

Ocean View Christian Academy

Honors Precalculus MA1100

Teacher: Mr. Williams

Room: 201

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Textbook: *Precalculus with Limits*, Larson, 3rd Edition

I. Basic Course Information

OVCA Course Philosophy

Mathematics is critical to teaching students the processes of logical and critical thinking and to guiding them towards literacy and understanding of the world around them. It is a gift from God intended to be used by man as part of his dominion over the Earth charged to him by God to make informed decisions about the world around him.

Course Description

Precalculus is a two-semester course designed for students who want to be better prepared for college calculus or AP courses while still in high school so that they may start in higher level courses upon entering college. The topics are specifically chosen to prepare the student for college calculus or AP courses in terms of both their algebra and geometry skills and their understanding of the underlying concepts.

Course Goal

The goal of this course is to enrich student's mathematical abilities past the point of memorizing formulas and develop them into mathematically literate citizens who can take an underlying concept and apply it to the correct situation. Students who complete this course should be prepared to take AP Calculus at OVCA the following school year or have success in their first year college calculus course.

Course Materials

- Mechanical pencils (please, no pens)
- Binder reserved for precalculus
- TI 84, TI 84+ or TI 89 Titanium graphing calculator (not optional)

II. Tentative Course Outline

Course Overview

Unit Name	Topics
Functions and Their Graphs	Rectangular coordinates, graphing equations, linear equations of two variables, parent functions, composite functions, inverse functions, mathematical modeling, polynomial and rational functions, quadratic functions, synthetic division, complex numbers, nonlinear equalities, exponential and logarithmic functions
Trigonometry	Radian and degree measurements, unit circle, trigonometric functions, inverse trigonometric functions, graphing periodic functions, trigonometric identities, solving trigonometric equations, sum and difference formulas, multiple-angle and product-to-sum formulas, law of sines, law of cosines, vectors, dot products, complex numbers
Systems of Equations	Linear and nonlinear systems, two-variable linear systems, multivariable linear systems, partial fractions, systems of inequalities, linear programming, matrix algebra
Sequence, Series and Probability	Arithmetic sequences, partial sums, geometric sequences and series, mathematical induction, Binomial Theorem, probability
Analytic Geometry	Lines, parabolas, ellipses, hyperbolas, rotation of conics, parametric equations, polar coordinates, graphs of polar equations
Limits and Introductions to Calculus	Limits, evaluating limits at a point, the tangent line problem, evaluating limits at infinity, the area problem

III. Course Policies

Guided Notes and Homework

We will use guided notes and homework packets to maximize the amount of class time spent practicing math skills. Your student will receive a packet with fill-in-the-blank notes and homework for the entire unit at the beginning of each unit. This minimizes the time the students spend copying information, the time I spend passing out papers, and helps boost organization so students can develop a clear picture of the curriculum and connect lessons throughout the school year.

Extra Credit

Opportunities for extra credit will be limited to questions on quizzes and tests that reflect an understanding above and beyond the expectation of the course. However, I may offer optional assignments or challenges throughout the year that students may complete to earn *extra homework grades* to bolster their grade. Additional work/tasks will not be assigned to students seeking extra credit to improve their grade.

Late Work

- The penalty for late assignments is 10% per day for up to five days. After the fifth day, the student will receive a zero.
- If a student misses a quiz or test, it is assumed that they will complete it after school on their first day back unless they communicate otherwise. Lack of communication will result in a deduction of 10% per day up to five days. After the fifth day, the student will receive a zero.
- The penalty for other assignments such as long-term projects, papers, lab write-ups, etc. is 10% per day for up to five days. After the fifth day, the student will receive a zero.

Help Sessions

Help sessions will be available **Monday, Tuesday and Thursday from 2:45 PM – 3:30 PM** or by appointment. I am always happy to help by appointment!

Academic Dishonesty

Any student caught committing or facilitating academic dishonesty will receive no credit for the assignment and be referred to the office staff to discuss further consequences. Refer to your parent/student handbook for further details.

Classroom Guidelines

1. Be **ready** in your seat when the bell rings.
2. Be **respectful** of others, their property, and opportunity.
3. Be **responsible** for your own learning.

Consequences for not following the guidelines are listed below and will be carried out in a manner that seems fit depending on the severity of the offense.

- Verbal warning
- After class discussion
- Parent intervention
- Drop in effort/conduct grade
- Office intervention

Dropping This Class

OVCA policy states that a class may only be dropped at the semester; there is no two week window to test a class to see if it is a good fit for you.

Communication

Students are welcome to communicate by stopping by my classroom or via email. I will not respond to emails from students after 6:00 PM or over the weekends.

Parents desiring a personal conference should communicate with me first via email. I will not hold drop-in meetings concerning a student's academic performance.

Final Comments

Please see the parents/student handbook for any questions not addressed in the syllabus. I have refrained from including OVCA school guidelines and procedures in this syllabus to conserve the school's resources.

On the next page is a contract of agreement. Please sign the agreement, students and parents, and return it by Wednesday, August 26, 2020. It is a homework grade.

If all of the information above seems scary; fear not, you are in good hands. I promise to provide any and all resources that I have at my disposal in order to help you reach your goals.



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Contract of Agreement

Student

I have read the class syllabus and understand the classroom guidelines and policies as outlined. I agree to abide by the expectations and will commit myself to submitting quality work this school year.

Name (print): _____

Signature: _____

Date: _____

Parent

I have discussed the syllabus with my student. I understand the syllabus, support it, and will make every effort to ensure my student's academic success as outlined in the syllabus.

Name (print): _____

Signature: _____

Date: _____