

MA 132 **COMPUTATIONAL MATHEMATICS FOR LIFE AND MANAGEMENT SCIENCES**

Syllabus

Instructor: Dr. Andrew Cooper (he/him/his), andrew.cooper@math.ncsu.edu

Website: You're on it

WebAssign: WebAssign credentials must be purchased through webassign.ncsu.edu

Software: You will need access to a computer with Maple and Excel. Almost all NCSU Libraries computers have these programs, and they are accessible via the [Virtual Computing Lab](#). *Software purchase is not required.*

Office Hours: by appointment in 3232 SAS Hall

Scope and Objectives

In this course, we'll use two software tools, Excel and Maple, to model and interact with real-world phenomena and data. We will use this software to handle the "grunt work" of calculus so that we can focus on applying mathematical concepts – derivatives, differential equations, finite-difference equations, etc. – to understand the world.

After taking this course, a successful student will be able to:

- > learn basic ways of working with data and mathematical models
- > become competent at using spreadsheets and computer algebra systems (Excel and Maple)
- > solidify your understanding of the concepts of calculus
- > apply your knowledge to real-world problems

Prerequisites

The prerequisites are at least a C grade in the first semester of calculus such as MA 121 or 131. I will expect you to be passingly familiar with the calculus of a single variable. You may on occasion need to go back and consult your Calculus I notes or a textbook, but probably not – the computer's going to do most of the work for us.

Assignments and Grades

The semester grade is based solely on 15 assignments, submitted via WebAssign.

- › Assignments are roughly one per week during the semester.
 - › All assignments are visible in WebAssign from the beginning of the semester.
 - › Due dates are listed in WebAssign.
 - › If you wish, you may request an automatic due date extension in WebAssign, provided you have not viewed the answer key. Use this feature judiciously – you will have to complete all the assignments by the last day of the semester one way or another.
 - › Feel free to work the assignments "out of order". Assignments numbered like 6-I and 6-II are related, so you may wish to work on them at the same time.
- › WebAssign allows multiple attempts on each part of each problem of each assignment.
- › Each assignment is worth 7.6 points; the introductory practice assignment is worth 1.2 points.
- › The lowest 2 assignment scores will be dropped. Your semester grade will be computed from your total score on the introductory assignment and the best 13 assignments, according to the following table:

98+	93 - 98	90 - 93	88 - 90	83 - 88	80 - 83
A+	A	A-	B+	B	B-
78 - 80	73 - 78	70 - 73	68 - 70	63 - 68	60 - 63
C+	C	C-	D+	D	D-

WARNING: WebAssign's gradebook feature doesn't support this kind of dropping-and-averaging; your grade as reported in WebAssign may differ slightly from the grading policy above. At the end of the semester I compute all grades in my own spreadsheet rather than using WebAssign's reported semester grade.

- › There will be no make-up or excused assignments.
- › There will be no extra credit.