2

Description: We will write programs in MATLAB to solve problems in numerical integration, equation solving, linear algebra and differential equations. We will also study theoretical and computational aspects of the methods along with error analysis. Prior programming experience will be helpful but isn't necessary.

Prerequisites: MATH 240 and the ability to program in MATLAB

Required Textbook: *Numerical Analysis* 10th Edition by Burden and Faires

Recommended Text: *Matlab: A Practical Introduction to Programming and Problem Solving* 4th Edition by Stormy Attaway

MATLAB: A student version will be sufficient for this class.

Homework: Weekly HW consisting of problems from the (required) textbook and exercises that I design. HW will be due on Wednesdays and each assignment must be typed and stapled. Please do not make a habit of turning in HW late. You may collaborate on HW, but you must write your own solutions. Your lowest grade will be dropped.

Midterm Exam: This will be a written exam and will take place in class on Monday October 16. Mark your calendar.

Final Exam: This will be a written exam and will take place in class on Monday December 11. December 11 is the last day of class; please make a note of this important date.

* No makeup exams.

Grading: 60% Homework, 15% midterm exam, 25% final exam

Days off: October 18 and November 22, although HW will be due on November 22.