Pre-Calculus

Syllabus 2018-2019

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Course Description:

Pre-Calculus weaves together previous study of algebra, geometry, and mathematical functions into a preparatory course for Calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Throughout the course, Common Core standards are taught and reinforced as the student learns how to apply the concepts successfully. Topics include fundamental concepts of Algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, systems of equations and inequalities, matrices, conic sections, and an introduction to Calculus.

During the year students will work collaboratively with others as they use problem solving strategies, complete investigations, perform critical analysis and justify their thinking effectively. The course is balanced between procedural fluency (algorithms and basic skills), deep conceptual understanding, strategic competence (problem solving), and adaptive reasoning (application and extension).

Mathematical Practices:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Course Learning Objectives:

1. Demonstrate understanding of functions, and their properties using appropriate mathematical notation.

2.  Perform high level graph analysis.

3. Be able to identify and graph standard function types including: polynomial, rational, square root, cube root, exponential, logarithmic and trigonometric.

4. Be able to model and solve real world problems by applying properties of the appropriate function type.

5. Demonstrate logical thinking skills by justifying solutions and interpreting problem  statements.

Grading:

Student’s grade for this class will be based on unit assessments. Each unit will cover a number of Common Core Standards. A score from 0-4 can be earned for each standard on that unit’s assessment. Standards will be assessed multiple times throughout the semester.

The ***most recent*** grade for each standard will be the recorded grade (lower or higher).

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| **Scale** | **Description** |
| 4 | Fully accomplishes the purpose of the task. Student work shows full grasp and use of the central mathematical idea(s). Recorded work communicates thinking clearly using some combination of written, symbolic, or visual means. |
| 3 | Substantially accomplishes the purpose of the task. Student work shows essential grasp of the central mathematical idea(s). Recorded work in large part communicates the thinking. |
| 2 | Partially accomplishes the purpose of the task. Student work shows partial but limited grasp of the central mathematical idea(s). Recorded work may be incomplete, somewhat misdirected, or not clearly presented. |
| 1 | Makes little or no progress toward accomplishing the task. Shows little or no grasp of the central mathematical idea(s). Recorded work is barely (if at all) comprehensible. |
| 0 | Makes no effort. |

Policy for Formative Assignments

The purpose of Formative Assignments is to learn, practice and prepare you to demonstrate your understanding of mathematical content and practices. Due to the importance of formative work, *all students are expected to complete these assignments.*

\*\***If a student fails to complete the formative work within a unit, they will not be allowed to complete a retake for any standard within that unit.**\*\*

Electronic Devices

I want you to be focused on Pre-Calculus while you are in my classroom. Using your cell phone or other electronic devices while in class interferes with your ability to be focused.

Any electronic device seen during class will be confiscated and turned into the main office at the end of the day for parent pick up (unless specified to be used in class for math purposes).

Attendance:

Students are expected to be present and on-time. Attendance is a critical component to success in this course. If you must be absent, **YOU** are responsible to obtain the information you missed.

Participation:

Class participation is another key component. Be present in the classroom. Working with your team, working on the assigned problems, paying attention to lectures or presentations, etc.

Really, Really Important Stuff:

I am here teaching because I want you to succeed. If you are having trouble or feeling overwhelmed by this class, come and see me. Do not wait until the last minute to discuss your concerns or get help.

**Policies and Procedures Contract** – **Due Tuesday, September 4, 2018**

**Student Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Hour:** \_\_\_\_\_\_\_

Student Email:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Parent/guardian Name:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/guardian Phone: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent/guardian Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please review the class overview then sign below stating that you have read and understand the policies and procedures.

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Parent/guardian Signature Date

Questions, Comments or Concerns: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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