

# Trigonometry/Pre-Calculus LV 1

Mr. Louro

## **Course Description:**

Pre-calculus weaves together previous study of algebra, geometry, and functions into a preparatory course for calculus. The course focuses on the mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Topics include linear, quadratic, exponential, logarithmic, radical, polynomial, and rational functions; systems of equations; and conic sections in the first semester. The second semester covers trigonometric ratios and functions; inverse trigonometric functions; applications of trigonometry, including vectors and laws of cosine and sine; polar functions and notation; and arithmetic of complex numbers. Cross-curricular connections are made throughout the course to calculus, art, history, and a variety of other fields related to mathematics.

## **Course Objectives:**

1. Students will understand functions and their limits.
2. The student will analyze the graphs of rational, logarithmic, exponential, trigonometric, and piecewise defined functions by determining the domain and range; identifying any vertical, horizontal, or oblique asymptotes; and classifying the function as increasing or decreasing, continuous or discontinuous, and noting the type of discontinuity if one exists.
3. Students will be able to graph functions including rational, exponential, logarithmic, and trigonometric functions, as well as identify key features of the function graphically and algebraically.
4. The student will analyze the effects of parameter changes on the graphs of trigonometric, logarithmic, and exponential functions.
5. The student will apply the laws of logarithms to simplify expressions and to solve equations using common logarithms, natural logarithms, and logarithms with other bases.
6. The student will solve trigonometric equations and inequalities using sum, difference, and half- and double angle identities.
7. The student will find limits of functions at specific values and at infinity numerically, algebraically, and graphically.
8. The student will determine the equation of a curve of best fit from a set of data by using exponential, quadratic, or logarithmic functions.

## **Course Outline:**

- A. Chapter 1: Equations & Inequalities
- B. Chapter 2: Linear Relations and Functions
- C. Chapter 3: Systems Equations & Inequalities
- D. Chapter 4: Quadratic Functions & relations
- E. Chapter 5: Polynomials & Polynomial Functions
- F. Chapter 6: Inverses & Radical Functions
- G. Chapter 7: Exponential & Logarithmic Functions
- H. Chapter 8: Rational Functions & Relations
- I. Chapter 9: Conic Sections
- J. Chapter 10: Sequences & Series
- K. Chapter 11: Statistics & Probability
- L. Chapter 12: Trigonometric Functions
- M. Chapter 13: Trigonometric Identities

## **Classroom Procedures and Expectations**

All students are required to arrive to class on time and ready to work. This includes having all necessary materials (book, homework, notebook, pen, etc.). It is recommended that students purchase a three ring binder.

## **In Case of Fire Drill**

Move in an orderly and quiet manner to the front of the room and follow the posted evacuation route as described on first day of school. Students will report to their designated homeroom location.

## **Homework / Classwork Policy**

Students are expected to complete ALL homework and classwork assignments. Homework or classwork may be collected on a random basis and graded as a quiz. It is the student's responsibility to make up all missed homework and classwork assignments.

Assignments that are not legible WILL NOT BE GRADED. Students should have any homework questions ready at the beginning of each class. Graded for completion or accuracy.

### **Quizzes**

Most quizzes will be unannounced and will be identical to the previous night's homework. Announced quizzes will be more difficult and require studying.

### **Exams**

All exams will be announced one week in advance whenever possible. Students are required to take exams on the day they are scheduled only excused absences will be allowed a make-up exam. It is the responsibility of each student to make arrangements with the teacher for make-up exams. Students absent the day before an exam will be required to take the exam as scheduled.

### **Tardy Students**

Students are expected to enter the classroom without disruption to the teacher or other students. **DO NOT INTERRUPT ANYONE**. I am aware you may not know what we are doing I will get you caught up as soon as possible. Excessive unexcused tardiness will be handled as per the student handbook.

### **Grievances**

It is the right of every student to file a grievance if they feel they have been given the wrong grade.

**STEP 1:** Circle the problem on your paper

**STEP 2:** Write a brief explanation of the problem or mistake

**STEP 3:** Put paper in class folder

Any attempts to file a verbal grievance with the teacher, will automatically receive **NO FURTHER CONSIDERATION**. The teacher's ruling is final.

### **Extra Help**

Extra help will be available after school for students in good academic standing (complete all assigned work, participate in class & show sincere effort). Extra help will also be available during any Trig class and during my SLP's. Students must give teacher prior notice if they want to stay after school for help.

### **Make-Up Work Policy**

Students that have been absent must report to the teacher on their first day back to school and make arrangements to complete all make-up work.

### **Grading System**

Tests	50%
Quizzes	35%
Homework	15%

### **Portfolio**

All students will create a portfolio over the course of each semester which will be used to determine their final exam grade.