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-Section CN2	**Course Title:**	Trigonometry
Semester / Session:	Spring AB 2026	**Start / End Date:**	January 12th to May 8th

Instructor Information

Name:	Pamula (Pam) Robison	**Credentials:**	BA Mathematics / MS Applied Mathematics
Phone Number:	419-755-4525	**E-Mail Address:**	probison@ncstatecollege.edu
	https://ncsc.zoom.us/j/856970747?pwd=UE1JNC9WNjhPM3dkRCs3bjE0SGx3Zz09 Or in KEHOE 134 or Health Science	**Office Hours:**	Mondays & Wednesdays 1:30 – 2:30pm KH Tuesdays 1:00 – 2:00pm HS Thursdays 1:00 – 2:00pm HS
Office Location:	336		Thursdays 6:00 – 7:00pm Online

I. <u>Topical Timeline (Subject to Change):</u>

Weeks 1-4 (Topics 1-3) January 12th – February 5th	Angles and Their Measure Right Triangle Trigonometry Evaluating Trigonometric Functions of Acute Angles Evaluating Trigonometric Functions of General Angle Unit Circle Approach; Properties of the Trigonometric Functions Graphs of the Sine and Cosine Functions Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions Phase Shift; Building Sinusoidal Models
Weeks 5-8 (Topics 4-6) February 9th – March 5th	The Inverse Sine, Cosine, and Tangent Functions The Inverse Trigonometric Functions (Continued) Trigonometric Identities Sum and Difference Formulas Double-angle and Half-angle Formulas Product-to-Sum and Sum-to-Product Formulas Trigonometric Equations (I) Trigonometric Equations (II)
Weeks 9-11 (Topics 7 & 8) March 16th – April 2nd	Applications Involving Right Triangles The Law of Sines The Law of Cosines Area of a Triangle
Weeks 12-16 (Topics 9-11) April 6th – May 7th	Polar Coordinates Polar Equations and Graphs The Complex Plane; De Moivre's Theorem Vectors The Dot Product

II. <u>Course Assignments (including, but not limited to):</u>
(MENTION the week during which the assignments are due)
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. **Grading and Testing Guidelines (if quizzes are assigned, may be weighted according to instructors' discretion):**

Activity	Found on	Number of Items	Points per Item	Total Points	Percentage
Homework by Topic	Pearson	11	10 or 11	120 pts	12 %
Reviews Packets	Paper	4	15	60 pts	6 %
Final Review Packet	Paper	1	20	20 pts	2 %
Tests 1 – 4	Paper	4	150	600 pts	60 %
Final Exam	Paper	1	200	200 pts	20 %
Totals				1000 pts	100 %

IV. **Examination Policy:**

The Final Exam is cumulative. The four tests cover only the preceding material. Because this is a fast-paced course, getting behind is something to avoid at all costs. However, I do understand that emergencies can come up, so you may have the opportunity to make up *one* exam up to one week after it was originally given, if you provide a sufficient document as to why you missed. You may not miss the Final Exam without documentation of an unavoidable circumstance. If you know ahead of time that you are going to have to miss an exam, please see me so that we can make an arrangement.

V. **Class Attendance and Homework Make-Up Policy:**

Since homework is done online, the due date for the homework sections will be by midnight on the Tuesday or Thursday after the lesson has been completely presented. Check for due dates on Canvas or on Lumen. Each homework is worth 11 points. Anything that is 80% or better will receive 11 points. Grades will be based on the percentage you got correct in the homework. I will calculate by taking each percentage and multiplying it by 11, then rounding that number to the nearest whole number.

There will be Reviews Packets due preceding each test. These must be completed before class on the Tuesday before the upcoming test. Each is worth 15 points. These grades will be based on completeness (showing your work) and accuracy (the correct answers).

My policy on late work is that I will accept up to THREE assignments late without docking points, up to the last class of Week 14. This includes any homework online, and review packets. Understand that I do not want you to just wait until the end of the semester to turn all your work in. I am expecting you to behave like responsible adults and to try your best to turn in everything on time. However, I understand that life circumstances can sometimes get in the way, and I want to offer you grace rather than punishment. Understand that there are natural consequences to not getting your work done on time, such as you have given yourself more work to do in a shorter period of time (other assignments will be coming along), you will not be as prepared for the next chapter or next Review or Test. Also, when you turn your work in late, you are giving me more work to do at a time when I wasn't expecting to grade certain assignments.

Finally, in the same spirit that I am offering you a chance to turn in work late (without docking points), I am expecting you to be forgiving of me if I run behind on something or forget something. I will try to correct any mistakes I make as soon as possible. My goal is to respond to emails and messages within 48 hours and to have work graded within one week of it being collected.

I take daily attendance. Although this is not for a grade, your lack of attendance will affect your performance in this course, and good attendance is critical to your success in this course. This course is an investment in your future, and you only get out of it what you put into it, so make it worth your while by being here.

If our class is moved to remote learning, I will still hold class on Tuesdays and Thursdays at our usual time on Zoom, and the tests will be taken online on Lumen.

This information is needed to first register for the homework component on LUMEN:

Class Section	Schedule	Course ID	Enrollment Key
MATH 1130_Trigonometry SP 26 PR CN1	TH 8:00 – 9:50am	95315	Trigonometry 3573
MATH 1130_Trigonometry SP 26 PR CN 2	TH 11:00 – 12:50pm	95316	Trigonometry 3573

VI.   Classroom Expectations:

To respect the rights of all members of the class to hear what is going on and to not be distracted, please:
- Arrive on time.
- Keep personal and private conversations to a minimum. Good communication and listening require that only one person be speaking at a time.
- No paying attention to your cell phone during class except when using it specifically for class purposes.
- Disable all audible signals from cell phones, pagers, etc. for the duration of the class session. If you need to have your phone turned on for work or an emergency, set it to vibrate. Absolutely no electronics (other than your graphing calculator) are to be accessed during testing.
- Everyone should have the opportunity to participate in the discussion and ask questions.

Bring your graphing calculator to class each and every day. If you choose to purchase a calculator other than what is required for this course, you are responsible for learning how to use it.

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 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.

Tutoring is available online too. Click on the Student Services button on our course homepage for details.

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.

| Course Number: | MATH 1130-CN2 | Course Title: | Trigonometry |
| Semester / Session: | Spring AB 2026 | Start / End Date: | January 12th – May 8th |

MATH 1130	Day 1	Day 2
Week 1 Tuesday, January 13th Thursday, January 15th	**Happening in Class:** Introduction to Course 1.1 Angles and their Measure	**Happening in Class:** 1.1 Angles and their Measures 1.2 Right Triangle Trigonometry

Week 2
Tuesday, January 20th
Thursday, January 22nd
	Happening in Class:
	1.3 Computing the Values of
	    Trigonometric Functions of Acute
	    Angles
	2.1 Trigonometric Functions of any
	    Angle
		Happening in Class:
		2.1 Trigonometric Functions of any
		    Angle
		2.2 Unit Circle Approach,
		    Properties of the Trigonometric
		    Functions
		Complete Assignment:
		Topic 1 Homework due (Lumen)

Week 3
Tuesday, January 27th
Thursday, January 29th
	Happening in Class:
	3.1 Graphs of the Sine and Cosine
	    Functions
	3.2 Graphs of the Tangent, Cotangent,
	    Cosecant, and Secant Functions.
		Happening in Class:
		3.2 Graphs of the Tangent, Cotangent,
		    Cosecant, and Secant Functions
		3.3 Phase Shift, Sinusoidal Curve
		    Fitting
		Complete Assignment:
		Topic 2 Homework due (Lumen)

Week 4 Tuesday, February 3rd Thursday, February 5th	**Happening in Class:** Go over Review 1: Topics 1, 2, & 3 **Complete Assignment:** Topic 3 Homework due (Lumen)	**Complete in Class:** Take Test 1 over Topics 1, 2, & 3 Turn in Review 1 Packet

Week 5
Tuesday, February 10h
Thursday, February 12th
	Happening in Class:
	4.1 The Inverse Sine, Cosine, and
	    Tangent Functions
	4.2 The Inverse Trigonometric
	    Functions continued
		Happening in Class:
		4.2 The Inverse Trigonometric
		Functions Continued
		4.3 Trigonometric Equations

Week 6 Tuesday, February 17th Thursday, February 19th	**Happening in Class:** 4.3 Trigonometric Equations 4.4 Trigonometric Identities	**Happening in Class:** 4.4 Trigonometric Identities 5.1 Sum and Difference Formulas **Complete Assignment:** Topic 4 Homework due (Lumen)

Week 7
Tuesday, February 24th
Thursday, February 26th
	Happening in Class:
	5.1 Sum and Difference Formulas
	6.1 Double-Angle and Half-Angle
	    Identities
		Happening in Class:
		6.1 Double-Angle and Half-Angle
		    Identities
		6.2 Product-to-Sum and Sum-to-
		    Product Formulas
		Complete Assignment:
		Topic 5 Homework due (Lumen)

Week 8 Tuesday, March 3rd Thursday, March 5th	**Happening in Class:** Go over Review 2: Topics 4, 5, & 6 **Complete Assignment:** Topic 6 Homework due (Lumen)	**Complete in Class:** Take Test 2 over Topics 4, 5, & 6 Turn in Review 2 Packet
Spring Break Tuesday, March 10th Thursday, March 12th	**NO CLASS**	**NO CLASS**

Week 9
Tuesday, March 17th
Thursday, March 19th
	Happening in Class:
	7.1 Applications Involving Right
	    Triangles and Area Formula
	    involving Sine.
	7.2 The Law of Sines
		Happening in Class:
		7.2 The Law of Sines

Week 10
Tuesday, March 24th
Thursday, March 26th
	Happening in Class:
	8.1 The Law of Cosines
	8.2 Heron's Formula for Area of a
	    Triangle
	Complete Assignment:
	Topic 7 Homework due (Lumen)
		Happening in Class:
		8.2 Heron's Formula for Area of a
		    Triangle
		8.3 Simple Harmonic Motion; Damped
		    Motion

Week 11 Tuesday, March 31st Thursday, April 2nd	**Happening in Class:** Go over Review 3: Topics 7 & 8 **Complete Assignment:** Topic 8 Homework due (Lumen)	**Complete in Class:** Take Test 3 over Topics 7 & 8 Turn in Review 3 Packet

Week 12 Tuesday, April 7th Thursday, April 9th	**Happening in Class:** 9.1 Polar Coordinates 9.2 Polar Equations and Graphs	**Happening in Class:** 9.2 Polar Equations and Graphs 9.3 The Complex Plane; De Moivre's Theorem
Week 13 Tuesday, April 14th Thursday, April 16th	**Happening in Class:** 10.1 Parametric Equation and Their Graphs **Complete Assignment:** Topic 9 Homework due (Lumen)	**Happening in Class:** 10.2 Vectors
Week 14 Tuesday, April 21st Thursday, April 23rd	**Happening in Class:** 11.1 The Dot Product **Complete Assignment:** Topic 10 Homework due (Lumen)	**Happening in Class:** Go over Review 4: Topics 9, 10 & 11 **Complete Assignment:** Topic 11 Homework due (Lumen)
Week 15 Tuesday, April 28th Thursday, April 30th	**Complete in Class:** Take Test 4 over Topics 9, 10 & 11 Turn in Review 4 Packet	**Happening in Class:** Go over Final Review Packet
Week 16 Tuesday, May 5th Thursday, May 7th	**Happening in Class:** Go over Final Review Packet	**Complete in Class:** Final Exam Turn in Final Review Packet