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

Syllabus

Instructor: Grace Stadnyk (she/her/hers), gstadny@ncsu.edu

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 LAU 208 (this is the building on the same side of Stinson Drive as SAS Hall, next to 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.

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