North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Liberal Arts

B. Discipline: Mathematics

C. Course Number and Title: MATH1130 Trigonometry

D. Assistant Dean: Laura Irmer

E. Credit Hours: 4

F. Prerequisites: MATH1110 (Minimum grade of C- required) or qualifying placement test scores

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

H. Textbook(s) Title:

Pre-Calculus Access Code

- Author: Lumen Learning
- Copyright Year: 2023
- Edition: Digital
- ISBN: 978-1-64087-028-4

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

J. Course Description: This course includes the study of trigonometric functions and inverse trigonometric functions and their graphs; solutions of right and oblique triangles and their applications; solutions of trigonometric equations and inequalities; the use of identities, vectors, and complex numbers; and solutions of polar equations and parametric equations. Students must supply a graphing calculator.

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	

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. Define Trigonometric and Inverse Trigonometric functions.	Homework and tests regularly throughout the term and Final Exam.
2. Graph Trigonometric and Inverse Trigonometric functions and analyze their graphs.	Homework and tests regularly throughout the term and Final Exam.
3. Apply Trigonometric and Inverse Trigonometric functions to model a variety of real-world problem-solving applications.	Homework and tests regularly throughout the term and Final Exam.
4. Solve a variety of Trigonometric and Inverse Trigonometric equations and solve application problems.	Homework and tests regularly throughout the term and Final Exam.
5. Solve right and oblique triangles in degrees and radians for both special and non-special angles.	Homework and tests regularly throughout the term and Final Exam.
6. Verify Trigonometric identities using fundamental trigonometric identities.	Homework and tests regularly throughout the term and Final Exam.
7. Represent vectors graphically in both rectangular and polar coordinates.	Homework and tests regularly throughout the term and Final Exam.
8. Solve application problems using vectors.	Homework and tests regularly throughout the term and Final Exam.
9. Graph complex numbers in both rectangular and polar form and perform operations on such numbers.	Homework and tests regularly throughout the term and Final Exam.
10. Convert points and equations between rectangular and polar form, graph polar functions and solve polar equations.	Homework and tests regularly throughout the term and Final Exam.
11. Identify and graph a curve defined by parametric equations.	Homework and tests regularly throughout the term and 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 1130-920	**Course Title:**	Trigonometry
Semester / Session:	Fall 2025 / Session A	**Start / End Date:**	08/11/2025 – 10/03/2025

Instructor Information

Name:	Christine Shearer	**Credentials:**	M.S. Mathematics/B.S. Mathematics
Phone Number:	419-755-4755	**E-Mail Address:**	cshearer@ncstatecollege.edu
Office Location:		**Office Hours:**	Mondays 11am-12pm, Wednesdays 10am-12pm, Fridays 10am-12pm

I. Topical Timeline / Course Calendar (Subject to Change):

Weeks	Topics	Assignment	Due Date
1	Learn angles and their measure, especially right triangle trigonometry	Topic 1 Homework	8/16
	Compute values of trigonometric functions and learn properties of the trigonometric functions	Topic 2 Homework	8/16
2	Graph trigonometric functions	Topic 3 Homework	8/20
	Topics 1, 2 and 3	Test 1: Topics 1 – 3	8/23
3	Learn inverse trigonometric functions and solve trigonometric equations	Topic 4 Homework	8/27
	Use trigonometric identities and sum and difference formulas	Topic 5 Homework	8/30
4	Use double-angle, half-angle, product-to-sum, and sum-to-product formulas	Topic 6 Homework	9/3
	Topics 4, 5 and 6	Test 2: Topics 4 – 6	9/6
5	Solve applications involving right triangles and learn and use the law of sines	Topic 7 Homework	9/10
	Learn and use law of cosines, find the area of triangles and study simple harmonic and damped motion	Topic 8 Homework	9/13
6	Topics 7 and 8	Test 3: Topics 7 and 8	9/17
	Convert points and equations between rectangular and polar form, graph polar functions and solve polar equations	Topic 9 Homework	9/20
7	Graph complex numbers in both rectangular and polar form and perform operations on such number. Represent vectors graphically in both rectangular and polar coordinates	Topic 10 Homework	9/24
	Find the dot product of two vectors, and determine if they are parallel or orthogonal	Topic 11 Homework	9/27
8	Topics 9, 10 and 11	Test 4: Topics 9 – 11	10/1
	Topics 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11	Final Exam	10/4

II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Homework	11	110	20
Test	4	400	60
Final Exam	1	100	20

1.Topic 1 Homework
2. Topic 2 Homework
3. Topic 3 Homework
4. Test 1: Topics 1 – 3
5. Topic 4 Homework
6. Topic 5 Homework
7. Topic 6 Homework
8. Test 2: Topics 4 -6
9. Topic 7 Homework
10. Topic 8 Homework
11. Test 3: Topics 7 & 8
12. Topic 9 Homework
13. Topic 10 Homework
14. Topic 11 Homework
15. Test 4: Topics 9 – 11
16. Comprehensive Final Exam

III. **Examination Policy:** All topic tests and the final exam will be taken in Lumen and will be timed. You'll have 150 mintues for each one and two attempts per question. Please note that each test must be completed in one sitting. The timer starts once you begin and can't be pasued. So, make sure you're fully prepared and in a quiet space before clicking the begin exam button. Extensions can't be granted after you've already started a test, so plan ahead and reach out if you run into issues before you begin. You've got this!

IV. **Class Attendance and Homework Make-Up Policy:** This course is fully online which means there are no live meetings. Each week, you'll read from the textbook and complete the related assignments in Lumen. While I do accept late work, please try to stay on track. In this fast-paced 8-week format, it's easy to fall behind. If life happens, reach out. I'm here to assist you!

V. **Classroom Expectations:** N/A

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 1	Aug 10	Aug 11	Aug 12	Aug 13	Aug 14	Aug 15	Aug 16 Topic 1 Homework Due Topic 2 Homework Due
Week 2	Aug 17	Aug 18	Aug 19	Aug 20 Topic 3 Homework Due	Aug 21	Aug 22	Aug 23 Test 1: Topics 1 – 3 Due
Week 3	Aug 24	Aug 25	Aug 26	Aug 27 Topic 4 Homework Due	Aug 28	Aug 29	Aug 30 Topic 5 Homework Due
Week 4	Aug 31	Sept 1	Sept 2	Sept 3 Topic 6 Homework Due	Sept 4	Sept 5	Sept 6 Test 2: Topics 4 – 6 Due
Week 5	Sept 7	Sept 8	Sept 9	Sept 10 Topic 7 Homework Due	Sept 11	Sept 12	Sept 13 Topic 8 Homework Due
Week 6	Sept 14	Sept 15	Sept 16	Sept 17 Test 3: Topics 7 and 8 Due	Sept 18	Sept 19	Sept 20 Topic 9 Homework Due
Week 7	Sept 21	Sept 22	Sept 23	Sept 24 Topic 10 Homework Due	Sept 25	Sept 26	Sept 27 Topic 11 Homework Due
Week 8	Sept 28	Sept 29	Sept 30	Oct 1 Test 4: Topics 9 – 11 Due	Oct 2	Oct 3	Oct 4 Comprehensive Final Exam Due