Columbus State Community College  
Mathematics Department Syllabus

Course and Number: MATH 1149 – Trigonometry  
Credits: 4  
Class Hours Per Week: 4

Prerequisites: MATH 1148 with a “C” or better, or placement by COMPASS or ACT test

COURSE DESCRIPTION: This course is a study of the trigonometric functions, vectors, and related applications. Topics include right triangle trigonometry; trigonometry of general angles; the unit circle; the graphs of the trigonometric functions; analytical trigonometry; inverse trigonometric functions; verifying identities; solving trigonometric equations; the Law of Sines; the Law of Cosines; applications of trigonometry; polar coordinates and the graphs of polar equations; geometric and algebraic vectors; vector applications; plane curves and parametric equations, trigonometric form of complex numbers, and DeMoivre's Theorem. The conic sections are defined and analyzed algebraically and graphically.

SPECIAL COURSE REQUIREMENTS: None

COURSE GOALS: To provide the final preparation for a student planning to begin a study of calculus. To promote further development in the student’s ability to think and to reason mathematically.

GENERAL EDUCATION GOALS: This course addresses the following Columbus State general education goals:
- Critical Thinking
- Quantitative Literacy

TEXTBOOK, MANUALS, REFERENCES, AND OTHER REQUIRED MATERIALS:
- My Math Lab/Course Compass – (included with purchase of a new text).
- A graphing calculator is REQUIRED. The Texas Instruments' TI-84 (regular, Plus, Silver, etc.) graphing calculator is strongly recommended and approved for use during proctored assessments.
  - Calculator Alternatives: Some students may prefer to use a CASIO-FX-9750GII, TI-Nspire (non CAS version), or a TI-83. These options are similar to the TI-84 and are approved for use during proctored assessments.
  - Other graphing calculators may be permitted. If you own a different calculator, please check with your current instructor to see if your calculator will be allowed during their proctored assessments.
  - The TI-89, TI-92, TI-Nspire CAS, or other Computer Algebra System (CAS) calculators, are never allowed during proctored assessments.
UNITS OF INSTRUCTION:
- Trigonometric Functions (Chapters 7.1-7.8)
- Analytic Trigonometry (Chapter 8.1-8.5, 8.7-8.8)
- Applications of Trigonometry: Laws of Sines and Cosines, Vectors (Chapters 9.1-9.3, 10.4-10.5)
- Polar Coordinates (Chapters 10.1-10.2)
- Complex Numbers (Chapters 10.3)
- Conic Sections (Chapters 2.3, 11.1-11.4, 11.6)
- Parametric Equations (Chapters 11.7)

GENERAL INSTRUCTIONAL METHODS: Lecture, discussion, demonstration, exploration and discovery exercises with the use of visual aids, graphing calculators, and/or computer resources.

STANDARDS AND METHODS FOR EVALUATION:
Final Exam = 25% of course grade (final exam is 100% departmental).
The remaining 75% of the course grade will be determined by the instructor.
No more than 25% of the course grade may be determined using non-proctored assessments.

GRADING SCALE:
Letter grades for the course will be awarded using the following scale:
≥ 90% - A  80-89% - B  70-79% - C  60-69% - D  < 60% - E
Grades will not be curved, skewed, or otherwise inflated.