



Grade: 12th

Teacher: Mr. Eric Crespo (eric.crespo@gmail.com)

Textbook: Holt, Rinehart, Winston; Pre-Calculus: A Graphing Approach; Harcourt Educ. Co.; (2006)

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Materials required: Notebook, pencils, erasers, graph paper, and loose leaf paper. Calculators will be used in class and on tests when directed by the teacher. Phones, iPods, mp3 players, or any other devices are not allowed as calculators. Any other materials required will be requested with, at least, five (5) days of prior notice.

Course Description: The Pre-Calculus curriculum incorporates five key strands of mathematics: Number sense and Operations; Patterns, Relations and Algebra; Geometry; Measurement; and Data Analysis, Statistics, and Probability. These standards encompass characteristics of functions, operations on functions, behaviors of polynomial functions and rational functions, behaviors of exponential and logarithmic functions, behaviors of trigonometric functions, and behaviors of conic sections.

Grades: Report cards and progress reports will be implemented as per School Regulation. Grades will be comprised of the following components:

- a. **Tests:** Tests will usually cover an entire chapter or two. I may review all material prior to each test. Some tests may require two class periods to complete; these will be announced in advance.
- b. **Quizzes:** Quizzes may or may not be announced. Pop quizzes may be given on Mondays. Quizzes will usually cover 1 or 2 sections in a chapter. I will not review for quizzes; completing and understanding the assigned homework should be sufficient preparation for a quiz.
- a. **Homework:** Homework will be assigned everyday with the exception of Fridays, except for special occasions. It is the students' responsibility to complete all assigned tasks. I may review some, but not all homework problems. If there is not enough time for review and a student still has questions, the student must see the teacher at the end of class to schedule additional help. **Excellence in mathematics cannot be achieved without a certain amount of practice. Homework is a necessary part of this practice. Homework to mathematics is like basketball practice to the big game. You cannot win unless you practice! You cannot do mathematics if you do not do your homework!**
- b. **Conduct:** Student conduct will be observed daily and will be counted as part of the final grade. See Student Handbook for additional rules.
- c. **Projects:** Projects will be assigned during the year. Projects are expected to be turned in on time. Past due projects will be penalized by deducting up to 10 percent of total grade per day of tardiness.

Course Content:

Chapter 1: Number Patterns

1.1 Real Numbers, Relations, and Functions

1.2 Mathematical Patterns

1.3 Arithmetic Sequences

1.6 Geometric Sequences

1.4 Lines

Chapter 2: Equations and Inequalities

2.2 Solving Quadratic Equations Algebraically

2.4 Other Types of Equations

2.5 Inequalities

2.5A Excursion: Absolute-Value Inequalities

Chapter 3: Functions and Graphs

3.1 Functions

3.2 Graphs of Functions

3.3 Quadratic Functions

3.4 Graphs and Transformations

3.4A Symmetry

3.5 Operations on Functions

3.6 Inverse Functions

Chapter 4: Polynomial and Rational Functions

4.1 Polynomial Functions

4.3 Graphs of Polynomial Functions

4.4 Rational Functions

4.5 Complex Numbers

Chapter 5: Exponential and Logarithmic Functions

5.1 Radicals and Rational Exponents

5.2 Exponential Functions

5.3 Applications of Exponential Functions

5.4 Common and Natural Logarithmic Functions

5.5 Properties and Laws of Logarithms

5.5A Excursion: Logarithm Functions to other bases

5.6 Solving Exponential and Logarithmic Equations

Chapter 6: Trigonometry

6.1 Right Triangle Trigonometry

6.2 Trigonometric Applications

6.3 Angles and Radian Measure

6.4 Trigonometric Functions

6.5 Basic Trigonometric Identities

Chapter 7: Trigonometric Graphs

7.1 Graphs of Sine, Cosine, and Tangent Functions

7.3 Periodic Graphs and Amplitude

7.4 Periodic Graphs and Phase Shifts

Absence during examinations: When a student misses a test or quiz because of sickness, a retake will be given within 5 school days only if the student provides a valid medical excuse upon his/her return. When a student misses a test or quiz without a valid excuse, he/she will be required to take it upon his/her return to school. Retakes may be given on Mondays. I will **not** provide a review for a retake; it is the student's responsibility to obtain the material and to prepare for the retake. Any other arrangements will be at the teacher's discretion. A retake is **not** the same as the original evaluation.

Absence from class: In the event a student is absent from class, he/she is responsible for obtaining all material taught, including assignments. I will not re-teach any material that a student misses due to absence during class hours; again, it is the students' responsibility to find out what he/she missed and to obtain help. Being absent on the day of a test review will not exempt a student from taking the test on the assigned test day. All additional rules applicable to student absences are as per School Regulation.

Parent/Teacher Appointments: I will work with every parent as much as possible to accommodate meetings after regular school hours. Please understand that under no circumstances should a parent interrupt a class to speak to either myself or his/her child. **If a parent must see his/her child, the parent has to go by the front office first.**

References: Here is a list of sites you can use to reinforce topics discussed in class.

<http://www.khanacademy.org/>

<http://patrickjmt.com/>

<http://www.mathsisfun.com/>

http://www.mathtv.com/videos_by_topic

<http://www.brightstorm.com/math/>

Dear Parents: It is my expectation that by the end of the school year, my students will have gained a wealth of knowledge that will better prepare them for the next grade, for college, and for life in general. We want to have fun while we learn, but I also strongly value the qualities of honor and respect. We will practice these and other values throughout the year.

Communication is essential! I will make every effort to meet with you when needed to help your child succeed in my class. But we have to work together. Please, take the time to review your child's notebook often and ask him/her how their day went at school. Get more involved with your child's education because he/she cannot do it alone. It is normal for some students to struggle with math, but any problem can be resolved if we address the obstacles early on – don't wait until the report card is completed before you ask for help. I believe in your child's ability to succeed. Let's have a great year!