

VERNON COLLEGE  
SYLLABUS

DIVISION: Mathematics and Science

DATE: 2016-2017

COURSE NUMBER AND TITLE: MATH 1316 Plane Trigonometry

CREDIT HRS: 3

HRS/WK LEC: 3

HRS/WK LAB: 0

LEC/LAB COMB: 3

I. VERNON COLLEGE GENERAL EDUCATION PHILOSOPHY STATEMENT

General education at Vernon College reflects the institution's deep conviction that successful, satisfying lives require a wide range of skills and knowledge. Through the Texas Core Curriculum and through support and reinforcement in all non-core courses, 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.

CORE OBJECTIVES (GENERAL EDUCATION OUTCOMES)

- Critical Thinking Skills – to include creative thinking, innovation, inquiry and analysis, evaluation and synthesis of information
- Communication Skills – to include effective development, interpretation, and expression of ideas through written, oral, and visual communication
- Empirical and Quantitative Skills – to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions
- Teamwork - to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal
- Personal Responsibility – to include the ability to connect choices, actions and consequences to ethical decision making
- Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

II. CATALOG DESCRIPTION:

Prerequisite: MATH 1314 or MATH 1414. In-depth study and applications of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. Special Fee: \$2.00

III. REQUIRED BACKGROUND:

Prerequisite: MATH 1314 College Algebra or equivalent

IV. STUDENT E-MAIL:

All students should activate and regularly check their Vernon College issued student email account. Student emails are an official form of communication between Vernon College and students and will be used by various components of the college including the Office of Financial Aid, Admissions & records, the Business Office, Student Services, and Instructional Services.

Additionally, an active VC student email account is required for students to access online courses and supplemental instruction provided on the College's Learning Management System – *Canvas*.

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V. TEXTS AND OTHER REQUIRED MATERIAL:

Lial, Hornsby & Schneider, Trigonometry Value Pack. Tenth Edition, Pearson Education, Addison/Wesley, 2013. (Includes required software.)

**Graphing calculator required, TI-calculator recommended.**

VI. METHODS OF INSTRUCTION:

Lecture/discussion

Students desiring auxiliary aids and services for this course should make their requests to the instructor and the PASS Department Director/Office for Students with Disabilities Coordinator.

VII. COURSE CONTENT:

1. Trigonometric functions
2. Acute angles and Right Triangles
3. Radian Measure and Circular Functions
4. Graphs of the Circular functions
5. Trigonometric Identities
6. Inverse Circular Functions and Trigonometric Equations
7. Applications of Trigonometry and Vectors

VIII. COURSE OUTCOMES:

At the successful completion of this course, the student will be able to:

1. Compute the values of trigonometric functions for key angles in all quadrants of the unit circle measured in both degrees and radians.
2. Graph trigonometric functions and their transformations.
3. Prove trigonometric identities.
4. Solve trigonometric equations.
5. Solve right and oblique triangles.
6. Use the concepts of trigonometry to solve applications.

IX. ASSESSMENT:

Student achievement of the above outcomes will be measured by written examinations, which contain problems designed to require the student to demonstrate the acquisition of the outcomes. Minimum performance must be at the 60% level.