North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Liberal Arts

B. Discipline: Mathematics

C. Course Number and Title: MATH1150 Calculus I

D. Assistant Dean: Laura Irmer

E. Credit Hours: 5

F. Prerequisites: MATH 1130 (Minimum grade of C- required) or qualifying placement test score

G. Last Course/Curriculum Revision Date: Fall 2023 Origin date: 06/08/2011

H. Textbook(s) Title:

Calculus I w/Desmos (OHM Bundle) Access Code

- Author: Lumen Learning
- Copyright Year: 2024
- Edition:
- ISBN # 9781640873582

I. Workbook(s) and/or Lab Manual: Supplies: TI-83 or TI-84 required.

J. Course Description: A study of analytic geometry, limits, continuity, the derivative, basic differentiation rules, rates of change, the product and quotient rules, higher-order derivatives, the chain rule, implicit differentiation, related rates, extrema on an interval, Rolle's Theorem and the Mean Value Theorem. Function analysis includes increasing and decreasing functions and the first derivative test, concavity and the second derivative test, limits at infinity and curve sketching. Concluding topics include anti-derivatives, indefinite and definite integrals, the Fundamental Theorem of Calculus, and integration by substitution. Applications include optimization problems, Newton's method, differentials, and areas of planar regions. This course meets the requirements for OTM Calculus I TMM005. If combined with MATH1151, it will meet the requirements for OTM Calculus I & II sequence TMM017.

K. College Wide Learning Outcomes:

College-Wide Learning Outcomes	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	Quantitative Literacy VALUE Rubric, late in the term, test 3

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Determine the existence of, estimate numerically and graphically and find algebraically, the limits of functions, including limits at infinity.	Homework and Tests, early in the term; Final Exam.
2. Determine the continuity of functions at a point or on intervals.	Homework and Tests, early in the term; Final Exam.
3. Determine and interpret the derivative of a function using the limit definition and derivative theorems.	Homework and Tests, middle of the term; Final Exam.
4. Use the derivative to solve related rates and optimization problems, including implicitly defined functions.	Homework and Tests, middle of the term, Final Exam.
5. Assess a function's graph to determine which intervals are increasing, decreasing, concave up or concave down and to determine its extrema.	Homework and Tests, middle of the term; Final Exam.
6. Determine when Rolle's Theorem and the Mean Value Theorem can be applied and use those theorems to solve problems.	Homework and Tests, middle of the term; Final Exam.
7. Use differentials and linear approximations to analyze applied problems.	Homework and Tests, late in the term; Final Exam.
8. Determine antiderivatives (including using both the Fundamental Theorem of Calculus and integration by substitution) and use definite integrals to find areas of planar regions.	Homework and Tests, late in the term; Final Exam.

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at
https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Liberal Arts	**Discipline:**	Mathematics
Course Coordinator:	Sara K Rollo		
Course Number:	MATH 1150-920	**Course Title:**	Calculus I
Semester / Session:	Fall 2025 / Session A	**Start / End Date:**	August 11th – October 3rd

Instructor Information

Name:	Pamula (Pam) Robison	**Credentials:**	BA Mathematics / MS Applied Mathematics
Phone Number:	419-755-4525	**E-Mail Address:**	probison@ncstatecollege.edu
	Online at https://ncsc.zoom.us/j/856970747?pwd=UE1JNC9WNjhPM3dkRCs3bjE0SGx3Zz09		
	Or in KEHOE 236 or		Mondays 10:00am – 11:00am (ASHLAND)
Office Location:	ASHLAND	**Office Hours:**	Wednesdays 12:00pm – 3:00pm (KEHOE)
			Thursday 6:30 – 7:30pm (ONLINE)

I. Topical Timeline (Subject to Change):

MATH 1150	Day 1 (put the day)	Day 2
Week 1 Wednesday, August 13th Saturday, August 16th *(LU) means Lumen *(CA) means Canvas	**Complete Assignment:** Syllabus Quiz (CA) Introductions! (CA) Topic 1 HW Due (LU) **Outcomes/objectives:** Getting to know the course and your classmates. Find the limit of a function both graphically and analytically	**Complete Assignment:** Topic 2 HW Due (LU) Response to Introductions (CA) **Outcomes/objectives:** Find the limit of a function by use of proprieties and find the continuity of a function
Week 2 Wednesday, August 20th Saturday, August 23rd	**Complete Assignment:** Test Topics 1 and 2 Due (LU) Reflection #1 (CA)	**Complete Assignment:** Topic 3 HW Due (LU) Limits that Do Not Exist (CA) **Outcomes/objectives:** Find the derivative of a function both by using the definition and the basic rules of differentiation
Week 3 Wednesday, August 27th Saturday, August 30th	**Complete Assignment:** Topic 4 HW Due (LU) Response to Limits (CA) **Outcomes/objectives:** Use the derivative to find the equation of a tangent line, calculate the instantaneous rate of change and find the derivative using the product, quotient, and chain rules	**Complete Assignment:** Topic 5 HW Due (LU) **Outcomes/objectives:** Find the derivative by implicit differentiation and solve application problems involving related rates
Week 4 Wednesday, September 3rd Saturday, September 6th	**Complete Assignment:** Test Topics 3, 4, and 5 Due (LU) Reflection #2 (CA)	**Complete Assignment:** Topic 6 HW Due (LU) **Outcomes/objectives:** Find the extrema on a closed interval and use Rolle's Theorem and the Mean Value Theorem

Week 5 Wednesday, September 10th Saturday. September 6th	**Complete Assignment:** Topic 7 HW Due (LU) **Outcomes/objectives:** Determine the intervals on which functions are increasing, decreasing, concave upward, concave downward and use this to determine extrema and points of inflection	**Complete Assignment:** Topic 8 HW Due (LU) **Outcomes/objectives:** Find the limit of a function at infinity and sketch curves using the maximum and minimum rules
Week 6 Wednesday, September 17th Saturday, September 20th	**Complete Assignment:** Topic 9 HW Due (LU) **Outcomes/objectives:** Complete optimization problems, find the zeros of a function using Newton's method and use differentials to compare delta y and dy	**Complete Assignment:** Test Topics 6, 7, 8 and 9 Due (LU) Reflection #3 (CA)
Week 7 Wednesday, September 24th Saturday, September 27th	**Complete Assignment:** Topic 10 HW Due (LU) Career Examples of Calculus (CA) **Outcomes/objectives:** Learn anti-derivatives and indefinite integrals. Use Reimann sums to find the area under a curve	**Complete Assignment:** Topic 11 HW Due (LU) Response to Careers (LU) **Outcomes/objectives:** Find definite integrals and use The Fundamental Theorem of Calculus
Week 8 Wednesday, October 1st **Friday, October 3rd – last day of semester**	**Complete Assignment:** Test Topics 10 and 11 Due (LU) Reflection #4 (CA)	**Complete Assignment:** Final Exam Due (LU)

II. Course Assignments:

1. Quizzes (if assign)
2. Tests
3. Homework
4. Final Exam

III. Grading and Testing Guidelines:

Activity	Found on	Number of Items	Points per Item	Total Points	Percentage
Syllabus Quiz	Canvas	1	12	12	1.2%
Discussion Posts	Canvas	3	14	42	4.2%
Reflection Posts	Canvas	4	5	20	2.0%
Homework Assignments	LUMEN	11	16	176	17.6%
Tests	LUMEN	4	125	500	50%
Final Exam	LUMEN	1	250	250	25%
Total				1000	100%

IV. Examination Policy:

The tests and exam will be found on Lumen. The time limit for each test will be 150 minutes (2.5 hours). The time limit for the Final Exam will be 180 minutes (3 hours). Each test is over the preceding Topics and is worth 125 points. The Final Exam is worth 250 points and is cumulative, meaning it covers the entire course. You have just ONE attempt at each test and exam. All work on the exam and tests is to be independent, involving no other people, no other websites or software but you, Lumen, your written notes, and your graphing calculator.

Because I normally grade the work for partial credit, you are to turn in your scratch work onto Canvas (not LUMEN) under the test or exam that it falls under. You can simply take a picture of your work and upload it to Canvas. Please number your problems and organize it so that I can follow it easily. Turning in your scratch work will give you chances for partial credit and will aide me in giving better feedback. Also, there are some problems that ask you to work it using a specific method.

Please submit your scratch work to Canvas (not Lumen) as soon as you can after taking the test. I expect it within 24 hours of taking the test.

IF YOU DO NOT TURN IN YOUR SCRATCH WORK, YOU WILL RECEIVE A ZERO FOR THE ASSIGNMENT UNTIL I GET YOUR SCRATCHWORK. IF YOU LOSE YOUR SCRATCHWORK, THEN YOU WILL GET AN OPTION TO RETAKE THE TEST, BUT LOSE 25 POINTS OFF YOUR SCORE FOR THE EXTRA WORK AND TIME WASTED.
All work on the exam and tests is to be independent, involving no other people, no A.I. of any kind, no other websites or software but you, Lumen, your written notes, and your graphing calculator.

V. Class Attendance and Homework Make-Up Policy:

All assignments are open and available on the first day of class but are to be completed by their due date. Due dates are listed both on Canvas and on Lumen. Canvas will be where you check your grade, not on Lumen.

The following information is needed for registering onto LUMEN:
Course ID: 91517
Enrollment Key: Calculus 3573

Class attendance is not part of your grade. It is however something we keep track of for various college purposes, so a lack of activity online for a week or more will constitute an absence, and I will try to contact you.

Homework sections are worth 16 points per section each. They will be graded by the percentage that is correct. I calculate these by taking the percentage, dividing it by 100, then multiplying that by 16. I will round that answer to the nearest point.

The deadlines for homework will be found on Canvas as well as Lumen. Assignments are open from the first day of class, and there is no time limit per assignment, and you can have multiple attempts, but they must be completed by the due date. If you miss a homework assignment, you must contact me to open it again.

There are also reflection and discussion assignments and one syllabus quiz found on Canvas only. These must be completed.

Updated grades are found on Canvas, not on Lumen.

My personal goal is to grade assignments I have collected within one week and to reply to messages and emails within 48 hours.

VI. Classroom Expectations:

The notes and videos are posted in the homework assignments on Canvas. Lumen also has resources that you can utilize. My notes and videos are not for a grade; they are there to help guide you along the way. Please reach out to me if you have particular questions on homework that my videos have not been helpful with, and I will try to create new videos for those questions.

Students that want to contact me directly for questions or assistance can email me at probison@ncstatecollege.edu or make an appointment with me on Zoom. The website for me specifically on Zoom is https://ncsc.zoom.us/j/856970747?pwd=UE1JNC9WNjhPM3dkRCs3bjE0SGx3Zz09 . You must contact me via email or Canvas to set up an appointment with me on Zoom, one that we can both agree on. Zoom allows us to see each other and talk to each other rather than writing or texting. I can answer questions live and walk you through a problem or two if that is what you would like. You can also contact me by cell phone at 419-617-5769.

Tutoring is available online too. Find the button on the main page to check it out!