

# Calculus for Life and Management Sciences A (MA 131)

**Term:** Summer II 2019  
**Course Meeting:** MTWHF 9:50-11:20am  
**Classroom:** 105 Ricks Hall  
**Instructor:** Cash Bortner  
**Email:** cwbortne@ncsu.edu  
**Office:** LAU 108  
**Office Hours:** MWF 11:30-12:30

**Course Description:** First order finite difference models; derivatives - limits, power rule, graphing, and optimization; exponential and logarithmic functions - growth and decay models; integrals - computation, area, total change; applications in life, management, and social sciences. Credit not allowed for more than one of MA 121, 131, and 141.

**Assignments:** The assignments for this course will consist of homework on WebAssign, three tests, and a final exam. WebAssign is required for the course, and should be logged into at <http://webassign.ncsu.edu>

**Required Materials:** Each student is required to bring **three small and one large blue books** (found at the campus bookstore) to class before the first exam. Blue books with writing on them will not be accepted. Any student who does not bring their blue books before the first test may receive point deductions on that test and every subsequent test until they turn in the blue books.

**Textbook:** The textbook for this course is Goldstein, Lay, Schneider and Asmar, Calculus and its Applications (11th, 12th, 13th or 14th ed.). There is also a supplementary text available on WebAssign. Students will have access to the supplement once they register for WebAssign.

**Final Grade Calculation:** The final grades will be calculated with the following distribution:

Total WebAssign Grade:	20%
Test 1:	20%
Test 2:	20%
Test 3:	20%
Final Exam:	20%
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Total:	100%

The following letter grade will be used:

[97, 100] A+	[93, 97) A	[90, 93) A-
[87, 90] B+	[83, 87) B	[80, 83) B-
[77, 80] C+	[73, 77) C	[70, 73) C-
[67, 70] D+	[63, 67) D	[60, 63) D-
[0, 60) F		

**Attendance, Makeup, and Excuse Policy:** Attendance will be recorded, and students are expected to come to all class meetings. If a student misses an exam due to an excused absence as defined in the student handbook (REG 02.20.03), it is the responsibility of that student to schedule a time to take the make up exam within the week following the original exam date. Students are encouraged to schedule the make up

exam ahead of time if they know they will be absent. If a student does not contact the instructor or provide proof of their excuse, it will be assumed that the absence is unexcused, and that student will receive a 0 for the missed test. Similarly if a student misses a test due to an unexcused absence, they will get a 0 for the missed test.

**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>

**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 Services Office at Suite 2221, Student Health Center, 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) (<https://policies.ncsu.edu/regulation/reg-02-20-01/>).

**Non-Discrimination Policy:** NC State University provides equality of opportunity in education and employment for all students and employees. Accordingly, NC State affirms its commitment to maintain a work environment for all employees and an academic environment for all students that is free from all forms of discrimination. Discrimination based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation is a violation of state and federal law and/or NC State University policy and will not be tolerated. Harassment of any person (either in the form of quid pro quo or creation of a hostile environment) based on race, color, religion, creed, sex, national origin, age, disability, veteran status, or sexual orientation also is a violation of state and federal law and/or NC State University policy and will not be tolerated. Retaliation against any person who complains about discrimination is also prohibited. NC State's policies and regulations covering discrimination, harassment, and retaliation may be accessed at <http://policies.ncsu.edu/policy/pol-04-25-05> or [http://www.ncsu.edu/equal\\_op/](http://www.ncsu.edu/equal_op/). Any person who feels that he or she has been the subject of prohibited discrimination, harassment, or retaliation should contact the Office for Equal Opportunity (OEO) at 919-515-3148.

**note:** Students are responsible for reviewing the NC State University PRR's which pertains to their course rights and responsibilities.

**Course Schedule:**

Dates	Text Chapter	Topics
6/24-6/27	10.1-10.4 (131 supp.), 1.1-1.4	difference equations, limits, and derivatives
6/28	Test 1	
7/1-7/5	1.5-1.8, 2.1-2.4	differentiability, continuity, derivative rules, and sketching
7/8-7/11	2.5-2.7, 3.1-3.2, 4.1-4.3	optimization, product rule, and exponential functions
7/12	Test 2	
7/15-7/19	4.4-4.6, 5.1-5.2, 6.1-6.5	natural log and its applications, definite integral
7/22-7/25	9.1, 9.3-9.6	techniques of integration
7/26	Test 4	
<b>7/29</b>	<b>Final Exam</b>	<b>8:00-11:00am</b>