

**Coffeyville Community College**

**MATH-106**  
**COURSE SYLLABUS**  
**FOR**  
**TRIGONOMETRY**

**Zach Binder**  
**Instructor**

**COURSE NUMBER:** MATH-106 **COURSE TITLE:** Trigonometry  
**CREDIT HOURS:** 3  
**INSTRUCTOR:** Zach Binder  
**OFFICE LOCATION:** Math/Science Office Area, Arts and Sciences Building  
**PHONE:** 620-251-7700 ext. 2049  
**OFFICE HOURS:** See schedule posted on office door  
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**PREREQUISITE(S):** College Algebra  
**REQUIRED TEXT AND MATERIALS:** Lial, Hornsby, Schneider. *Trigonometry*.

**COURSE DESCRIPTION:** An introduction to trigonometry for students of various majors. Topics included in this course are Law of sines, law of cosines, and the Pythagorean theorem.

**EXPECTED LEARNER OUTCOMES:**

1. Learn and be able to use the basic vocabulary pertaining to the study of trigonometry.
2. Define and use the six trig functions.
3. Graph the six trig functions.
4. Prove basic trig identities.
5. Define and use the six trig inverse functions.
6. Understand and be able to apply the principle of “standard deviation.”
7. Solve oblique triangles.
8. Do vector operations.
9. Use trig with complex numbers.

**LEARNING TASKS & ACTIVITIES:**

Unit 1 Definition of trig.  
Unit 2 Related angles and tables.  
Unit 3 Trig functions of real numbers.  
Unit 4 Graphs of trig functions.  
Unit 5 Identities.  
Unit 6 Inverse trig functions.  
Unit 7 Solutions of oblique triangles.

Unit 8 Vectors.  
Unit 9 Complex numbers.

**ASSESSMENT OF  
OUTCOMES:**

Your test average will account for 65% of your grade and your homework average will account for 35% of your grade.

A	90-100
B	80-89
C	70-79
D	60-69
F	Below 60

**ATTENDANCE  
POLICY:**

I may not take role every day, but if you miss class you are only hurting yourself.

**COMPETENCIES:**

DEFINE AND USE THE 6 TRIG FUNCTIONS.

1. Know the difference between degrees and radians.
2. Know the relationship between arc length, radius, and the corresponding angle.
3. Define linear and angular speed.
4. Have a general knowledge of all 6 trig functions.

GRAPH THE 6 TRIG FUNCTIONS.

1. Graph in terms of radians and label.
2. State the period of each trig function.
3. Solve given trig equations.

PROVE BASIC TRIG IDENTITIES.

1. List and prove the fundamental relations.
2. Solve given identities.
3. Prove double angle formulas.
4. Prove half angle formulas.

DEFINE, USE, AND GRAPH THE 6 INVERSE IDENTITIES.

1. Graph inverse functions.
2. Evaluate inverse functions at any point in its domain.

SOLVE OBLIQUE TRIANGLES.

1. Know the law of sines and cosines.
2. Use these laws to solve oblique triangles.

DO VECTOR OPERATIONS.

1. Define vector.
2. Define addition of two vectors.
3. Find horizontal and vertical components of a vector.

USE TRIG WITH POLAR COORDINATES.

1. Define the set of complex numbers.
2. Perform basic operations on the set of complex numbers.
3. Graph complex numbers.
4. Be able to convert complex numbers from standard form to complex form and visa versa.

**This syllabus is subject to revision with prior notification to the student by the instructor.**