**Honors Precalculus Syllabus 2024-2025**

**Teacher Name and contact info:**

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Planning: 2nd period, 10:05am-11:35am

**Course Name:** Honors Precalculus

**Course Description**: Precalculus is a fourth-year math option for students who have completed Advanced Algebra (or the equivalent). The course provides students with the opportunity to develop a deeper understanding of concepts in Algebra that are critical to the study of Calculus as well as an understanding of trigonometry and its applications. Throughout the course there is a focus on notational fluency and the use of multiple representations. The course includes the study and analysis of piecewise and rational functions; limits and continuity as related to piecewise and rational functions; sequences and series with the incorporation of convergence and divergence; conic sections as implicitly defined curves; the six trigonometric functions and their inverses; applications of trigonometry such as modeling periodic phenomena, modeling with vectors and parametric equations, solving oblique triangles in contextual situations, graphing in the Polar Plane; solutions of trigonometric equations in a variety of contexts; and the manipulation and application of trigonometric identities. Topics will be analyzed in multiple ways, to include verbal and written, numerical, algebraic, and graphical presentations. Instruction and assessment will include the appropriate use of technology. Concepts will be introduced and investigated, where appropriate, in the context of realistic phenomena. The identified Prerequisite for this course is Advanced Algebra: Concepts & Connections.

**Standards:**

Display perseverance and patience in problem-solving. Demonstrate skills and strategies needed to succeed in mathematics, including critical thinking, reasoning, and effective collaboration and expression. Seek help and apply feedback. Set and monitor goals.

Apply mathematics to real-life situations; model real-life phenomena using mathematics.

Analyze the behaviors of rational and piecewise functions to model contextual mathematical problems.

Utilize trigonometric expressions to solve problems and model periodic phenomena with trigonometric functions.

Manipulate, prove, and apply trigonometric identities and equations to solve contextual mathematical problems.

Analyze the behaviors of conic sections and polar equations to model contextual mathematical problems.

Represent and model vector quantities to solve problems in contextual situations.

Demonstrate how sequences and series apply to mathematical models in real-life situations.

**Schedule of units to be covered:**

Unit 1-Modeling with Rational and Piecewise-Defined Functions

Unit 2-Modeling with Trigonometric Expressions and Functions

Unit 3- Applying Trigonometric Identities and Equations

Unit 4- Modeling Conic Sections and Polar Equations

Unit 5- Modeling with Vector Quantities

Unit 6- Modeling with Sequences and Series

Unit 7-Culminating Capstone Unit

A full list of the standards can be found at [georgiastandards.org](https://www.georgiastandards.org/Georgia-Standards/Pages/Math-9-12.aspx)

**Textbook/ebook and online homework:**

Textbook: Precalculus with Limits, 6th edition, Larson, Brooks/Cole, Cengage Learning (cost $122.00) Fines will be assessed for damages other than normal wear and tear. Students may opt out of receiving a textbook since an ebook is available.

Digital textbook and homework assignments: Webassign, [www.webassign.net](http://www.webassign.net). Students will be given a code to join the course during class the first week of each semester. Students are expected to have access to a laptop at home or request a laptop from CHS to use for the semester in order to complete daily homework assignments and access the ebook.

**Grading Procedures:**

Instruction will begin each day in our class as soon as the bell sounds. Grades are divided into two pieces: semester average and final exam. The semester average counts 90% and the final exam counts 10%.

The semester average is further divided into Formative and Summative Assignments. See descriptions below.

Formative Assignments are WebAssign assignments/homework and homework quizzes. These will count 40% each of your class grade.

WEBASSIGN ASSIGNMENTS/HOMEWORK: You will use WebAssign for practicing each standard. For each assignment you should use notebook paper to copy the problem, show your work, and get an answer. You will then plug in those answers to WebAssign to check yourself. You will be given several attempts to get the correct answer in WebAssign. I will check the written homework daily for completion. You will receive a “plus” for attempting 100% of the assignment. You will receive a “check” for attempting >75% of the assignment. You will receive a “minus” for attempting < 75% of the assignment. Make sure you ask for my assistance for any problems on Webassign that you cannot seem to get a correct answer. It is my intention for you to continue trying to get the correct answer on every problem since the grade from each Webassign assignment will average as part of your Homework Quiz grade.

HOMEWORK QUIZ: Approximately every section or possibly every two sections we will have a Homework Quiz. Your homework quiz will be graded as follows: ~ ½ of points from quiz problems and ½ points from WebAssign average for the material on the quiz. You will receive +2 pts for each “plus” on written homework, +0pts for each “check” on written homework, and -5pts for each “minus” on written homework.

Summative Assignments are also known as Tests. Tests will be administered once or twice during a chapter. All Tests will average and count a total of 60% of the semester average.

Final Exam: A cumulative final will be given at the end of the semester and will count 10% of the final course grade.

 Semester Average: *Formative (HW Quizzes/WebAssign, AP Assignments) 40%*

 *Summative (Tests) 60%*

 (Multiply this total by 90%)

 Semester Average 90%

Final Exam 10%

Final Course Grade 100%

**Math Tutorial Session Schedule:**

You may stay for tutoring with Mrs. Surrett every afternoon from 3:45-5:00 PM in room S207. This is a drop in time, so come if needed.

Math help is also available every FAB Wednesday. Please use it as often as you need or want.

**In Class Expectations/Policies:**

* Students are required to have a graphing calculator. I recommend a TI 84-Plus or higher.
* Students will need at least 1 large composition notebook for notes and assignments.
* If a student is absent, the assignment given on the last day present is due the day he or she returns to class. If a student is absent on a test day, the student must make arrangements with the teacher to take the test after school the day following their return to class. It is the ***student’s responsibility*** to promptly check with the teacher regarding make-up work from an absence.
* The CHS Code of Conduct and the CHS attendance policy will be followed in this course.
* All rules as outlined in the CHS Student Handbook will be enforced. Both student and teacher will be on time for class and all 90 minutes will be used for instructional purposes. Students will be attentive during instruction and office announcements.

**Digital Expectations:**

* Log in and complete WebAssign every night for homework.
* On notebook paper, write *every* problem and show the work along with the answer for each problem on the assignment.
* Use the Canes Code and the Mathematics Honor Code when completing digital assignments. This means you should be working independently.
* Maintain a positive attitude.
* Always follow the District and School policies for using technology.

**Discipline Plan:**

The following discipline plan will be used in the event of a classroom disruption:

 1st infraction: Warning and re-assign seat (if appropriate).

 2nd infraction: Phone call home to a parent.

 3rd infraction: Assign 1-day after-school detention (30 minutes).

 4th infraction: Office referral.

 (Fighting and extreme disrespect will be automatic office referrals.)