



# College Trigonometry - Math 1316.45D

## Course Syllabus: Fall 2019

“Northeast Texas Community College exists to provide responsible, exemplary learning opportunities.”

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	7:30-7:55 AM 3:30-4:00 PM	7:30-7:55 AM	7:30-7:55 AM Afternoon by appointment	7:30-7:55 AM	7:30-7:55 AM Afternoon by appointment	By appointment

*The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.*

**Catalog Course Description (include prerequisites):** Trigonometry is a three-hour credit course. This is a complete course in the study of trigonometric functions of a right triangle, circular functions, applications, graphs, solutions of triangles, identities, inverse trigonometric functions, trigonometric equations, and laws of sines and cosines.

**Prerequisite:** MATH 1314 or equivalent or an appropriate placement score.

**Required Textbook(s):**

Sullivan/Sullivan, Precalculus Concepts through Functions – A Right Triangle Approach to Trigonometry, 2<sup>nd</sup> Edition, 2010 (You are not required to have a hardcopy of the text, but you must have the MyMathLab Access Code and the ebook)

**Publisher:** Pearson, Boston, MA

**ISBN Number:** 13: 978-0321645081

Note: The NTCC Bookstore link is at [www.ntcc.edu](http://www.ntcc.edu).

**Recommended Reading(s):**

None

**Student Learning Outcomes:**

Upon successful completion of this course, students will

**1316.1** Compute the values of trigonometric functions for key angles in all quadrants

of the unit circle measured in both degrees and radians.

**1316.2** Graph trigonometric functions and their transformations.

**1316.3** Prove trigonometric identities.

**1316.4** Solve trigonometric equations.

**1316.5** Solve right and oblique triangles.

**1316.6** Use the concepts of trigonometry to solve applications.

**Core Curriculum Purpose and Objectives:**

Through the core curriculum, students will gain a foundation of knowledge of human cultures and the physical and natural world; develop principles of personal and social responsibility for living in a diverse world; and advance intellectual and practical skills that are essential for all learning.

Courses in the foundation area of mathematics focus on quantitative literacy in logic, patterns, and relationships. In addition, these courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experience.

**College Student Learning Outcomes:**

Critical Thinking Skills

**CT.1** Students will demonstrate the ability to 1) analyze complex issues, 2) synthesize information, and 3) evaluate the logic, validity, and relevance of data.

Communication Skills

**CS.1** Students will effectively develop, interpret and express ideas through written communication.

Empirical and Quantitative Skills

**EQS.1** Students will manipulate numerical data or observable facts by organizing and converting relevant information into mathematical or empirical form

**EQS.2** Students will analyze numerical data or observable facts by processing information with correct calculations, explicit notations, and appropriate technology.

**EQS.3** Students will draw informed conclusions from numerical data or observable facts that are accurate, complete, and relevant to the investigation.

**SCANS Skills:**

N/A

**Course Outline:****Chapter 5** Trigonometric Functions

- 5.1 Angles and Their Measure
- 5.2 Right Triangle Trigonometry
- 5.3 Computing the Values of Trigonometric Functions of Acute Angles
- 5.4 Trigonometric Functions of any Angle
- 5.5 Unit Circle Approach: Properties of the Trigonometric Functions
- 5.6 Graphs of the Sine and Cosine Functions
- 5.7 Graphs of the Tangent, Cotangent, Cosecant, and Secant Functions
- 5.8 Phase Shift; Sinusoidal Curve Fitting

**Chapter 6** Analytic Trigonometry

- 6.1 The Inverse Sine, Cosine, and Tangent Functions
- 6.2 The Inverse Trigonometric Functions (Continued)
- 6.3 Trigonometric Equations
- 6.4 Trigonometric Identities
- 6.5 Sum and Difference Formulas
- 6.6 Double-angle and Half-angle Formulas
- 6.7 Product-to-Sum and Sum-to-Product Formulas (Optional)

**Chapter 7** Applications of Trigonometric Functions

- 7.1 Applications Involving Right Triangles
- 7.2 The Law of Sines
- 7.3 The Law of Cosines
- 7.4 Area of a Triangle (Optional)
- 7.5 Simple Harmonic Motion; Damped Motion; Combining Waves (Optional)

**Chapter 8** Polar Coordinate; Vectors

- 8.1 Polar Coordinates
- 8.2 Polar Equations and Graphs
- 8.3 The Complex Plane; DeMoivre's Theorem
- 8.4 Vectors
- 8.5 The Dot Product
- 8.6 Vectors in Space
- 8.7 The Cross Product

**Evaluation/Grading Policy:**

- Exams : 60%
- Daily Work : 20%
- Final Exam: 20%
- “A” 90-100

“B” 80-89

“C” 70-79

“D” 60-69

“F” below 60

There will be no exemptions from the college final.

**Student Responsibilities/Expectations:**

This is a dual credit class held on the Mt Vernon ISD campus. Students are required to follow the attendance and dress code as well as all other rules and acceptable use policies stated in the the MVHS student code of conduct. Students are expected to behave as responsible college students; therefore no academic information about a student can be given to another individual or parents without the expressed written consent of the student.

**NTCC Academic Honesty Statement:**

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

**Academic Ethics**

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

**ADA Statement:**

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

**Family Educational Rights And Privacy Act (Ferpa):**

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain

information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

**Other Course Policies:**

There will be no cell phone usage in the classroom. Students will be warned if caught using a phone during class. A student will be removed from class if the disruption continues.

The college's official means of communication is via your campus email address. I will use your campus email address, Blackboard, and MyMathLab to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.