Instructor: Adam Norris, ECOT 316
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Lectures: Lectures and labs MWF 1010–1100 in ECCR 116.

Course Objective: To learn basic techniques in numerical analysis and scientific computation using the MatLab software package. This is an introductory course in numerical analysis and programming, so the material will be presented from a problem-oriented perspective rather than simply a theoretical perspective (although some theoretical work will be covered). It is expected that you know the material in the calculus sequence through differential equations, and have a basic functional background in programming constructs, logic, and flow control. We may cover new material from other areas of applied mathematics as necessary.

Text: "Introduction to Matlab 7 for Engineers", by Palm, William J., McGraw Hill, 2005, or any more recent version. This is not required, but you might find it helpful.

Important Dates:
     Jan 16 — Classes begin (Tuesday)
     Mar 25–29 — Spring break
     May 02 — Last day of classes (Thursday)
     May 04 — Final (Saturday, 1630-1900)

Grading Distribution: 80% homework and projects assignments, 10% exam 1, 10% exam 2.
     (Subject to change!)

Homework Policy: Homework will be assigned on a somewhat regular basis. The problems may be from the text, but usually they will require you to fill in details from lecture, or further explore a topic outside of class. Problems assigned during any given week will be due the following Wednesday. Submission details will follow.

Your solutions should include the following:

- Clear, brief restatement of the problem or question.
- Neat, detailed, step–by–step solution including sufficient comments to make the solution "read" well.
- Statement of important assumptions.

When grading MatLab code, we will be looking at the following criteria:

- Does the program do what was asked?
- Is the program well structured, with logical flow?
- Is the program well documented, so that it is obvious to the reader what it does and how? (Note that good commenting is not the same as excessive commenting!)
- Is the program efficient? Does it do the job in the quickest and "cleanest" way possible?
- Is it extensible?

When grading analytic work, we will be looking at the following criteria:

- Correctness.
- Neatness. Submitted work must be a final copy, not a work in progress. Homework that is messy or unstapled (anybody remember staples?) will not be graded. The 10-second rule applies here, as well as all other work in this course.

You are encouraged to work together on assignments, however, the major portion should be done on your own. In all cases your submission should demonstrate that *you* understand the problem and its solution.

Course web page: (*https://spot.colorado.edu/~adam/3050_2024Spr/index.html*) Any documents posted will be on our course webpage. It is your responsibility to check our webpage on a regular basis. Here you will find detailed information such as homework assignments, lab materials, and office hours. In addition, it contains policies on illness, academic honesty, and special accommodations for religious holidays and documented special needs. Homework code (as needed) and projects will all be submitted via email to *adam@colorado.edu*.

Academic honesty: Work on projects, homework, programming assignments etc., is generally done on an individual basis. I realize that students frequently help each other over hurdles while developing programs and solving problems, and I encourage this. However, using another person's work or allowing another student to use your work, will be considered a dishonest act. All work turned in must be your own, and you are responsible and accountable for all group work associated with your name. Violation of the CU Student Honor Code (*honorcode.colorado.edu*) or the College of Engineering's Academic Honesty Advising Guidelines (*http://www.colorado.edu/engineering/academics/policies/honesty*) will result in a final course grade of F and a report to the College of Engineering or Arts and Sciences, a copy of which will be placed in the student's permanent file.