

Sujeet Bhat

Office: ECOT 338, MWF 10-10:50, 2-2:50

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Lecture #001

MWF 9-9:50, ECCR 150

Course Goals: (1) To develop the ability to derive, analyze, and implement numerical algorithms.

(2) To recognize the wide use of numerical methods in applications.

(3) To extend the concepts learned in previous courses to a wider class of problems.

(4) To gain a broader knowledge of and appreciation for mathematics and its applications.

Course Description: Focuses on numerical solution of nonlinear equations, interpolation, methods in numerical integration, numerical solution of linear systems, and matrix eigenvalue problems. Stresses significant computer applications and software. Prereqs: APPM 3310 or MATH 3130 and knowledge of a programming language.

Text: *Numerical Analysis*, by Burden and Faires, ISBN-13: 978-0-538-73351-9. Please make a habit of keeping up with reading the sections as we cover them.

Course Webpage: Course documents and information will be posted at

<http://amath.colorado.edu/courses/4650/>

Programming: One central goal of this course is to be able to implement numerical methods and critically analyze the results relative to the theory developed in the course. **Knowledge of a programming language is a course prerequisite**, and MATLAB is generally the language we'll use. Our textbook provides some source code available at

<http://www.math.ysu.edu/~fares/Numerical-Analysis/Programs/index.html>

Homework: You will be assigned homework periodically throughout the course. These problem sets may require proofs, derivations, or computer implementation/verification of a numerical method. You are expected to write-up the solutions neatly, with full explanations and justifications.

Exams: We will have 2 in-class exams each covering approximately one-third of the course material. The comprehensive final exam is scheduled for Monday, Dec. 17, 1:30-4:00 p.m.

Grade Determination: There are a total of 500 points possible: Homework (150 pts), Exams (100 pts each), Final Exam (150 pts).

Extra Help: Office hours and availability of the student learning assistants will be posted on the course web page.

Dropping the course: Advice from the Dean's office and your department advisor is recommended before dropping any course. After October 10th, dropping the course is only possible with a petition approved by the Dean's office, see http://registrar.colorado.edu/calendar/calendars_schedules.html

Academic Honesty: Students can work in groups however, **all work turned in must be your own**. Violation of the CU Student Honor Code:

<http://honorcode.colorado.edu>

or the College of Engineering's Academic Honesty Advising Guidelines:

<http://www.colorado.edu/engineering/academics/policies>

will result in an automatic final grade of F in the course.