

Fall 2013

## Math 151: Mathematical Algorithms in Matlab

*“Science is what we understand well enough to explain to a computer. Art is everything else.”-Donald Knuth*

Instructor: Cory Previte

Time and Place: Nov 4 - Dec 11, MW 4:00 - 6:50pm, Weber 205

Office Hours: *TBD*

Email: [previte@math.colostate.edu](mailto:previte@math.colostate.edu)

**Text:** None required

**Prerequisite:** There are no formal requirements. Some mathematical proficiency is assumed.

**Webpage:** RamCT Blackboard will contain current grades, assignments, and course announcements. Please check the website regularly.

**Course Content:** This course is an introduction to mathematical algorithms using Matlab. The primary goal is to learn basic algorithmic principles and data types. Topics are from the broad area of Numerical Computation and include numerical integration, a numerical solver for ordinary differential equations, and solving nonlinear equations. We will learn the syntax of Matlab, how to write simple programs in the language, and how to choose the right data types for storage of data.

**Course Structure:** Class will be in the form of lecture followed by lab assignments.

**Grading Scheme:** (100 – 90%) A; (89 – 80%) B; (79 – 70%) C; (69 – 60%) D; (59 – 0%) F; Plus/Minus grades will only be assigned in exceptional cases.

**Lab Assignments:** There will be 10 lab assignments worth 10 points each. Your performance on these labs determines your final grade in the course. These assignments should be completed in class, but if more time is needed, then you may hand in your lab at the start of the following class session (with the exception of Lab 10). You **must** attend class on the day a lab is assigned in order to receive full credit for the assignment. Since this is a one credit mini-course, there will be no final exam. You may work with a partner for Labs 1 - 9, but must complete Lab 10 on your own.

**Lab Submission:** Please submit the Matlab script electronically, using the filename *Last-NameLabNumber.m*. If you are working with a partner, you only need to submit one lab. For example, if I work with Leonhard Euler on lab 2, I would save the file as *PreviteEulerLab2.m*. Email the completed lab to [previte@math.colostate.edu](mailto:previte@math.colostate.edu).

**Missing Class:** No late work is accepted in Math 151. If you are planning on missing a class, please make arrangements with me to turn in the lab **prior to the missed class**.

**Communication (outside of class):** The official method for the University to contact you is by the email address you have provided on RamWeb. Outside of class, I will contact you at this email address. Be sure to keep this email address updated and check it regularly.

**ADA Statement:** The Americans with Disabilities Act requires that reasonable accommodations be made for students with disabilities. If you need such assistance, please contact me as soon as possible.