

# Advanced Algebra/Trigonometry – Course Syllabus

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**Text:** Precalculus with Limits: A Graphing Approach, Houghton Mifflin

## General Information:

This course is a full year high school mathematics course which will develop the students' understanding of the concepts of trigonometry and its applications. It is also designed to enhance the students' understanding of the skills and concepts of Algebra. This course is meant to be both challenging and demanding.

## Course Outline:

Below is a list of the chapters we will cover and the order in which we will cover them. A more detailed outline will be given each quarter that will list the sections and the corresponding homework assignments.

Appendix B	Review of Graphs, Equations, and Inequalities
Chapter 1	Functions and Their Graphs
Chapter 2	Polynomial and Rational Functions
Chapter 3	Exponential and Logarithmic Functions
Chapter 7	Linear Systems and Matrices
Chapter 8	Sequences, Series, and Probability
Chapter 4	Trigonometric Functions
Chapter 5	Analytic Trigonometry
Chapter 6	Additional Topics in Trigonometry
Chapter 11	Limits and an Introduction to Calculus (if time permits)

**Recommended Calculator:** TI-83 Plus or TI-84 Plus/Silver Edition

## Expectations:

It is expected that students will attend class regularly, participate in class discussions, prepare daily assignments, maintain a notebook, study the textbook and other resources regularly, and ask questions when appropriate.

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## Advanced Algebra/Trig Agreement of Terms of Syllabus

**Student Signature:** \_\_\_\_\_

**Parent/Guardian Signature:** \_\_\_\_\_

**Grading:**

Marking period grades are computed using both formative evaluation and summative assessment. These include homework, quizzes, tests, take-home Free Response questions, group projects and notebooks on a cumulative point system. Refer to the chart on the last page of the syllabus to see how points are assigned for the first marking period. Each marking period represents 22.5% of the student's grade. The four marking periods along with a final (worth 10%) are used to determine the final grade.

A student's marking period grade shall be calculated using the following formula:

$$\text{Grade} = (\text{Total Points Earned}) / (\text{Total Points Possible})$$

**Homework Policy**

Homework is a formative task, intended to impact the learning curve, and use to preview, practice, and prepare a student to lead them to mastery of standards and concepts. Homework will be checked for completion.

**Final Exam Exemption**

Any student who has a final average of an A after all four marking periods can choose to exempt their final exam if they would like to.

**Prerequisites:**

Algebra I, Algebra II, Geometry

**Behavioral Policy:**

Any disruptive behavior will not be tolerated.

**Academic Dishonesty:**

Cheating in any form will not be tolerated. If you are guilty of academic dishonesty, the minimum penalty is a zero for that test/quiz/assignment.

**Extra Help:**

Be sure to ask plenty of questions in class, and come see me during study hall, lunch, or tutorial if you would like to ask questions outside of class. Also, there are some online resources that I can point you to that can be a big help. Email me anytime with a question! I check my email daily.

## Listing of Assignments and Points Possible for Marking Period 1

\*This is an estimated listing of assignments.

\*Tests are bolded

**\*Homework assignments are worth 3 points each**

**\*Quizzes are worth 10 points each**

**\*Tests are worth 50 points each**

**\*4-6 FRQ's will be assigned throughout each Marking Period (worth 9 points each)**

**\*One notebook check each Marking Period (worth 10 points)**

**\*Approximately one Project assigned each Marking Period (worth 30 points)**

<b>Assignments for MP 1</b>	<b>Topic</b>	<b>Points</b>
Homework B.1	The Cartesian Plane	3
Quiz B.1		10
Homework B.2	Graphs of Equations	3
Quiz B.2		10
<b>Mid Appendix B Test</b>		50
Quadratic Formula Quiz		10
Homework B.3	Solving Equations Algebraically and Graphically	3
Homework B.4	Solving Inequalities Algebraically and Graphically	3
<b>Appendix B Test</b>		50
Homework 1.1	Lines in the Plane	3
Quiz 1.1		10
Homework 1.2	Functions	3
Quiz 1.2		10
Homework 1.3	Graphs of Functions	3
Quiz 1.3		10
<b>Mid Chapter 1 Test</b>		50
Homework 1.4	Shifting, Reflecting, and Stretching Graphs	3
Graph Quiz		10
Homework 1.5	Combinations of Functions	3
Quiz 1.5		10
Homework 1.6	Inverse Functions	3
Quiz 1.6		10
Homework 1.7	Linear Models and Scatter Plots	3
<b>Chapter 1 Test</b>		50
FRQ #1		9
FRQ #2		9
FRQ #3		9
FRQ #4		9
Notebook Check		10
<b>Marking Period 1 Project</b>		30

**Total Points Possible for Marking Period 1:      399**

## Marking Period 2

Assignments for MP 2	Topic	Points
Homework 2.1	Quadratic Functions	3
Quiz 2.1		10
Homework 2.2	Polynomial Functions of Higher Degree	3
Homework 2.3	Real Zeros of Polynomial Functions	3
Quiz 2.3		10
Homework 2.6	Rational Functions and Asymptotes	3
Homework 2.8	Quadratic Models	3
<b>Chapter 2 Test</b>		50
Homework 3.1	Exponential Functions and Their Graphs	3
Quiz 3.1		10
Homework 3.2	Logarithmic Functions and Their Graphs	3
Quiz 3.2		10
Homework 3.3	Properties of Logarithms	3
Quiz 3.3		10
<b>Mid Chapter 3 Test</b>		50
Homework 3.4	Solving Exponential and Logarithmic Equations	3
Quiz 3.4		10
Homework 3.5	Exponential and Logarithmic Models	3
Homework 3.6	Nonlinear Models	3
<b>Chapter 3 Test</b>		50
Homework 7.1	Solving Systems of Equations	3
Quiz 7.1		10
Homework 7.2	Systems of Linear Equations in Two Variables	3
Homework 7.3	Multivariable Linear Systems	3
Homework 7.4	Matrices and Systems of Equations	3
Quiz 7.4		10
Homework 7.5	Operations with Matrices	3
Quiz 7.5		10
Homework 7.6/7.7	The Inverse and Determinant of a Square Matrix	3
<b>Chapter 7 Test</b>		50
FRQ #5		9
FRQ #6		9
FRQ #7		9
FRQ #8		9
Notebook Check		10
<b>Marking Period 2 Project</b>		30

**Total Points Possible for Marking Period 2:      417**

### Marking Period 3

Assignments for MP 3	Topic	Points
Homework 8.1	Sequences and Series	3
Homework 8.2	Arithmetic Sequences and Partial Sums	3
Quiz 8.2		10
Homework 8.3	Geometric Sequences and Series	3
<b>Mid Chapter 8 Test</b>		50
Homework 8.4	Mathematical Induction	3
Homework 8.5	The Binomial Theorem	3
Quiz 8.5		10
Homework 8.6	Counting Principles	3
Quiz 8.6		10
Homework 8.7	Probability	3
<b>Chapter 8 Test</b>		50
Homework 4.1	Radian and Degree Measure	3
Quiz 4.1		10
Homework 4.2	Trigonometric Functions: The Unit Circle	3
Unit Circle Quiz		10
Homework 4.3	Right Triangle Trigonometry	3
<b>Mid Chapter 4 Test</b>		50
Homework 4.4	Trigonometric Functions of Any Angle	3
Trig Function Chart Quiz		10
Homework 4.5	Graphs of Sine and Cosine Functions	3
FRQ #9		9
FRQ #10		9
FRQ #11		9
FRQ #12		9
Notebook Check		10
<b>Marking Period 3 Project</b>		30

**Total Points Possible for Marking Period 3:      322**

### Marking Period 4

Assignments for MP 4	Topic	Points
Trig Graph Quiz		10
Homework 4.6	Graphs of Other Trigonometric Functions	3
Homework 4.7	Inverse Trigonometric Functions	3
<b>Chapter 4 Test</b>		50
Homework 5.1	Using Fundamental Identities	3
Homework 5.2	Verifying Trigonometric Identities	3
Quiz 5.2		10
Homework 5.3	Solving Trigonometric Equations	3
Homework 6.1 & 6.2	Law of Sines & Law of Cosines	3
<b>Chapter 5 &amp; 6 Test</b>		50
Homework 11.1	Introduction to Limits	3
Quiz 11.1		10
Homework 11.2	Techniques for Evaluating Limits	3
Graph Quiz		3
<b>Chapter 11 Test</b>		50
FRQ #13		9
FRQ #14		9
FRQ #15		9
FRQ #16		9
Notebook Check		10
<b>Marking Period 4 Project</b>		30

**Total Points Possible for Marking Period 4:      283**