



Mare Island Technology ACADEMY

"Growing great minds and caring hearts"



Pre-Calculus

**Mr. Chris Lumanglas Room S clumanglas@mitacademy.org
SY 2015- 2016**

Pre-Calculus with Trigonometry is designed as the fourth course in a five-year sequence of college preparatory mathematics for high school students. In addition to covering all of the key concepts found in traditional trigonometry, pre-calculus, or math analysis courses, it emphasizes several big ideas that form a foundation for calculus and other college mathematics curricula.

The key ideas presented are:

- Transformations of functions
- Periodic functions and their graphs
- Area under a curve as a foundation for integration
- Inverses, exponentials, and logarithmic equations and applications
- Limits to infinity and at a point
- Properties of functions including continuity, increasing vs. decreasing, and concavity
- Average rates of change and instantaneous rates of change as a foundation for derivatives
- Other graphical systems including polar and parametric
- Applications of vectors and trigonometric functions
- Algebraic fluency and simplification techniques
- Modeling using a variety of functions

This course is structured around investigations and problem solving. Students will explore concepts and develop mathematical relationships through observation, application, and both formal and informal proof. Lessons are designed to facilitate teamwork and encourage students to pose conjectures, justify solutions and defend their thinking.

Some lessons are specifically designed to be teacher-directed, but most have strong components that require students to work in study teams. We expect that the lesson objectives found at the start of each lesson will provide valuable guidance. Concepts are developed over time so that students can master key ideas with conceptual understanding, not merely memorization.

Each chapter is divided into sections that focus on a major concept for the chapter. Individual lessons are focused on one or two key ideas that build into a core concept for the chapter. Students will investigate a concept or property and have the ideas summarized in the form of a "Math Note." These notes allow students easy access for review if they struggle with a particular concept. Homework is designed as both a review of the day's lesson as well as practice with concepts previously introduced. Each chapter concludes with a closure section that has review problems and often a "merge problem" that pulls together several ideas learned in the chapter.

- **Pre-Calculus PROJECT**

- ✓ **Math Binder**

Every student is required to compile all the assignments, use the power math cornell notes format at all times and organize it well. Binder checks will occur at regular intervals. This project will serve as a study guide for all the assessments as well as the medium of demonstration of your overall understanding and mastery of pre-calculus.

- ✓ **Progress Report Project**

A PR project will be given to students related to the course content for each progress report. It may be a group, or an individual project. Internet and other construction/art materials are expected to be used.

- ❖ **Famous Mathematicians** (ongoing project throughout the year)
 - ❖ **Mathematics Describing the Real World**
 - ❖ **The Pre-Calculus Photo Project**

- **GRADING POLICY**

Cumulative grading for every semester will be determined as follows:

Student work	Percentages	Grading Scale
Assess M ents	65%	A 90-100%
P A rticipation	5%	B 80-89%
Projec T s	10%	C 70-79%
H ome/Classwork	20%	F 0-69%

- **POLICIES AND PROCEDURES**

Class/Homework

No work, No Credit, NO KIDDING!!! We will have daily assignments, which should not be neglected. Students must show all of their work to receive credit on a homework assignment.

Students are expected to complete the class work by the time they are due. It must be written in a neat and orderly manner as discussed in class. New mathematics vocabulary should be understood and spelling should be correct. If I cannot read it, I will not grade it!

Assessments

A chapter test, cumulative test, and standardized will be given for each chapter in the book. Announced/unannounced quizzes will be given as needed to test for understanding and progress on current material.

Final Exam

A final exam will be given at the end of the semester. It will test students' accumulated knowledge of all the material we cover over the semester.

Late work/Make up work

By MIT policy, all work MUST be completed; students who fail to complete work will be subjected to the following:

- ❖ Loss of end-of-block release time;
- ❖ Assignment to RTI (end-of-day) Study Hall;
- ❖ Saturday School;
- ❖ Or, in extreme cases, AST meetings to consider contracts and/or termination of enrollment (TOE)

Note that while ALL work is required to be turned in, late work will be subjected to a penalty of not receiving a full credit. In its role as an academic preparatory institution, MIT expects students to complete all their work. Students who are unwilling to make this commitment should consider whether MIT Academy is the best choice for their education.

It is the students' responsibility to ask a classmate what they missed if they were absent and to ask the teacher for specific assignments or refer to the math website. If a student misses an exam, it's their responsibility to make arrangements with the teacher to make it up in a reasonable amount of time.

Cheating/Plagiarism

All work submitted for grading must be your own. If cheating is detected on any piece of work submitted for credit, a grade of 0 will be given to this piece of work and further actions will be performed as dictated by the MITA Student Services guidelines.

Resources

Textbook: Pre-Calculus with Trigonometry

You may check the Teacher drive often to get pdf files and other materials for the entire school year.

Supplies needed for class

All supplies, materials and equipment needed for students to participate in MIT Academy's educational activities shall be provided to students by the school free of charge. However, a student may obtain required materials independently, in which case they get to keep them; whereas those students who receive materials from MIT may be charged a fee for the replacement of damaged, defaced, or unreturned school supplies.

- graph paper
- markers
- ruler
- colored pencils
- 3-ring binder
- page dividers
- sticky notes
- poster paper
- graphing calculator

Acceptable Behaviors

Classroom Rules

1. Respect others.
2. Be on time.
3. No food, candy, or drinks in the room.
4. No disruptive talking or behaviors.
5. Keep hands, feet to yourself.

Academic Expectations

1. Be prepared.
2. Participate.
3. Ask questions.

Other Expectations

1. You are to be in your assigned seat – wearing no hats at all time – before bell rings and until the teacher dismisses the class.
2. You will bring to class your daily math textbook and math binder.
3. You will work cooperatively in group activities, but never copy homework from each other.
4. Raise your hand if you have any questions – *all you have to do is ask!*
5. Phones, ipod and other electronic devices are to be turned off, out of sight, and do not use during class time.
6. You may never use or answer the teacher's phone.
7. You may open or close the classroom's door or windows only with permission from the teacher.
8. Sexual and other kinds of harassment and/or racial epithets will not be tolerated and will be reported to the proper authorities.

Consequences

Refer to the MIT Academy Discipline Matrix.

Responsibility

There is much responsibility put on each of you to complete your assignments and to ask questions. In this classroom, everyone has a job to do. It is the job of the student to master the material and demonstrate this understanding by the end of the course. My job is to help you do your job. You also have a responsibility to provide an atmosphere of respect for everyone. I will make every reasonable effort to help you succeed. I look forward to a great year together!

The Key to Success

*Good note taking and regular homework completion correlate highly with a successful student. In other words, when a student takes notes and completes the homework, he or she will be successful in this class. **AIM HIGH!***

Contact information

Appointments can be made for meeting with the teacher on a case by case basis, after school on Mondays, Tuesdays, Thursdays, or Fridays. **707-552-6482 ext 310**

Mr. Lum would like you to join Pre-Calculus!



To receive messages via text, text **@lumprecalc** to **81010**. You can opt-out of messages at anytime by replying, 'unsubscribe @lumprecalc'.

Trouble using 81010? Try texting **@lumprecalc** to **(510) 900-8757** instead.





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Course: Pre-Calculus

Teacher: Lumanglas

I have read the course syllabus, and I have shared its contents with my parents. Furthermore, I am aware of the grading policy that will form the basis of my evaluation and how my grade will be computed. I am aware that homework is an extension of the regular classwork, and will be counted as a part of my overall evaluation. I realized that I am required to maintain a binder containing all notes, classworks, homeworks, and other assignments.

_____ I have read the expectations, and I am aware of what is expected of me to successfully complete this class.

Student Signature: _____

Parental support is requested to make sure that all assignments are completed and turned in on time. Parents are also asked to sign below, indicating that they have read this sheet and the course syllabus.

Child's Name: _____ Class Period: _____

Date: _____

_____ I have read the expectations, and I am aware of what is expected of my child to successfully complete this course.

_____ I have read the expectations, and I would like to discuss them further.

Parent(s) Name & Signature _____

Contact number/s _____

Email _____

☺ Let's all work together to make this a great year!!! ☺