



ISS Course Syllabus

Teacher: **Mr. Marcus**
Course Title: **Pre-Calculus**

Grade: **12**
HS Credit Value:

Course Objectives:

Each level listed on the under fold is an integral part of a complete and comprehensive Course in **Pre-Calculus**.

While each section has a specific theme, the students will continuously review and integrate previously mastered concepts.

The students will be given the opportunity to develop self-confidence while broadening their scope of appreciation for **Pre-Calculus**.

The Course Sequence is specially structured so that each month has a specific objective. Once these objectives are met and mastered, the students will be able to apply these acquired skills to problem solving in a wide range of applications as it prepare them for **Calculus 1** and related Courses.

General Course Contents:

Throughout this course sequence, the students will learn the following concepts and their applications.

Relations & Functions

- . Relations & functions
- . Rules of correspondence
- . Notations of functions
- . Types of functions

Special functions

- . Linear functions
- . Second-degree functions
- . Polynomial functions
- . Other functions

Trigonometric Functions

- . Definition
- . Evaluation of functions
- . Trigonometric tables
- . Special angles

Identities & Functions

- . Reciprocal relations
- . Pythagorean relations
- . Trigonometry identities
- . Sums & differences formulas

Identities & Functions

- . Reciprocal relations
- . Pythagorean relations
- . Trigonometric identities
- . Sum and difference formulas

Trigonometric Functions

- . Trigonometric functions
- . Law of cosines
- . Law of sines
- . Applied problems

Trigonometric Functions

- . Inverse functions
- . Graphing polar coordinates
- . Converting polar coordinates
- . Graphing polar equations

Quadratic Equations

- . Conic sections
- . Circle and ellipse
- . Parabola and hyperbola
- . Transformations

Probability

- . Random probability
- . Permutations
- . Combinations
- . Applied problems

Review

- . Mathematical induction
- . Functions and limits
- . Slopes of functions
- . Pythagorean relations

Evaluation System:

- The students will be given formal end of term examinations.
- The students will be informally assessed in the following ways:
 - a. Weekly or by unit, informal teacher generated tests.
 - b. Daily, this includes class work, participation, and behavior.
 - c. Homework assignments

Examination	30%
Graded Class Work	25%
Home work	20%
Participation	15%
Behavior	10%
Total	100%

Strategies and Instructional Methods

- Demonstrations
- Direct problem solving
- Note taking
- Review and practice
- Weekly quizzes

Resources/ Textbooks:

- **Pre-Calculus;** Addison Wesley Longman