

MA 231 - 001. Calculus for Life and Management Sciences B

Instructor: Catie Acitelli (she/her/hers)
Email: cbacitel@ncsu.edu
Lectures: Online synchronous M-F 9:50am-11:20am
Zoom link: <https://go.ncsu.edu/ma231lectures>
Office Hours: Monday, Tuesday, and Thursday from 11:45am-12:45pm (or by appointment)
Zoom link: <https://go.ncsu.edu/ma231officehours>
Course Website: Moodle

Course Text

Calculus and Its Applications by Goldstein, Lay, Asmar, Schneider. 14th Edition. Pearson.

See the “Click here to purchase your All-In access for the semester” link on Moodle to purchase. Cost: \$49.25.

Once purchased, the text is available at <https://courses.vitalsource.com/>.

Required Statement

This course is using “All-in” materials for Summer II, 2021. All-in delivers digital course materials on the first day of class through Moodle at a **discounted** price. Mark your calendar to pay for your materials before **June 30th**.

- Only until June 30th can you buy your course materials at the discounted All-in price from the bookstore (*and only from the bookstore* either online or in store to retain access).
 - Go to shop.bookstore.ncsu.edu (Books > Order Textbooks > Shop Wolfpack Outfitters Site) or walk in (Bottom floor of Talley - Please check to see if they're open).
- After June 30th, if you have not exchanged money with the bookstore, your access will be shut off, and you will have to pay full price through the VitalSource app in Moodle. Please note that student accounts are **not** auto charged and that you must purchase from the bookstore online or in store. *Please also note to kindly disregard the auto-generated payment confirmation from Pearson that you may receive when you first register for any materials.* Again, you have only paid if you actively paid the bookstore prior to **June 30th**.

Registration Instructions for Students:

1. Enter your Moodle course and locate the VitalSource App on the top of the course page.
2. If you are registering for MyLab, Mastering, or Revel, link your Moodle user account to either an existing Pearson account by entering your Pearson Username and Password or to a new use Pearson account by selecting the “Create an account” button. After linking, click “Continue.”
 - (a) If prompted, select “I accept the Terms of Use and acknowledge the Privacy Policy” and then the “Continue” button to agree to Pearson’s End User License Agreement. **You’re done!**
3. Pearson course materials can be accessed subsequently via the VitalSource app in Moodle.

If you do not pay the bookstore by the **June 30th** deadline, you will be deactivated. **THERE WILL BE A BLACKOUT PURCHASING PERIOD OF APPROXIMATELY 48 HOURS** while the program transitions to accept payments. You will not be able to complete any work in a deactivated account during this time. The “Read Now” or “Launch Courseware” button will change to “Buy Now” or “Redeem Code.” The purchase price will then be higher than the All-in price.

Catalog Description

Prerequisite: MA 131

Differential equations - population growth, flow processes, finance and investment models, systems; functions of several variables - partial derivatives, optimization, least squares, multiple integrals; Lagrange multiplier method - chain rule, gradient; Taylor polynomials and series; numerical methods. MA 121 is *not* an accepted prerequisite for MA 231.

Course overview

MA 231 is the second course of a two-semester sequence in Calculus, focusing on concepts and ideas relating to multivariate calculus, series, and differential equations. Emphasis is placed on solving application problems. See the last page of this document for the pacing guide, topics covered, and textbook correlations.

Course Structure and Rules of Engagement

All course learning materials and resources are housed in Moodle: <http://wolfware.ncsu.edu/>. Attendance at Zoom lectures is expected and necessary. While not mandatory, it is encouraged that you attend lecture with your video on. This helps me respond to non-verbal cues to modify the lesson. All lectures will be recorded for current and potential future educational purposes. Lecture videos will be made available on our Moodle page, along with PDF copies of the course notes. By your continued participation in this recorded course, you are providing your permission to be recorded.

I will also have office hours via Zoom on Mondays, Tuesdays, and Thursdays from 11:45AM - 12:45PM (or by appointment). These are optional, but they are a good place to get your questions answered. If you plan on attending, please join the call with audio and video within the first 15 minutes. If no students have shown up by 12:00PM without communicating ahead of time, I will end the office hours.

Course Communication

Modes of communication in use for this course include email, office hours, and Moodle discussion forums. Office hours will be held on Monday, Tuesday, and Thursday from 11:45am-12:45pm.

- 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.
- I will do my best to respond to weekday e-mails and posts within 24 hours. Email messages or posts left after 4 pm Friday will be responded to by the following Monday.
- If you would like to meet with me and you cannot make it to my posted office hours, please email me to schedule a time that is convenient. 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 see: <https://oit.ncsu.edu/my-it/email-calendaring/email-forwarding/>.

Grading Policy

Your final grade in this course will be determined by short weekly quizzes, homework assignments, three 90-minute tests, and the final exam, weighted as follows:

Weekly Quizzes	10%
Homework	20%
Three 90-minute Tests	45%
July 9, July 19, and July 28	
Final Exam	25%
August 2, 8 : 30 – 11 : 00AM	

Grading Scale		
$97 \leq A+ \leq 100$	$93 \leq A < 97$	$90 \leq A- < 93$
$87 \leq B+ < 90$	$83 \leq B < 87$	$80 \leq B- < 83$
$77 \leq C+ < 80$	$73 \leq C < 77$	$70 \leq C- < 73$
$67 \leq D+ < 70$	$63 \leq D < 67$	$60 \leq D- < 63$
	$F < 60$	

Note: I do not round final averages or curve grades in this course. It is theoretically possible for everyone in the class to get an A (or an F). A student's performance does not depend on that of any other student. While it is in everyone's best interest to help classmates, students must abide by the university's academic integrity policy.

Testing

Testing will be done on Moodle. Procedural details about the tests will be made available in Moodle. The three tests will be 90–minutes apiece, and you will take them during normal class time (the dates above are *tentative*). The final exam is 2.5 hours long and will be set up in a similar way. The Moodle site will have guidance regarding the material covered on each tests. The final exam is mandatory and cumulative. Your lowest test grade can be replaced by your final exam grade if the final exam grade is higher. In this case, your final exam will be worth 40% of your final average. You must take all three tests in order to qualify for grade replacement.

Corrections to Grading

If you believe a grading error has been made on your test, write a statement making your case, and email it to me within 3 days of getting your test back.

Homework Assignments and Weekly Quizzes

- Homework will be done through WebAssign. To use WebAssign, you will need to purchase an access code online via credit card. The access code costs around \$30 per course. Go to <https://www.webassign.net/> (not the old WebAssign website), and log in using your **Cengage username and password**, *not* your Unity ID and password.
- Note that your end-of-semester WebAssign average will be the total number of points you earned divided by the possible number of points. This means some assignments with many possible points are worth a larger percentage of your grade.
- If you have a homework question that the whole class may benefit from hearing the answer to, please post on the “Homework Questions and Hints” forum. I will check this forum often to respond to open questions. You should also check frequently to answer or ask questions.
- If you have a homework 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 scan or photo of your work can help.
- If I receive an email with a question more appropriate to the forum, I may copy and paste the question there without identifying the student who sent it.
- You will also have weekly quizzes, due via Moodle each Sunday at 11:59PM. Quizzes are short and open-note. You may take each quiz twice. The highest grade will be recorded.

Attendance

Students are expected to attend Zoom lectures. Students are responsible for keeping up with their work so that they do not fall behind. While students are encouraged to ask questions in office hours, these office hours will not be utilized to re-teach material presented in course videos.

Make-Up Policy

Late assignments and make-up work will only be allowed for excused absences. These include university duties or trips (certified by an appropriate faculty or staff member), required court attendance (certified by the Clerk of Court), or religious observances (certified by the Department of Parent and Family Services 515-2441). Notify me via email *prior* to an anticipated excused absence. In the event of an unanticipated absence, such as a medical emergency, contact the instructor within a week of returning to class. Complete attendance and excused absence policies are available at <https://policies.ncsu.edu/regulation/reg-02-20-03-attendance-regulations/>.

Instructor's Commitment

You can expect your instructor to be courteous, punctual, well organized, and prepared for class activities; to answer questions clearly and in a non-negative fashion; to be available during office hours or, if unable, to notify students beforehand; and to grade fairly and consistently.

Auditing the Course

To audit the course, a student must have the approval of their advisor and the Mathematics Department. In order to receive an AU, the student must attend the majority of the sessions, submit all of the homework, and take all of the tests. See: <https://policies.ncsu.edu/regulation/reg-02-20-04/>.

Incomplete Grades

Incomplete Grades will be handled on an individual basis. If an extended deadline is not authorized by an instructor or department, an unfinished incomplete grade will automatically change to an F after either (a) the end of the next regular semester in which the student is enrolled (not including summer sessions), or (b) the end of 12 months if the student is not enrolled, whichever is shorter. See: <https://policies.ncsu.edu/regulation/reg-02-50-03/>.

COVID-19 Related Absences

If a student needs to miss coursework because they have been advised that they may have been exposed to COVID-19 or have a personal/family situation related to COVID-19 that prevents them from doing their work, they should contact the instructor to devise a plan. COVID 19-related absences will be considered excused, and no additional documentation is required.

Community Standards Related to COVID-19

We are all responsible for protecting ourselves and our community. Please see the Community Standards and Rule 04.21.01 regarding Personal Safety Requirements Related to COVID-19.

Additional COVID-19 Information

Due to the Coronavirus pandemic, public health measures have been implemented across campus. You should stay current with these practices and expectations listed on the Protect the Pack site <https://www.ncsu.edu/coronavirus/>.

NC State is most concerned about your health and the health of the students, faculty, and staff across campus. If you test positive for COVID-19, or are told by a healthcare provider that you are presumed positive for the virus, please follow 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.

Academic Integrity Statement and Academic Dishonesty

Both faculty and students at North Carolina State University have a responsibility to maintain academic integrity. Students are required to comply with the university policy on academic integrity/honesty found in the Code of Student Conduct: <https://policies.ncsu.edu/policy/pol-11-35-01/>. A student's signature on any test or assignment means that they have adhered to the Pack Pledge:

“Academic dishonesty is the giving, taking, or presenting of information or material by a student that unethically or fraudulently aids oneself or another on any work which is to be considered in the determination of a grade or the completion of academic requirements or the enhancement of that student's record or academic career.” (NCSU Code of Student Conduct)

Scholarly activity is marked by honesty, fairness, and rigor. A scholar does not take credit for the work of others, does not take unfair advantage of others, and does not perform acts that frustrate the scholarly efforts of others. The violation of any of these principles is academic dishonesty. Penalties for a violation: For the first violation, the student will receive a zero for their work and will be put on academic integrity probation for the remainder of their stay at NCSU. The second violation may result in the student's suspension from NCSU. Violations of academic integrity will be handled in accordance with the Student Discipline Procedures (NCSU REG 11.35.02).

Electronically-hosted Components

See the relevant technology requirements (Zoom, WebAssign, All-in e-Text) provided in Moodle. Please be advised that students may disclose personally identifiable information to other students in the course, via electronic tools like email or web-postings. Examples include online discussions of class topics and posting of student coursework. All students are expected to respect the privacy of others by not sharing or using such information outside the course. Please be advised that this course is being recorded for current and potential future educational purposes. By your continued participation in this recorded course, you are providing your permission to be recorded.

Accommodations for Students with Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. To take advantage of available accommodations, students must register with the Disability Resource Office at Holmes Hall, Suite 304, 2751 Cates Avenue, 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 (REG02.20.01).

Non-Discrimination Policy

NC State engages in equal opportunity and affirmative action efforts and prohibits discrimination, harassment and retaliation, as defined by NC State's Equal Opportunity and Non-Discrimination Policy (POL 04.25.05). NC State will promptly, thoroughly and impartially respond to all complaints of Discrimination, Harassment and Retaliation. Any individual with a complaint of Discrimination, Harassment or Retaliation should follow NC State's Discrimination, Harassment and Retaliation Complaint Procedure (REG 04.25.02). Substantiated instances of Discrimination, Harassment and Retaliation, as defined in the policy, are violations of the policy and will not be tolerated by NC State.

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:

- NCSU Counseling Center
- Student Health Center
- NC State CARES Team: As members of the NC State Wolfpack community, we each share a personal responsibility to express concern for one another and to ensure that our campus remains a healthy and safe environment for learning. You may occasionally come across a classmate whose personal behavior concerns or worries you, for the well-being of you, your classmates, or others. When this is the case, I encourage you to report the 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.

NC State 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 and additional references
- Code of Student Conduct

Course Evaluations

Online class evaluations will be available for students to complete during the last week of classes. You will receive an email message directing you to a website where you can login using your Unity ID and complete the evaluation. All evaluations are confidential; instructors will not know how any one student responded to any question, and students will not know the ratings for any instructors. Course evaluations inform my teaching for semesters to come. Please take the time to fill these out honestly and completely.

Copyrighted Materials

The course website contains copyrighted materials and was developed for instructional purposes to be used by students at North Carolina State University. Students currently registered in this course are permitted to print or make copies of parts of this site for their own personal use in conjunction with completing the course. Text, audio files, videos, images, or design of this website may not otherwise be distributed or modified in any manner without the prior written permission of the instructor.

Other Remarks

- All course communications will be sent via the Moodle announcement forum to your official NCSU email. Check Moodle regularly.
- When emailing the instructor, include the course number in the subject and your name in the email.
- If office hours are not convenient for you, please email the instructor to set up a one-on-one Zoom call.
- Test and homework grades will be recorded in the Moodle gradebook. Please notify the instructor immediately of any discrepancies.
- Reserve the test dates on your calendar *now*, and do not schedule dental/doctor/interview/etc. appointments on top of the test dates.
- Be respectful to your peers and to your instructor.
- This syllabus is subject to change. Last updated June 26, 2021.

MA 231 - Pacing Guide - Summer II, 2021			
Lecture	Date	Text Section	Topics Covered & Other Important Information
1	6/28	Review	Review Derivatives & Integrals from MA 131
2	6/29	7.1, 7.2	Functions of Several Variables; Partial Derivatives Last day to add a class without permission
3	6/30	7.2, 7.3	Partial Derivatives; Optimization Census Date Deadline to purchase e-Text from Bookstore at discounted rate
4	7/1	7.3	Maxima & Minima
5	7/2	7.3, 7.5	Maxima & Minima; Least Squares
	7/5		No Class (Independence Day)
6	7/6	7.4	Lagrange Multipliers
7	7/7	7.4	Lagrange Multipliers
8	7/8	7.6	Double Integrals; Review
	7/9		TEST # 1: Sections 7.1 - 7.5
9	7/12	7.6, 11.1	Double Integrals; Taylor Polynomials
10	7/13	11.1	Taylor Polynomials
11	7/14	11.3	Geometric Series & Applications Drop/Revision Deadline
12	7/15	11.5	Taylor Series
13	7/16	11.5	Taylor Series & Review
	7/19		TEST # 2: Sections 7.3, 7.6, 11.1, 11.3, 11.5
14	7/20	5.1, 5.2, 5.4	Exponential Growth & Decay; $y' = k(M - y)$
15	7/21	10.1, 10.2	Differential Equations & Their Solutions; Separation of Variables
16	7/22	10.2, 5.1, 5.2, 5.4	Differential Equations (Solving the Equations from Chapter 5)
17	7/23	10.5	Qualitative Theory
18	7/26	10.5, 5.4	Qualitative Theory & The Logistic Model
19	7/27	10.5, 5.4, 10.6	Qualitative Theory & The Logistic Model; Review; Begin Applications
	7/28		TEST # 3: Sections 5.1, 5.2, 5.4, 10.1, 10.2, 10.5
20	7/29	10.6	Models & Applications
21	7/30	10.6	Models & Applications; Review
	8/2		FINAL EXAM 8:30 - 11 AM