Precalculus

Course Overview: Precalculus

This course is considered to be a prerequisite for success in calculus and college mathematics. Algebraic, graphical, numerical, and verbal analyses are incorporated during investigation of the Precalculus content standards. Content for this course includes an expanded study of polynomial and rational functions, conic sections, trigonometric functions, and logarithmic and exponential functions.

Units and Activities: What will we be learning about and doing in this course?

1. A thorough understanding of inverses of functions solved algebraically and graphically.
2. Exponential functions, logarithmic functions, properties of logarithms, solving exponential and logarithmic equations.
3. Power and radical functions, polynomial functions, remainder and factor theorems, zeros of polynomial functions, rational functions and exploring asymptotes.
4. Right triangle trigonometry, degrees and radians, trigonometric functions on the unit circle, graphing sine, cosine, and tangent functions, law of sines and cosines.
5. Trigonometric identities, verifying trig identities, solving trig equations, sum and difference identities.
6. Analyzing graphs of functions and relations, continuity, end behavior, limits, extrema and average rates of change.
7. Parabolas, ellipses, circles, hyperbolas, and parametric equations.

Standards: What knowledge and skills will I gain by the end of this course?

This course will assess the knowledge and skills students build in key Anchor Standards and Content Standards.

Anchor Standards: This course will assess the knowledge and skills students build in key Anchor Standards. A student will have multiple opportunities to show their proficiency in each Anchor Standard. Below, each Anchor Standard for this course is named and described.

Sense Making, the ability to adjust to a problem that is given and determine the correct skills to apply to solve the presented problem.
Reasoning, the ability to use mathematical reasoning to prove or explain why something is correct or incorrect.
Modeling, the ability to show understanding of a given topic in a number of different models.
Making Use of Structure, the ability to see and use the underlying structure of concepts.
Recognizing and Using Patterns, the ability to determine patterns of functions to develop a strategy to solve a number of problems.
Course Standards: This course builds student knowledge and skill using the mathematical standards. The course standards for Precalculus are: [http://www.corestandards.org/Math/](http://www.corestandards.org/Math/)

Algebra
Functions
Number and Quantities
Statistics
Probability and Statistics

Assessment of Learning: See Family Handbook

Communication:

How Do I Access Work from Home, and What Should I Expect?
- All work will be posted in Google Classroom.
- The work will be explained during our in-person meetings and/or by video posted to Google Classroom.
- The work will also be explained in our Class Planner posted to Google Classroom.
- If you have any questions, email your teacher.

How Do I Know What My Grades Are?
- On Summative Assessments, teachers will provide both a 4-point grade and a letter grade.
- You can monitor your progress in the following ways:
  - By reading feedback and scoring returned to students on summative assessments.
  - By monitoring the scores and Overall Course Mastery Grade in the Parent/Student portal on JumpRope. Reminders to check grades will be sent from the school.
  - Communicating with your teacher if you are unclear.

Where Can I Find This Syllabus during the School Year?
- This syllabus will be available on the school website in each subject’s department tab once the school year is up and running. It will also be available in our Google Classroom.

How Do I See What’s Due?
- Assignment and summative assessment due dates with handouts are posted in Google Classroom, with connection to Google Calendar, for student access.

How Do I See What’s Past Due?
- If a student is missing a grade on an assessment, it will be listed in the red “Missing Assessment” section of the JumpRope Parent/Student Portal along with any attachments. Please contact your teacher if you have any questions.

Materials:

Three Ring Binder (1.5-2”)
Writing Utensil
Growth Mindset
Schoolwide Procedures:

Please see the Student Handbook for Procedures and Policies related to: Due dates and deadlines, extra credit, retaking assessments, and turnaround time for grade entry.

Personal Mobile Devices: This class will follow the procedures outlined in the student handbook.