



**TRINITY VALLEY COMMUNITY COLLEGE  
ADMINISTRATIVE-MASTER SYLLABUS**

The Administrative- Master Syllabus is an administrative tool; it is **not intended to be distributed to students.** It is the intention of this Administrative-Master Syllabus to provide a general description of the course, outline the required elements of the course and to lay the foundation for course assessment for the improvement of student learning, as specified by the faculty of TVCC, regardless of who teaches the course, the timeframe by which it is instructed, or the instructional method by which the course is delivered. It is not intended to restrict the manner by which an individual faculty member teaches the course but to be an administrative tool to aid in the improvement of instruction. The Administrative-Master Syllabus will demonstrate that there is consistency and comparability in course offerings.

**Course Title**

Pre-Calculus

**Course Prefix and Number**

Math 2312

**Department – Division**

Mathematics and Science

**Course Type** – select from one of the following categories.

- **Academic General Education Course** (from ACGM – but not in TVCC Core)
- **Academic TVCC Core Course**
- **WECM Courses**

**Semester Credit Hours: Lecture Hours: Lab/other hours**

Semester Credit Hours	Lecture Hours	Lab/Other* Hours
3	3	

Other hours include practicum, clinical or other types of non-lecture instruction. \*If other, please specify: \_\_\_\_\_

## **Course Catalog Description**

### **MATH 2312 Precalculus**

Prerequisite: MATH 1314; or 2 years of H.S. algebra and one of the following: a minimum score of 150 on the THEA test or an equivalent score on any approved TSI test.

Begins with topics from plane trigonometry including circular functions, solutions of right triangles, graphs, identities, solving trigonometric equations and the use of scientific calculators. Either a programmable or a non-programmable calculator is required. The course will include topics from analytical geometry.

## **Prerequisites/co requisites**

MATH 1314; or 2 years of H.S. algebra and one of the following: a minimum score of 150 on the THEA test or an equivalent score on any approved TSI test.

## **Topical Outline**

- I. Trigonometric Functions
  - A. Evaluating trigonometric functions
  - B. Solving right triangles
- II. Circular Functions
  - A. Radian Measure
  - B. The unit circle and circular functions
  - C. Graphs of circular functions
- III. Trigonometric Identities and Equations
  - A. Trigonometric identities
  - B. Inverse trigonometric functions
  - C. Trigonometric equations
- IV. Applications
  - A. Law of Sines
  - B. Law of Cosines
  - C. Vectors
  - D. Polar Coordinates
- V. Analytic Geometry
  - A. Parabolas
  - B. Ellipses
  - C. Hyperbolas

## **Course Learning Outcomes**

- A. The student should be able to evaluate trigonometric and circular functions of angles in degree measure or radian measure.
- B. The student should be able to solve right triangles.
- C. The student should be able to graph circular functions.
- D. The student should be able to prove trigonometric identities.
- E. The student should be able to solve trigonometric equations.
- F. The student should be able to solve oblique triangles using the Law of Sines and/or the Law of Cosines.
- G. The student should be able to perform basic operations with vectors. \*
- H. The student should be able to graph in polar coordinates. \*
- I. The student should be able to identify and graph conic sections. \*

\*As time permits

**Relationship to General Education Outcomes** – In addition to the core competencies, Trinity Valley Community College has established ten general education goals which specify knowledge and skills that students should gain from completing courses in the various component areas of the core curriculum. Information regarding curriculum and assessment as a means for the improvement of student learning through the general education component. (Select all that apply.)

Mark with an "X"	General Education Outcome
	A. To communicate clearly and effectively in both oral and written English.
	B. To improve reading skills focused on comprehending, analyzing, interpreting, and evaluating printed materials.
X	C. To understand mathematical information and utilize mathematical skills.
X	D. To demonstrate qualitative and quantitative critical thinking skills.
	E. To understand and appreciate cultural and ethnic diversity.
	F. To utilize computer based technology in accessing information, solving problems, and communicating.
	G. To recognize and evaluate artistic achievements in the visual and performing arts.
	H. To improve basic understanding of political, economic, and social systems.
	I. To demonstrate knowledge of the physical universe and living systems.
X	J. To develop skills and strategies to become an engaged learner.

**Required Text(s)**

Lial, Margaret L. ; Hornsby, John; and Schneider, David I.; “Precalculus” 4<sup>th</sup> edition; Pearson Publishing Co.; 2009.

**Optional Text(s)****Material/Technology to be supplied by the student.**

A graphing or scientific non-graphing calculator is required.

**Course Requirements/Grading System** – describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course; not intended to restrict the individual nature by which each faculty member who teaches the course determines course requirements and final student performance, but should offer consistency within reason for all sections taught for those departments without a standardized format.

**METHODS OF INSTRUCTION:** Methods of instruction will vary with the instructor, but currently used methods include lecture, problem solving discussion, handouts summarizing material, individualized problem solving assistance, and assigned homework problems.

**METHODS OF EVALUATION:** Methods of evaluation and weights given to these will vary with the instructor, but currently used methods include announced unit tests, unannounced quizzes, homework, and a comprehensive final examination. The evaluation methods should include at least three announced tests including a comprehensive final examination. Unit test should count at least 50% of the student’s grade and the combination of unit tests and final examination should count at least 70% of the student’s grade.

***Approvals – the contents of this document have been reviewed and are found to be accurate.***

Prepared by	Signature	Date
Department Head	Signature	Date
Division Chair	Signature	Date
Vice President	Signature	Date