Hillcrest High School
Course: Honors Pre-Calculus
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Course Description: Precalculus serves as a study of piecewise, rational, radical, exponential, logarithmic, and trigonometric functions. Furthermore, the course addresses the study of polar coordinates, conic sections, vectors, and matrices. Mathematical modeling for solving real-world situations and the use of technological tools such as computer algebra systems and spreadsheets are standard instructional practices for addressing the standards. The Honors course is designed specifically to prepare students for college level mathematics courses.

Instructional Philosophy: I believe students learn best when they are actively engaged with rigorous and relevant lessons that allow them to investigate and discover ideas, struggle with challenges, and experience the rewards of perseverance. Technology is also integrated throughout the course to promote 21st Century thinking and learning to help students solve real-life complex problems. Emphasis is placed on active participation through modeling, technology activities, group activities, videos, modeling, communication in mathematics, and more. Students are expected to use technology, including graphing calculators, VR headsets, and chromebooks throughout the course.

Course Goals: This course will intensely develop perseverance, abstract reasoning, appropriate mathematical communication and analysis, precision, problem solving skills and critical thinking skills necessary to advance to Dual Credit or AP mathematics courses.

Learning Objectives
1. Make sense of problems and persevere in solving them strategically.
2. Explain ideas using precise and contextually appropriate mathematical language, tools, and models.
3. Demonstrate a deep and flexible conceptual understanding of mathematical ideas, operations, and relationships while making real-world connections.
4. Use critical thinking skills to reason both abstractly and quantitatively.
5. Identify and apply regularity in repeated reasoning to make generalizations.

Pacing Guide: This Honors course will move quickly in order to address all standards in depth.

Unit	Topic	Days	Dates
1	Functions	11	08/11-08/26
2	Rationals	10	08/27-09/10
3	Radicals	7	09/11-09/19
4	Logarithms and Exponentials	9	09/22-10/2
5	Matrices and Systems of Equations	7	10/3-10/14
6	Triangles	6	10/15-10/23
7	Unit Circle	7	10/24-11/3
8	Graphing Trigonometric Functions	7	11/4-11/12
9	Trigonometric identities	9	11/13-11/25
10	Conic Sections	7	12/1-12/9
11	Vectors, Polar and Complex Numbers	5	12/10-12/16
12	Underclass Exams December 14-19		

<u>Major Assignments and Projects:</u> There will be at least one test per unit. There will be several projects during the year.
<u>Assessment and Grading Policy:</u> 60% - Major Assessments   30% - Minor Assessments/Classwork 10% Homework

<u>Textbook:</u> Larson, R. <u>Precalculus with Limits: 5e</u>. Belmont, CA: Brooks/Cole Cengage Learning, 2022.

<u>Classroom Expectations and Consequences:</u> Be on time. Come prepared. Be respectful. All rules and expectations described in the student handbook also apply. More serious offenses will be addressed appropriately.

     1st Offense: Talk with the student   2nd Offense: Parent phone call   3rd Offense: Detention 4th Offense: Referral

<u>Homework Policy:</u> Homework will usually be graded on completion and effort. If you make a legitimate effort to do your homework, even if the answers are not all right, you should receive a 100. You should at least attempt each problem. If you have no idea how to do a problem, you should copy the problem and directions that go with it, write specifically what you do not understand and then move on to the next problem. Everyone is capable of having a perfect homework grade. Homework will be assigned on a daily basis.

<u>Late/Make-Up Work:</u> If a student fails to turn in an assignment (major or minor) on time, then 10 points will be deducted from the student's grade each day for up to five school days from the assignment's due date. After the fifth school day, late work will not be accepted. Make-up work can be done within 5 school days of the absence. After that the late work policy goes into effect.

<u>Classroom Management Plan:</u> Hillcrest High School expects every student to do their best, work hard, and treat everyone with dignity and respect. In addition to these general school-wide expectations, I have a few class-specific guidelines. In any case where my rules may differ from the rules outlined in the student behavior code, the behavior code will take precedence.
- Students are expected to be in the classroom when the bell rings. They are to promptly get out their materials for the day and start on the bell-ringer.
- Students are expected to have all materials for class every day.
- Students are expected to be respectful of the teachers and other students

<u>Remediation:</u> Students who do not pass a unit will be able to prove mastery of that unit through their performance on the final exam. Upon successful completion, the final grade will replace the necessary grades from that unit.

<u>Materials Needed:</u>
Graphing calculator (TI-83/TI-84)
three-ring binder
writing utensils
notebook paper

<u>Teaching Schedule:</u>
First: Planning
Second:Algebra 2 CP
Third: Algebra 2 CP
Fourth: Honors Precalculus

<u>*Grade Scale:*</u>

Letter Grade	Percentage
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	0% - 59%

Syllabus is subject to modification at the discretion of the instructor.