North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Liberal Arts

B. Discipline: Mathematics

C. Course Number and Title: MATH1151 Calculus II

D. Assistant Dean: Laura Irmer

E. Credit Hours: 5

F. Prerequisites: MATH1150 (Minimum grade of C- required)

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

H. Textbook(s) Title:

Calculus II w/Desmos (OHM Bundle) Access Code

- Author: Lumen Learning
- Copyright Year: 2024
- Edition:
- ISBN #9781640873629

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

J. Course Description: This course is a continuation of MATH1150 Calculus I. Topics include integration and applications, calculus of exponential and logarithmic functions, hyperbolic functions, methods of integration, integration by parts, indeterminate forms and L'Hôpital's Rule, moments and centers of mass, fluid pressure and force, integration techniques, series including Taylor and Maclaurin, calculus of conics, calculus of parametric equations, and polar forms of conic sections including Kepler's Laws. This course meets the requirements for OTM Calculus II TMM006. If combined with MATH1150, it meets the requirements for OTM Calculus I & II sequence TMM017.

K. College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

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. Employ a variety of integration techniques to evaluate special types of integrals and apply to physical, biological or economic situations.	Homework, Tests, Final Exam Throughout the term.
2. Approximate a definite integral by the Trapezoidal Rule.	Homework, Tests, Final Exam Early in the term.
3. Evaluate limits that result in indeterminate forms, including the application of L'Hôpital's Rule.	Homework, Tests, Final Exam Middle of the term.
4. Evaluate improper integrals.	Homework, Tests, Final Exam Late in the term.
5. Find, graph, and apply the equations of conics.	Homework, Tests, Final Exam Late in the term.
6. Determine the existence of, estimate numerically and graphically, and find algebraically the limits of sequences and determine whether a series converges.	Homework, Tests, Final Exam Late in the term.
7. Find the nth Taylor polynomial at a specified center for a function and estimate the error term.	Homework, Tests, Final Exam Late in the term.
8. Analyze curves given parametrically and in polar form and find the areas of regions defined by such curves.	Homework, Tests, Final Exam Late in the term.
9. Solve separable differential equations and understand the relationship between slope fields and solution curves.	Homework, Tests, Final Exam Middle of the term.

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 1151- CN1	**Course Title:**	Calculus II
Semester / Session:	Spring 2026	**Start / End Date:**	1/12 – 5/8

Instructor Information

Name:	Sara K Rollo	**Phone Number:**	Reach me via email or Canvas message
Credentials:	MS Applied Math	**E-Mail Address:**	srollo@ncstatecollege.edu
Office Location:	Kehoe	**Office Hours:**	T/Th – Kehoe - 10:15 – 11:45 am and Friday – Zoom – 7 am – 9 am

I. Topical Timeline (Subject to Change):

Week 1 (1/12 – 1/18)– Logarithmic, Exponential, Trigonometric and Inverse Functions (Topic 1)
Week 2 and 3 (1/19 – 2/1) – Differential Equations (Topic 2)
Week 4 and 5 (2/2-2/15)– Area between two curves and finding the volume (Topic 3)
Week 5 and 6 (2/16-3/1) – Work, arc length, moments and fluid force (Topic 4)
Week 6 through 8 (3/1-3/15) – Integration by part, Trig integrals, and trig substitution (Topic 5)
Week 9 and 10 (3/16-3/29) – Partial fractions, numerical integration, and improper integrals (Topic 6)
Week 11 (3/30-4/5)– Sequences, series, convergence, integral test, and p series test (Topic 7)
Week 12 (4/6-4/12)– Comparison test, alternating test, ratio and root series test (Topic 8)
Week 13 (4/13 – 4/19) – Taylor polynomial series and power series (Topic 9)
Week 14 through 15 (4/20 – 5/4)– Conics, parametric equations, and polar coordinates (Topic 10)
Week 16 (5/4-5/8)– Final Exam

NOTE:

- All homework and tests are due on Sunday by 11:59 pm. You can complete assignments early, but the deadline is 11:59 pm on the due date. Each due date is on a Sunday (except for the final exam).
- There are 5 tests: Test 1 – Topic 1. Test 2 – Topic 2. Test 3 – Topics 3 and 4. Test 4 – Topics 5 and 6. Test 5 – Topics 7, 8, and 9.
- Please check Canvas and Lumen for updated due dates

II. Course Assignments:

All assignments completed through Lumen

1. Tests – Topic 1, Topic 2, Topics 3 and 4, Topics 5 and 6, Topics 7,8,9
2. Homework – Topics 1 - 10
3. Final Exam – Comprehensive

III. Grading and Testing Guidelines:

(Must include Lumen within either homework, quizzes and/or tests)

Activity	Qty	Points	Percentage
Homework (25 points each)	10	250	25%
Tests (100 points each)	5	500	50%
Final Exam	1	200	25%
Total		950	100%

IV. Examination Policy:

- You will take each test via Lumen
- If you miss a test's deadline, then you will receive 20% penalty to make it up
- After taking a test, if you want me to review your answers for partial credit, then let me know. It also helps if you send me a picture of your work so that I can follow along with your thought process
- You must send a picture of your worked out solutions (through the test submission in Canvas) to receive credit for the test. If you fail to submit a picture of your worked out solutions, then you will receive a 0. If the worked out solutions appear vastly different from what I show during lecture, then you are subject to penalty, without proper explanation and documentation

V. Class Attendance and Homework Make-Up Policy:

- I take attendance each day
- Being in class and completing each homework assignment will benefit your test grades and your overall grade
- If you miss class, then it is your responsibility to check Canvas or to ask a classmate for the lesson and homework that you missed
- Check Canvas often for your up to date grades and for upcoming test and homework due dates
- Homework is completed by-hand and then please submit a picture via the submission feature on Canvas (not via email)
- There may be up to a 20% penalty for all late homework
- Complete your homework. Homework shows that you are willing to complete tasks to accomplish the larger goal (in this case, helping to prepare for a test and to better understand the material). If you do NOT complete homework, it will bring down your overall grade, significantly
- You will get out of this class what you put into it. If you truly want to learn the material so that you can be successful in either future math courses or engineering courses, then take time to understand the processes for each problem and ask questions, as you have them!

VI. Classroom Expectations:

- No side conversations during lecture. Whispering and chatting disturbs the classmate(s) around you. Be respectful of other students. I may ask you to leave otherwise
- Take notes (you may get extra credit for this toward tests)
- No inappropriate conversations or behavior. Treat each other with respect and be respectful toward me
- Put electronic devices on silent
- Any students who requires accommodations related to a disability should inform the course instructor and the coordinator of specialized services (room 138 in Byron Kee Center and phone 419.755.4727)
- Students who encounter difficulty in any of their courses are encouraged to visit the tutoring resource center (room 119 Fallerius) for tutoring assistance, and the student resource center (room 136 Byron Kee Center) for academic assistance, advising services, referrals for personal counseling and learning disability testing