MA 132: Computational Mathematics for Life and Management Sciences
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Online Office Hours
Email me to schedule a zoom appointment.

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
The semester grade is based solely on 16 assignments, submitted via WebAssign.
WebAssign is purchased online by each student at http://webassign.ncsu.edu
Assignments are roughly one per week during the semester.
All assignments are visible in WebAssign from the beginning of the term.
The introductory assignment is due **Aug 30**, this is to ensure you have enrolled on WebAssign with no problem so you don't run into issues later this semester. Please complete it as soon as you can.
All the rest of the assignments are due on the last day of class, **Nov 29**. This allows you to pace yourself in whatever way you see fit. However, you should not do them all the day before! Try to plan to do roughly 1 assignment per week.
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.

Software
You will need access to a computer with Maple and Excel. Many NCSU Libraries computers have these programs, and they are accessible via the Virtual Computing Lab. Software purchase is not

required.

Grading Policies
Each regular assignment is worth 7.6 points; the introductory practice assignment is worth 1.2 points.
The lowest two 7.6-point assignment scores will be dropped.
There will be no make-up or excused assignments.
There will be no extra credit.

Your semester grade will be computed from your total score on the introductory assignment and the best 13 assignments, according to the following table:

90 ≤ A- < 93	93 ≤ A < 97	97 ≤ A+ ≤ 100
80 ≤ B- < 83	83 ≤ B < 87	87 ≤ B+ < 90
70 ≤ C- < 73	73 ≤ C < 77	77 ≤ C+ < 80
60 ≤ D- < 63	63 ≤ D < 67	67 ≤ D+ < 70
0 ≤ F < 60		

Remark: Under S/U grading, an S is a C- or above.
Two policies, enhanced S/U Grading Option and Late Drop, put in place at the beginning of the COVID-19 pandemic have been discontinued.

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.

Academic Integrity

Students are required to comply with the university policy on academic integrity found in the Code of Student Conduct found at http://policies.ncsu.edu/policy/pol-11-35-01
The NCSU Student Code of Conduct covers all work done in this course. Any suspected violations will be promptly reported. Academic dishonesty will result in an automatic failing grade for the course.

Course Evaluations
A formal evaluation is conducted by the University at the end of the semester and the goal is to achieve 100% class participation in this survey. Online class evaluations will be available for students to complete during the last two weeks of class. Students will receive an email message directing them to a website where they can login using their Unity ID and complete evaluations. All evaluations are confidential; instructors will never know how any one student responded to any question, and students will never know the ratings for any particular instructor.

Accommodations for Disabilities
Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Disability

Resources Office (https://dro.dasa.ncsu.edu/), 919-515-7653. For more information on NC State's policy on working with students with disabilities, please see the Academic Accommodations for Students with Disabilities Regulation at http://policies.ncsu.edu/regulation/reg-02-20-01.

Course Website
We will be using the Moodle learning management system (http://wolfware.ncsu.edu) for this course. You will log in using your Unity ID and password. (Refer to online information at http://oit.ncsu.edu/unityid or contact (919) 515-HELP or HELP@ncsu.edu for assistance with your Unity ID). After the beginning of the semester, you will see a link to our course site. Once in the site, you can Bookmark or add the site as a Favorite in your web browser so that you can return directly to that page.

Course Communications

Modes of communication in use for this course include email, Zoom meetings, and Moodle. If you are having difficulties that relate to this class, please talk to me so we can work together. Please be respectful and professional during zoom meetings and when sending emails.
- Moodle discussion forums will be used to facilitate class discussion. Check these forums often and please feel free to reply to your fellow students' posts. If you have a question that the whole class may benefit from hearing the answer to, please post on the "Q&A" forum. I will check this forum to respond to open questions. You should also check frequently to answer or ask questions.
- If you have a question that is very specific to the work you have done (i.e. if you nearly finished your work but got stuck towards the end), you can email me with your question. Including a file, scan, or photo of your work can help. NO email will be read or answered unless the email includes 1) a specific detailed subject line, 2) the course and section number, 3)your name, and 4) what you have already attempted to do to resolve the issue. I will read all thoughtful and signed emails but will not promise to be able to answer all of them. Try to find the information on your own first.
- If you would like to speak with an instructor in person, please email me to schedule a time that is convenient for a zoom meeting. Include several time slots that would work for you in your email.

Please be aware that ALL email communications for this course will be sent to your NCSU unity email. If you do not regularly use your ncsu.edu account, there are settings within Gmail that allow you to forward your e-mail to another account. For more information, please see http://google.ncsu.edu/what-best-way-forward-my-nc-state-gmail-non-nc-state-e-mail-address.

Trans-Inclusive Statement
In an effort to affirm and respect the identities of transgender students in the classroom and beyond, please contact me if you wish to be referred to using a name and/or pronouns other than what is listed in the student directory.

Basic Needs Security
Any student who faces challenges securing their food or housing or has other severe adverse

experiences and believes this may affect their performance in the course is encouraged to notify the professor if you are comfortable in doing so. Alternatively, you can contact the Division of Academic and Student Affairs to learn more about the Pack Essentials program https://dasa.ncsu.edu/pack-essentials/

Supporting Fellow Students in Distress
As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that this classroom (as well as the campus as a whole) remains a healthy and safe environment for learning. Occasionally, you may come across a classmate whose personal behavior concerns or worries you, either for your classmate's well-being, for your well-being or for the well-being of others. When this is the case, I would encourage you to report the behavior on the link located on NC State's Students of Concern website (http://go.ncsu.edu/NCSUcares).

List of Policies
Students are responsible for reviewing the NC State University PRRs (policies, rules and regulations) that pertain to their course rights and responsibilities:
• Equal Opportunity and Non-Discrimination Policy
Statement https://policies.ncsu.edu/policy/pol-04-25-05/ with additional references at https://oied.ncsu.edu/equity/policies/
• Code of Student Conduct https://policies.ncsu.edu/policy/pol-11-35-01/
• Grades and Grade Point Average https://policies.ncsu.edu/regulation/reg-02-50-03/
• Credit-Only Courses https://policies.ncsu.edu/regulation/reg-02-20-15/
• Audits https://policies.ncsu.edu/regulation/reg-02-20-04/

COVID-19 Policies

Due to the COVID-19 pandemic, public health measures continue to be implemented across campus. Students should stay current with these practices and expectations through the Protect the Pack website (https://www.ncsu.edu/coronavirus/). The sections below provide expectations and conduct related to COVID-19 issues.

Health and Participation in Class
We are most concerned about your health and the health of your classmates and instructors/TAs.

- If you test positive for COVID-19, or are told by a healthcare provider that you are presumed positive for the virus, you should not attend any hybrid or face-to-face (F2F) classes and work with your instructor on any adjustments necessary; also follow other university guidelines, including self reporting (Coronavirus Self Reporting): Self-reporting is not only to help provide support to you, but also to assist in contact tracing for containing the spread of the virus.

- If you need to make a request for an academic consideration related to COVID-19,

such as a discussion about possible options for remote learning, please talk with your instructor.

Health and Well-Being Resources
These are difficult times, and academic and personal stress are natural results. Everyone is encouraged to take care of themselves and their peers. If you need additional support, there are many resources on campus to help you:

- Counseling Center (NCSU Counseling Center)

- Student Health Services (Health Services | Student)

- If the personal behavior of a classmate concerns or worries you, either for the classmate's well-being or yours, we encourage you to report this behavior to the NC State CARES team: (Share a Concern).

- If you or someone you know are experiencing food, housing or financial insecurity, please see the Pack Essentials Program (Pack Essentials).

Community Standards related to COVID-19
We are all responsible for protecting ourselves and our community. Please see the community standards (which have been updated for 2021) and Rule 04.21.01 regarding Personal Safety Requirements Related to COVID-19 RUL 04.21.01 – Personal Safety Requirements Related to COVID-19 – Policies, Regulations & Rules

Course Expectations Related to COVID-19:

- **Face Coverings:** All members of the NC State academic community are expected to follow all university policies and guidelines, including the Personal Safety Rule and community standards, for the use of face coverings. Face coverings are required in instructional spaces. Face coverings should be worn to cover the nose and mouth and be close fitting to the face with minimal gaps on the sides.

- **Course Attendance**: NC State attendance policies can be found at: REG 02.20.03 – Attendance Regulations – Policies, Regulations & Rules. If you are quarantined or otherwise need to miss class because you have been advised that you may have been exposed to COVID-19, you should not be penalized regarding attendance or class participation. However, you will be expected to develop a plan to keep up with your coursework during any such absences. If you become ill with COVID-19, you should follow the steps outlined in the health and participation section above. COVID 19-related absences will be considered excused; documentation need only involve communication with your instructor.

Course Changes Related to COVID-19

NO LONGER AVAILABLE - Grading/Scheduling Changing Options Related to COVID-19

Two policies, enhanced S/U Grading Option and Late Drop, put in place at the beginning of the COVID-19 pandemic have been discontinued.
In some cases, an option may be to request an "incomplete" in the course. If you are experiencing difficult or extenuating circumstances, you should discuss possible options with your instructor and your academic advisor.

Other Important Resources

- **Keep Learning:** Keep Learning

- **Protect the Pack FAQs:** Frequently Asked Questions | Protect the Pack

- **NC State Protect the Pack Resources for Students:** Resources for Students | Protect the Pack

- **Academic Success Center** (tutoring, drop in advising, career and wellness advising): Academic Success Center.

- **NC State Keep Learning, tips for students opting to take courses remotely:**

Keep Learning Tips for Remote Learning

- **Introduction to Zoom for students:**

https://youtu.be/5LbPzzPbYEw

- **Learning with Moodle, a student's guide to using Moodle:**

https://moodle-projects.wolfware.ncsu.edu/course/view.php?id=226

- **NC State Libraries** Technology Lending Program