

MATH 1511C - Trigonometry with Co-requisite Support

Fall 2026 Syllabus, Section 02, CRN 42852,

Credit hours: 4

Instructor

Austin Fernacz

Email: afernacz@student.ysu.edu

Public Instructor Information

Instructor Title: Teaching Assistant

Instructor Professional Qualifications: BS Physics and Mathematics - Slippery Rock University (PA) 2025

Instructor Office Location: Cafaro Hall 630A

Instructor Office Phone: 330-941-3302

Course Description

1511C. Trigonometry with Co-requisite Support. This course, along with MATH 1510C is primarily intended to prepare STEM students for MATH 1570 or MATH 1571. Topics include algebraic structure and graphs of trigonometric functions and inverse trigonometric functions, angle measurements, similar triangles, trigonometric identities, vectors, complex numbers, polar coordinates and solving trigonometric equations with applications.

This course includes support for students requiring remediation in mathematics while they are studying trigonometry. Emphasis will be placed on prerequisite skills needed for trigonometry as well as just in time review through the use of appropriate technology. Prereq.: YSU Math Placement Test Level 20 and a grade of C or better in MATH 1510 or MATH 1510C. 4 s.h.

Course Readings

Group	Title	Author	ISBN
Required	College Algebra and Trigonometry	Julie Miller & Donna Gerken with ALEKS 360	9781265173159

• Inclusive Access

This course is part of the Inclusive Access program; you should NOT purchase any course materials as they are part of your course registration. In the event you drop this course from your schedule on or prior to the last day of DROP/ADD period, your account will be fully refunded automatically.

• Opt-out

By default, students are opted into the content. If the student decides at that time, they do not want their required course materials to be delivered in this program at the low cost offered, they have the option to OPT-OUT. We highly encourage students not to opt-out. If you choose to opt-out, you will be responsible for obtaining the appropriate course materials/textbook/connect at the full price.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Schedule of Topics and Assignments

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	5.1-5.7	Trigonometric Functions: Angles and their measures, degrees and radians, right triangle, 6 trigonometric functions of any angle, unit circle, graphs of sine and cosine, Graphs of tangent, cotangent, secant and cosecant, inverse trig functions, composition of trig functions.	

8/31	5.1-5.7	Trigonometric Functions: Angles and their measures, degrees and radians, right triangle, 6 trigonometric functions of any angle, unit circle, graphs of sine and cosine, Graphs of tangent, cotangent, secant and cosecant, inverse trig functions, composition of trig functions.
9/7	5.1-5.7	Trigonometric Functions: Angles and their measures, degrees and radians, right triangle, 6 trigonometric functions of any angle, unit circle, graphs of sine and cosine, Graphs of tangent, cotangent, secant and cosecant, inverse trig functions, composition of trig functions.
9/14	5.1-5.7	Trigonometric Functions: Angles and their measures, degrees and radians, right triangle, 6 trigonometric functions of any angle, unit circle, graphs of sine and cosine, Graphs of tangent, cotangent, secant and cosecant, inverse trig functions, composition of trig functions.
9/21	5.1-5.7	Trigonometric Functions: Angles and their measures, degrees and radians, right triangle, 6 trigonometric functions of any angle, unit circle, graphs of sine and cosine, Graphs of tangent, cotangent, secant and cosecant, inverse trig functions, composition of trig functions.
9/28	6.1 – 6.3, 6.5	Analytic Trigonometry: algebraic manipulation of expressions using trig identities, including Pythagorean, sum and difference of angles, double-angle, power reducing formulas, half angle identities and applications and solving trigonometric equations.
10/5	6.1 – 6.3, 6.5	Analytic Trigonometry: algebraic manipulation of expressions using trig identities, including Pythagorean, sum and difference of angles, double-angle, power reducing formulas, half angle identities and applications and solving trigonometric equations.
10/12	6.1 – 6.3, 6.5	Analytic Trigonometry: algebraic manipulation of expressions using trig identities, including Pythagorean, sum and difference of angles, double-angle, power reducing formulas, half angle identities and applications and solving trigonometric equations.
10/19	6.1 – 6.3, 6.5	Analytic Trigonometry: algebraic manipulation of expressions using trig identities, including Pythagorean, sum and difference of angles, double-angle, power reducing formulas, half angle identities and applications and solving trigonometric equations.

10/26	6.1 – 6.3, 6.5	Analytic Trigonometry: algebraic manipulation of expressions using trig identities, including Pythagorean, sum and difference of angles, double-angle, power reducing formulas, half angle identities and applications and solving trigonometric equations.
11/2	7.1-7.3	Applications of trig functions: right triangles, laws of sines and cosines and real-world applications.
11/9	7.1-7.3	Applications of trig functions: right triangles, laws of sines and cosines and real-world applications.
11/16	8.1, 8.3 – 8.4	Trig applied to polar coordinate system and vectors: plotting points, multiple representations converting coordinate systems, complex numbers in polar form, vectors and real-world applications.
11/23	8.1, 8.3 – 8.4	Trig applied to polar coordinate system and vectors: plotting points, multiple representations converting coordinate systems, complex numbers in polar form, vectors and real-world applications.
11/30	All Sections	Final Exam Review
12/7	Final Exam	Final Exam: Monday, December 7 3:15pm-5:15pm

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.