Pre Calculus Syllabus

Course Title: Pre Calculus

Teacher's Name: Mr. Crodelle

Textbook: **_Advanced Mathematical Concepts: Pre-Calculus with Applications_**

Objective: This course builds the students' knowledge of algebra and problem-solving topics. This course will prepare students to take calculus or a related mathematics course in college. Topics include: Polynomial and Quadratic Expression, Equations, and Functions, A Synthesis of Modeling with Equations and Functions**.** SAT Preparation will be done.

Necessary Materials: Each student needs to bring to class pens/pencils, a 3 subject notebook **dedicated just for Math**, and a graphing calculator every day. Each student will be **required** to purchase a **TI 84 graphing calculator**. Graph paper will be needed at some point during the year.

Homework Assignments: Homework will be assigned each night. The student's name and the assignment should be visible at the top of the page. Homework is to be done neatly. Homework will be checked each day. To be a successful student in this class it is extremely important that homework is done nightly. **Late homework will not be accepted.** If a student is absent they can check the class web site for the assignment. Homework can be turned in when they return.

Textbook: Students will have online access to the textbook and workbook. Students will be given login information to gain online access to the textbook. Students will also have access to the pages in the workbook by going to my class website and clicking on the link provided.

Calculation of Grade:
45% - Tests
35% - Quizzes
15% - Homework
5% - Participation/Preparedness

Testing: Exams are cumulative and given on a regular basis. Testing includes all exams, quizzes, and pop-quizzes. If a student misses an exam, it is his/her responsibility to see me regarding a time and place to schedule a makeup exam. Since every student is required to have a calculator, sharing a calculator during an exam is not permitted. Similarly, students are responsible to have their calculators with them on testing days, no excuses! If a student does not have a calculator on a test day then the student will have to take the exam without a calculator.

(OVER)

Classroom Policies:
Every student is expected to come to class on time. After 3 lates a student will serve detention with the teacher.
Each student is expected to come to class prepared to work with the necessary materials each day.
Every student will receive a progress report midway through each quarter.
Extra help will be given before or after school. A schedule will be set up that is agreeable to both the student and teacher.

Conduct: Students are expected to respect each other, the teacher and the classroom. Students are expected to be in their assigned seats when the bell rings. Once seated, the student is expected to begin the work on the board.

Attendance: Attendance is very important in order for students to fully learn the material. In the case of an absence, it is the **student's responsibility** to obtain any missed class notes and homework from a classmate, the class web site or myself. It would be helpful if the student exchanged phone numbers with someone in class.

Classroom Website: I have set up a website for the class. The web address for this website is https://josephcrodelle.wixsite.com/stjohnsmath. It will contain homework assignments, resources and important documents. It is updated on a daily basis.

Home Logic: Information will be sent home regarding the use of the online grading system. Home Logic will be updated on a weekly basis. I would ask that you give me a week to grade any tests or quizzes. It is extremely important that you check home logic on a weekly basis. If you have any concerns they can be addressed right away. If you have any concerns regarding the system or are having trouble please do not hesitate to ask.

Contact:
I will be using the student's school email account to communicate with them. I am asking for a parent email address so that I can contact you by email as well. I would like to have the opportunity to use email as well as the telephone. Please print your email address on the next page and check whether you check your email regularly. **Please Note**: if you have the letter O in your email address write it as an O if you have a zero in your email address put a diagonal line through the zero. If you have the letter L in your email please write if like L and if you have the number 1 in your email please write it like 1.
To contact me during the day, call (718) 721 – 7200 and leave a message. I will return it as soon as possible. You can also e-mail me at jcrodelle@stjohnsprepschool.org if that is more convenient. I look forward to working with you and your child this year. I know it will be a successful year!

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Pre-Calculus Syllabus
2019-2020 prepared by Joseph Crodelle

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TEXT: *Advanced Mathematical Concepts: Pre-Calculus with Applications*

I. <u>Polynomial and Rational Functions</u> – *Chapter 4*
Section 2· Quadratic equations and inequalities
Section 3· The Remainder and Factor Theorems
Section 4· The Rational Root Theorem
Section 5· Zeros of a function
Section 6· Rational equations and partial fractions

II. <u>Trigonometric Functions</u> – *Chapters 5 & 7*
Section 5-4· Trigonometric functions
Section 5-5· Law of Sines
Section 5-6· Law of Cosines
Section 7-1· Basic Trigonometric Identities
Section 7-2· Verifying Trigonometric Identities
Section 7-3· Sum and Difference Identities
Section 7-4· Double-Angle and Half-Angle Identities

III. <u>Conics</u> – *Chapter 10*
Section 1· The Circle
Section 2· The Parabola
Section 3· The Ellipse
Section 4· The Hyperbola
Section 5· Identify conics by equations
Section 7· Systems of 2nd degree equations and inequalities
Section 8 Tangents and Normals to the conics

IV. <u>Exponential and Logarithmic Functions</u> – *Chapter 11*
Section 11-1· Rational Exponents
Section 11-4· Logarithmic Function
Section 11-5· Common Logs
Section 11-6· Exponential and Logarithmic equations
Section 11-7· Natural Logs
Section 11-3· The number e

Second Semester

V. <u>Matrices</u> - *Chapter 6*
Section 2· Addition, Subtraction, Scalar multiplication, Matrix multiplication
Section 3· Determinants and Multiplicative Inverses

Section 4· Solving system of equations by using matrices
         Row operation
         Cramer's Rule
Section 5· Solving system of inequalities
Section 6· Linear Programming

VI. <u>Sequences and Series</u> – *Chapter 12*
Section 1· Arithmetic Sequences and Series
Section 2· Geometric Sequences and Series
Section 3· Infinite Sequences and Series
Section 5· Sigma Notation and the nth term
Section 6· The Binomial Theorem and Pascal's Triangle

VII. <u>Introduction to Calculus</u> – *Chapter 3 & 17*
Section 17-1· Limits
Section 3-8· Continuous Functions
Section 3-8· Types of Discontinuity
Section 3-8· End Behavior
Section 3-6· Tangent to a curve
Section 17-2· Derivatives and Differentiation
Section 3-7· Critical Points