

MA 231 - Calculus for Life and Management Sciences B

1 Course Information

MA 231 - Section 001, Summer II 2023 (3 credit hours)

- Instructor: Kylan Schatz (they/them)
Email: kaschatz@ncsu.edu, Office: SAS 3217
- Meeting Time: MTWHF 9:50-11:20am in SAS 2235
- Office Hours: MWF 11:30-12:30pm in person or on Zoom
- Textbook: *Calculus and Its Applications*, 14th Edition. Goldstein, Lay, Schneider, Asmar.
ISBN 9780134437774.

The easiest way to contact me is to come to class, visit office hours, or to email me during business hours. If you email me after business hours or over the weekend, I may not respond until the next business day.

2 Course Description

For students who require only a single semester of calculus. Emphasis on concepts and applications of calculus, along with basic skills. Algebra review, functions, graphs, limits, derivatives, integrals, logarithmic and exponential functions, functions of several variables, applications in management, applications in biological and social sciences.

- **Prerequisite:** MA 131 or MA 141; Credit is not allowed for both MA 231 and MA 241.
- **GEP:** Mathematical Sciences.

3 Learning Outcomes

Build skills in advanced topics in calculus, problem solving, integrity, and professional communication.

- Work with functions of multiple variables:
describe their graphs and partial derivatives,
3-D global optimization, 3-D and 4-D constrained optimization.
- Identify and construct different models:
describe ‘ordinary’ differential equations and their solutions,
describe systems of ODEs with emphasis on predator-prey models.

- Use calculus as a tool for solving problems in life and management sciences.
develop mathematical thinking and problem solving skills, as applied to real-life examples.
- Show integrity in the classroom and affiliated spaces, including Moodle forums.
build time management skills to complete homework and study for assessments,
use professional communication in and outside of class, over any medium.

4 Course Structure

Course lectures are synchronous, in-person MTWHF in 2235 SAS Hall. Attendance will be taken each day, as required by Attendance Regulations ([NCSU REG 02.20.03](#)). Lectures are to be recorded and posted to Panopto, accessible through WolfWare. It is **strongly encouraged** that students attend every in-person lecture to better facilitate learning and provide space to ask questions.

Homework will be completed on WebAssign, due all at the end of the summer session. Recommended completion date for Homework are listed on Moodle under the course Roadmap. Quizzes will be proctored during during class time. Office hours are in-person, and a Zoom option is also offered.

5 Grading

Students' grades consist of two major components: homework and quizzes.

Item	Weight
Homework	50
Exams	50 (5 × 10)

Homework is graded for accuracy by WebAssign, and are automatically posted to Moodle. WebAssign will be **weighted differently depending on the number of points per assignment**. You will have up to five submissions per question, and questions are graded individually. I may grant more attempts or a new randomization to students on an individual basis.

Quizzes will be administered frequently, and include several chances for retakes and grade remediation. Each quiz will consist of some subset of: definitions, short answer, word problems, and possibly multiple choice and true/false. **You must justify your answers and show full working out on quizzes for full credit.**

This course uses the standard NCSU grading scale. Course grades will not be rounded. Please view Grades and Grade Point Average ([NCSU REG 02.50.03](#)) if you have any questions about grading at NCSU.

Lower bound for grade			
Letter	-		+
A	90	93	97
B	80	83	87
C	70	73	77
D	60	63	67
F	*	0	*

Students seeking credit only (S/U) must receive a C- to obtain a Satisfactory grade. Please view Credit-Only Courses ([NCSU REG 02.20.15](#)) if you have any questions about this option.

Students wishing to audit this course, coordinate with your advisor beforehand. Please view Audits ([NCSU REG 02.20.04](#)) if you have any questions about this option.

6 Course Schedule

A comprehensive schedule for lectures and topics may be found on the course Moodle page.

Item	Date
First day of class	June 26
Last day to add a course	June 27
Census Date	June 28
Independence Day (No class)	July 4
Drop/Revision Deadline	July 13
Last day of class	July 28
Final Exam, 8:30-11am	July 31
Grades due by 5pm	August 3

7 Expenses

Students must purchase access to WebAssign to complete the course homework. The cost of WebAssign access is \$32.95. Students are also expected to purchase the course textbook, *Calculus and Its Applications*, ISBN 9780134507132 which is \$29.99 for All-In access. This is the same textbook which is used for MA 131. A link to purchase All-In access is listed on the course Moodle. Talk to me if either of these options are cost prohibitive.

8 Attendance / Late Assignments

I will manually mark the attendance of students who are present in-person. Attendance is not part of the course grade. **Please talk to me if you plan to be absent for a long period of time** due to illness etc.

Students may only miss quizzes **for an excused absence, with proper documentation**. I plan to offer many chances for retakes over the summer session, and you may attempt the assignment then. Please see Attendance Regulations ([NCSU REG 02.20.03](#)) for more information on missed assignments and make-up work. For information on verifying an excused absence, view [Academic Absence Verification](#).

9 Digital Course Components

This course uses Moodle, Panopto, and Zoom for its digital components. Lecture will be recorded, possibly capturing students' voices. These videos will not be distributed to anyone other than your

classmates for this semester. Please view Online Course Material Host Requirements ([NCSU REG 08.00.11](#)) if you have any concerns.

Students may be required to disclose personally identifiable information to other students in the course, via digital tools, such as email or web-postings, where relevant to the course. Examples include online discussions of class topics, and posting of student coursework. All students are expected to respect the privacy of each other by not sharing or using such information outside the course.

10 Academic Integrity Statement

The work any student submits should reflect their own understanding of the material. Students may not collaborate or use any outside resource (such as cheat sheets, Wolfram Alpha, or other students) while completing exams. Students found to be in violation of this policy may receive a 0 grade on the associated assignment.

Students are encouraged to review the NC State Code of Student Conduct ([NCSU POL 11.35.01](#)) and Pack Pledge. Violations of academic integrity will be handled in accordance with the Student Discipline Procedures ([NCSU REG 11.35.02](#)).

11 Non-Discrimination Statement

NC State provides equal opportunity and affirmative action efforts, and prohibits all forms of unlawful discrimination, harassment, and retaliation ("Prohibited Conduct") that are based upon a person's race, color, religion, sex (including pregnancy), national origin, age (40 or older), disability, gender identity, genetic information, sexual orientation, or veteran status (individually and collectively, "Protected Status"). Additional information as to each Protected Status is included in Discrimination, Harassment and Retaliation Complaint Procedure ([NCSU REG 04.25.02](#)).

NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at Equal Opportunity, Non-Discrimination and Affirmative Action Policy ([NCSU POL 04.25.05](#)) or <https://oied.ncsu.edu/divweb/>. Any person who feels that they have been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

12 Students With 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 Resource Office at Holmes Hall, Suite 304, Campus Box 7509, 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 ([NCSU REG 02.20.01](#)).

13 Trans / Non-binary / GNC Students Addendum

I pull student preferred named and pronouns from MyPack. Unless otherwise specified, this is how I will refer to you. If you use a different name or pronouns than are listed in the NC State system, please let me know in class or by email.

14 Additional Rules and Regulations

Students are responsible for reviewing the NC State University Policies, Rules, and Regulations (PRRs) which pertain to their course rights and responsibilities, including those referenced both below and above in this syllabus:

- Equal Opportunity and Non-Discrimination Policy Statement ([NCSU POL 04.25.05](#)) with additional references at <https://oied.ncsu.edu/divweb/policies/>
- Code of Student Conduct ([NCSU POL 11.35.01](#)).

Last updated: July 17, 2023