PreCalculus Syllabus
2019-2020 School Year

Room: S-244
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Office Location: S-154-5
Office Hours: Upon Request and Tutorial
Course website: **www.mathisart11235.com/precalculus**

COURSE MATERIALS
Text: Precalculus: Concepts Through Functions. Sullivan and Sullivan.
Other Required Materials: Notebook exclusively for math to complete homework and insert notes from class (preferably with graphing paper), pencil, graphing calculator (TI-83 or above). We do have some graphing calculators to be used in class, and there are other ways to get a calculator for home use from the library.

Course Description:
Explores relations and functions graphically, numerically, symbolically, and verbally. Examines exponential, logarithmic, polynomial, and rational functions. Investigates applications from a variety of perspectives. Course explores trigonometric functions algebraically, numerically, symbolically, and graphically. Content will be explored with and without the use of a graphing calculator.

Students will be assessed on topics that are covered in the Math 111 and Math 112 course content and outcomes guidelines listed on the PCC website. They include functions, exponential functions and equations, logarithmic functions and equations, polynomial functions, rational functions, periodic functions, right triangle trigonometry, transformations of trigonometric functions, trigonometric equations, trigonometric expressions/identities, oblique triangle trigonometry, polar coordinates, vectors, and parametric equations.

High School Course Prerequisites: successful completion of Advanced Algebra 3-4.

Course Topics

Semester 1:	Semester 2:
1. Functions	1. Trigonometric Functions
2. Exponential Functions and Equations	2. Analytic Trigonometry
3. Logarithmic Functions and Equations	3. Applications of Trigonometric Functions
4. Polynomial Functions	4. Polar Coordinates and Vectors
5. Rational Functions	5. Analytic Geometry

Course Grading:

Individual Tests	**60% of overall grade**
Team Tests or Take Home Tests	**10% of overall grade**
Homework	**4% of overall grade**
Daily Quizzes (open notes)	**1% of overall grade**
Final Exam	**25% of overall grade**

General Notes on Course: *This is an advanced math class and will be handled as such. Students are expected to have the level of background knowledge in mathematics consistent with that of their previous math courses. Previous success in math class do not always result in success in PreCalculus.*

My website, www.mathisart11235.com is extremely useful for getting updates as we progress through the course. It will ultimately be more accurate and provide more resources than the calendar outline below.

A DRAFT of the first semester is provided below. It is a DRAFT and dates are subject to change.

Lesson #	Chapter 1 -- Functions and Graphs
PC 1-0	Function Notation
PC 1-1	Function Domain Algebraically
PC 1-2	Information from graphs and functions
PC 1-3	Increasing/Decreasing Intervals
PC 1-4	Even/Odd Functions
PC 1-5	Concave Up/Down Intervals
9/17 (A-Day) **9/18 (B-Day)**	**Test 1**
PC 1-6	Piecewise Functions
PC 1-7	Family of Functions - Transformations
PC 1-8	Transformations Part 2
PC 1-9	Rate of change/Secant Lines
10/1 (A-Day) **10/2 (B-Day)**	**Test 2**
	Chapter 3 – Polynomial, Power and Rational Functions
PC 3-1	Polynomial degree, graph, and real zeros
PC 3-2	Roots to Standard Form
PC 3-3	Complex Zeros of Polynomials, Conjugate Pairs Theorem
PC 3-4	Descartes Rule of Signs and the Rational Zeros Theorem
PC 3-5	Domain of Rational Functions
PC 3-6	Vertical, Horizontal, and Oblique Asymptotes of Rational Functions
PC 3-7	Graphs of Rational Functions
PC 3-8	Graphs of Rational Functions
10/31 (A-Day) **11/4 (B-Day)**	**Test 3**
	Chapter 4 - Exponential and Logarithmic Functions
PC 4-1	Composite Functions
PC 4-2	One-to-One functions and Inverse Functions
PC 4-3	Exponential function Intro
PC 4-4	Circle of Logs and Logarithm intro
PC 4-5	Solving exponential and logarithmic equations
PC 4-6	Exponential and Logarithmic Applications
12/3 (A-Day) **12/4 (B-Day)**	**Test 4**
12/17 and 12/19 (A-Day) **12/18 and 12/20 (B-Day)**	**FINAL EXAM – Semester 1** **(Cumulative)**

Students will attempt to complete their first semester grade prior to winter break. Although the Final Exam for semester 1 will be given before winter break, you will still have graded 1st semester work after winter break until the official semester's end.

Some lessons will take multiple days. Additionally I will adjust the schedule based on class need. A review day or group test will happen before an individual test.

Communication: I make every attempt to work with students who may have a special circumstance for which I have not foreseen and created policy within this syllabus. The policies you see here are a guideline and should be discussed with me if it ends up applying to you. If there are barriers that are preventing your success in this course, I want to know about them so I can help you navigate towards successful completion of this course.

Community: One of the best resources you can use in this class is each other. Students should study together and look to work together in class. Although I will facilitate example opportunities, I encourage you to work on study groups on your own. The Remind App can be a great resource as well – please contact me when you need something.

Prep for Tests:
Preparation for tests will include either a review or a group test. Group tests and reviews are the class activity during the class period prior to the individual test, but are *not necessarily* enough to prepare for the individual test. Students should be working on examining previous homework, daily quizzes, and class work problems to identify the material and grading practices used for the upcoming individual test.

Cell Phone Policy:
In order to be consistent with Franklin High School's cell phone policy, I will be adopting the same. Essentially, there will be no cell phone usage for students at any time during class, unless I explicitly instruct students to use them. Students may ask for permission to use a cell phone for instructional purposes only.

Testing Guidelines:
-During testing, students may not use a cell phone for any reason, speak or communicate with other students, or use notes on tests. Students must complete the test once they start it – there are no breaks for any reason.
-Bathrooms must be used before the start of the test.
-At times the use of any calculator will be prohibited. This distinction will be made clear for each test during the class period prior to the individual test (often earlier).
-Although multiple versions of tests are made, students should expect to keep their results private. Absolutely no pictures or copying of tests is allowed before, during, or after a test.
-There are no notes on tests. I will request that all items be removed from your desk and put in a backpack when testing starts.

Homework: Homework will be checked daily for completion. Stamps will be given to track their completion and used to grade their notebooks at the conclusion of each unit. Students who do not successfully attempt each problem or pose a very specific question regarding a problem that isn't completed will not be considered as completing homework. It is very important that students make every attempt to schedule homework time each night so they do not fall behind.

Test Re-takes: Students will not be permitted to re-take tests (group, individual, or final exam).

Individual Test Revisions: This policy only applies to individual tests. This does not apply to the final exam or group tests. Students will be provided 15 minutes to revise their individual test during the class period following the individual test. Students may correct their work for full credit during this time. Students may not use notes during this time either. This 15 minute revision session should be viewed as a testing session in terms of the guidelines set forth above.

Other Testing Information: A lot of work has been put into creating assessments that are fair and reliable. Multiple versions are used, and different versions have been created for anyone making up tests. Comprehension of concepts is imperative for success on these tests. If you miss class (excused) you must take the test within a week of returning to class. If you miss class (unexcused) you are not permitted to take the test and will receive a 0.

Quiz Re-Takes: Daily quizzes are designed specifically to help students understand what is expected of them, as well as assess their understanding of new concepts initially. It is expected that students have not yet mastered this material yet, but should be able to make progress toward understanding within a given class period. It is for this reason, as well as the fact that quizzes make up 1% of the grade, that there will be no quiz re-takes. We will review the quizzes once they are graded in order to clarify any questions students have.

Classroom Rules: These will be discussed in class and be brief. Due to sharing classrooms, we will need to be mindful of our neighbors. Remember the 'N' in Franklin STRONG is for Neighborly!