



Figure 1: Owens Logo.

**Course Syllabus
SEMESTER
School of Science, Technology, Engineering, and Mathematics**

<i>Course Name:</i>	College Trigonometry (TMM 003)
<i>Course & Section Number:</i>	173-XXX
<i>Meeting Day(s) & Time(s):</i>	
<i>Credits:</i>	3
<i>Contact Hours:</i>	3
<i>Text:</i>	OpenStax Precalculus
<i>Instructor's Name:</i>	
<i>Office Hours & Location:</i>	
<i>OCC Phone:</i>	
<i>OCC Email:**</i>	

**Please use only Owens email for course communications.

Catalog Description:

Angles and their methods of measurements, definitions and graphs of trigonometric functions and their inverses, trigonometric identities, solving conditional trigonometric equations, applications of trigonometry and related topics.

Prerequisite/Corequisites:

MTH 170 or equivalent.

Course Materials:

The textbook is OpenStax Precalculus, available for free online at <https://openstax.org/details/books/college-algebra>. You can also order a print copy on the site. A scientific or graphing calculator such as a TI 84 is required. Graphing calculators with CAS capabilities are not permitted.

Student Learning Outcomes (SLO):

- 1) Represent trigonometric and inverse trigonometric functions verbally, numerically, graphically and algebraically; define the six trigonometric functions in terms of right triangles and the unit circle.
- 2) Perform transformations of trigonometric and inverse trigonometric functions – translations, reflections and stretching and shrinking (amplitude, period and phase shift).
- 3) Analyze the algebraic structure and graph of trigonometric and inverse trigonometric functions to determine intercepts, domain, range, intervals on which the function is increasing, decreasing or constant, asymptotes, whether the function is one-to-one, whether the graph has symmetry (even/odd), etc., and given the graph of a function to determine possible algebraic definitions.
- 4) Use trigonometric and inverse trigonometric functions to model a variety of real-world problem-solving applications.
- 5) Solve a variety of trigonometric and inverse trigonometric equations in degrees and radians for both special and non-special angles. Solve application problems that involve such equations.
- 6) Express angles in both degree and radian measure.
- 7) Solve right and oblique triangles in degrees and radians for both special and non-special angles, and solve application problems that involve right and oblique triangles.
- 8) Verify trigonometric identities by algebraically manipulating trigonometric expressions using fundamental trigonometric identities, including the Pythagorean, sum and difference of angles, double-angle and half-angle identities.
- 9) Represent vectors graphically in both rectangular and polar coordinates and understand the conceptual and notational difference between a vector and a point in the plane.(optional)
- 10) Perform basic vector operations both graphically and algebraically – addition, subtraction and scalar multiplication (optional)

- 11) Solve application problems using vectors (optional)
- 12) (Optional) Graph complex numbers in the complex plane in both rectangular and polar form, perform operations on such numbers – addition, subtraction, multiplication and division, and use DeMoivre's Theorem to find the n th roots of a complex number.
- 13) (Optional) Convert points and equations between rectangular and polar form, graph polar functions, solve polar equations, identify and express the conics in standard polar form for graphing, and solve applied problems involving conics in polar form.
- 14) (Optional) Identify and graph a curve defined by parametric equations by making a table of values and, when possible, eliminating the parameter.

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodation intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center in College Hall 116 at 567-661-7007 or email <https://www.owens.edu/disability/>

Tutoring Services: Toledo-area Campus: Learning Commons College Hall Room 173 (Enter Library CH170 and turn right). Findlay-area Campus: Education Center Room 149 Both centers offer Walk-in/Face-to-Face, or Online by appointment. To schedule an appointment or view walk-in hours, please go to <https://www.owens.edu/tutoring/>

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

Student Code of Conduct: All students are expected to follow Owens Community College's Student Code of Conduct. If you are unfamiliar with the code, it can be found at [Student Conduct - Owens Community College](#)

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's Antidiscrimination and Harassment Policy and the College's Title IX/Sexual Misconduct Procedures and Guidelines. The college strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments. If you are unfamiliar with the Anti-Discrimination and Harassment Policy, it can be found at: [Owens Community College - Owens Community College](#)

If you are unfamiliar with the Title IX/Sexual Misconduct Procedures and Guidelines, it can be found at:

[11-4-17-Title-IX-Sexual-Misconduct-Procedures-and-Guidelines.pdf](#)

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation for a Student Absence for the Observance of Religious Beliefs and Practices Policy](#)

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Inclement Weather Policy: In the event that the College closes due to inclement weather, all on-campus, hybrid, and synchronous mathematics classes will be cancelled. Asynchronous classes will not be affected. If the decision is made to close the College, a public announcement will be communicated via local television, social media, and Owens Alert. Students will not receive individual class cancellation notices.

If the College is open, all on-campus, hybrid, and synchronous classes will meet as regularly scheduled. For additional information about the communication of closings or to learn about Owens Alert, visit <https://www.owens.edu/news/weather.html>

Grading:

MyOpenMath homework (20%) and five tests (16% each) will be used in determining your grade. Your lowest test score (which may be due to a missed test) will be replaced with the average of the remaining test scores. You must complete the assignments by the due dates on the last page of this syllabus.

The grading scale is 100-90 = A, 90-80 = B, 80-70 = C, 70-60 = D, <60 F

Tentative Course Schedule

Assignment (on MyOpenMath)	DUE DATE
Complex Fractions and Rationalizing the Denominator Review Homework	DATE at TIME
5.1 Introduction to Angles Homework	
5.1 Angles in Radians Homework	DATE at TIME
Similar Triangles Homework	
The Pythagorean Theorem Homework	
5.2 Special Right Triangles Homework	DATE at TIME
5.2-5.3 Trigonometric Functions and the Unit Circle Homework	
Test 1 available on DATE at TIME	DATE at TIME
5.2-5.3 Using Reference Angles to Solve Trigonometric Equations Homework	DATE at TIME
5.3 Trigonometric Identities Homework	DATE at TIME
5.4 Right Triangle Trigonometry Homework	DATE at TIME
Test 2 available on DATE at TIME	DATE at TIME
6.1 Graphs of Sine and Cosine Functions Homework	DATE at TIME
6.2 Graphs of the Other Trigonometric Functions Homework	
6.3 Inverse Trigonometric Functions Homework	DATE at TIME
7.1 Using Trigonometric Identities to Simplify Expressions Homework	DATE at TIME
Test 3 available on DATE at TIME	DATE at TIME
7.2-7.4 Sum and Difference and Other Identities Homework	DATE at TIME
7.5 Solving Trigonometric Equations Homework	DATE at TIME
8.1-8.2 Law of Sines and Law of Cosines Homework	DATE at TIME
Test 4 available on DATE at TIME	DATE at TIME
Test 5 (Final Exam) available on DATE at TIME	DATE at TIME

The material on Test 1 addresses the following SLOs: 1,6
The material on Test 2 addresses the following SLOs: 1,4,7,8
The material on Test 3 addresses the following SLOs: 1,2,3,4
The material on Test 4 addresses the following SLOs: 4,5,7,8
Test 5 is comprehensive