

PreCalculus Syllabus

2018-2019 School Year

Room: S-026 and S-028

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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: Graphing and Data Analysis. Sullivan and Sullivan III (Purple book)

Other Required Materials: notebook exclusively for math, 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:

1. Functions
2. Exponential Functions and Equations
3. Logarithmic Functions and Equations
4. Polynomial Functions
5. Rational Functions

Semester 2:

1. Trigonometric Functions
2. Analytic Trigonometry
3. Applications of Trigonometric Functions
4. Polar Coordinates and Vectors
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	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.

Unit 1 -- Functions and Graphs	
1.0	Function Notation
1.1	Function Domain Algebraically
1.2	Domain/Range Graphically, Piecewise Functions
1.3	Intervals and Notation guidelines
1.4	Even/Odd Functions
9/14 (A-Day) 9/17 (B-Day)	Test 1
1.5	The Difference Quotient
1.6	Family of Functions - Transformations
1.7	Transformations Part 2
1.8	Compositions of Functions
1.9	Inverse Functions
10/8 (A-Day) 10/9 (B-Day)	Test 2
Unit 2 – Polynomial, Power and Rational Functions	
2.1 and 2.3	Polynomial Functions
2.4	Analyzing Polynomial Functions
2.5	Complex Zeros
2.6	Analyzing Rational Functions
2.7	Solving Rational Equations
11/6 (A-Day) 11/7 (B-Day)	Test 3
Unit 3 - Exponential and Logarithmic Functions	
3.1	Exponential Functions
3.2	Exponential Modeling
3.3	Logarithmic Functions and Their Graphs
3.4	Properties of Log Functions
3.5	Solving Exponential and Log Equations
3.6	Exponential and Logarithmic Applications
11/30 (A-Day) 12/3 (B-Day)	Test 4
12/10 and 12/12 (A-Day) 12/11 and 12/14 (B-Day)	FINAL EXAM – Semester 1

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.

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.

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.

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 may only re-take individual and group tests one time. This new score will be averaged with your original grade. Students must arrange a time to re-take the test prior to the next unit's test date (re-take tests in a timely manner). Retakes on tests **will not** be granted for students who have skipped class or missed school due to an unexcused absence. In this case, the grade will be a 0.

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.

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!