Sage Creek High School

Course Syllabus

Pre-Calculus Honors

2026-2027

Course Title	*This Course Satisfies the UC/CSU a-g Requirement:*
Pre-Calculus Honors	"c" Mathematics or "g" elective

Purpose of the Course

Honors level math courses at Sage Creek are geared towards students who intend to pursue a career in science, technology, engineering, or math. This three-trimester course is designed to prepare students for AP Calculus B/C in the fall trimester of the following year. Pre-Calculus H A & B are weighted courses, while Math Analysis is an unweighted math elective despite the fact that it is the equivalent of AP Calculus A. Advanced algebraic and trigonometric functions are taught with an emphasis on conceptual understanding and problem solving with applications.
Prerequisite: "C" or higher in Algebra 2 Honors; "B" or higher in CP Pre-Calculus.

Course Materials

Textbook: Hughes-Hallett, Functions Modeling Change (class set is available; student copy should be kept at home)
For this course, students will need to bring a well-organized notebook with dividers, lined paper, and pencils with erasers. The use of calculators in math courses at SCHS is encouraged, and students must bring both a scientific calculator (TI-30XIIS recommended) and a graphing calculator (TI-84 Plus recommended) to class on a daily basis (available from the library if needed). A clear metric ruler and ¼" graph paper are also recommended. An iPad stylus (Adonit Jot Classic Fine Point recommended) and a Student Planner are optional.

Grading Scale

Percent	Grade	Percent	Grade
97-100%	A+	77-79%	C+
93-96%	A	73-76%	C
90-92%	A-	70-72%	C-
87-89%	B+	67-69%	D+
83-86%	B	63-66%	D
80-82%	B-	60-62%	D-
		0-59%	F

Grades are rounded to the nearest percent at trimester end.

Assignment Values

Classwork/Homework	10%
Quizzes	20%
Tests	50%
Final Exam	20%

- Approximately 45 minutes of homework will be assigned daily and will be graded about once a week for completion, accuracy, and corrections.
- Late homework is not accepted unless due to an absence. Quizzes or tests that are missed due to an absence must be made up outside of class time within twice the number of days as the number of days absent. All quizzes and tests are required to be done in person on a school-issued chromebook.
- Retakes of quizzes or tests are not offered. However, no student will be given a score of less than 30% on any attempted assessment. In addition to being worth 20% of the overall course grade, the final exam can also be used to replace the lowest test score, except for a zero due to academic dishonesty.
- Students who wish to transfer from honors-level to college preparatory math can do so within the first four weeks of the course and will be given a 10% increase in their overall transfer grade.

Communication

- All assignments including relevant links, notes, video lessons, and any worksheets for each lesson and unit will be posted on Google Classroom.
- Grades will be updated on Aeries on a weekly basis.
- Both students and parents should use Gmail to communicate with their teacher from home.

Student Expectations

Build **E**mpower **S**how Spirit **T**railblaze

Together, we are being our Bobcat **B.E.S.T.**

To avoid being marked tardy, students are expected to be in their assigned seat with their materials out by the time the bell rings, and immediately begin correcting their homework with a pen using the solutions that are made available. Students must get a tardy pass if entering the classroom after the bell rings.

High school students may not use cell phones, smart watches, pagers, or other mobile communication devices during instructional time. Mobile communication devices shall be turned off and kept out of sight during instructional time. *Instructional time* is defined as any scheduled class period and any other time during the school day when students are expected to be engaged in a learning activity.

Academic Assistance

To make up work due to an absence, students should refer to the assignment sheet, Google Classroom, or a friend to find out the notes and assignment(s) that were missed. Students will have as many days as they were absent to make up the work. Credentialed teachers are available for tutoring - check the schedule. Please note that all coaches have agreed to allow students to attend tutoring when needed (except for game days).

AI in Math

AI chatbots can be useful when used appropriately in mathematics classes. They offer step by step solutions with explanations and can get you started when you are stuck, BUT you still need to do math to learn math!

Be sure to include directions and your level when asking for solutions

Algebra I level: How do I graph y = 2x + 1

Review the solution and steps you received. There are many ways to solve some problems.

Ask yourself: Have I seen this method in class before?

Do each calculation on your own, practice using your own calculator and making sure the math is correct.

Ask for calculator help too, if needed!

Don't fool yourself! Mark questions that you got help on, that way you know where you need more practice!

More practice? Ask AI to generate practice questions!

Pre-Calculus Honors A Pacing Guide: Topics & Objectives

Unit	# of Days	Chapter / Section	Topics
1	~12	1.1 – 1.6 2.1 – 2.5 +other supplemental material	**Functions and Change** Functions and notation Rate of change and linear functions Fitting linear functions to data Input/output and domain/range Piecewise functions Composite and inverse functions Concavity
2	~8	3.1, 3.2 +other supplemental material	**Quadratic Functions** Solving and graphing quadratics Applications
3	~14	4.1 – 4.5 5.1 – 5.3 +other supplemental material	**Exponential and Logarithmic Functions** Solving and graphing exponentials Exponential vs. linear functions Applications to compound interest The number *e* Properties of logarithms Logarithms and exponential models The logarithmic function
4	~14	11.1 – 11.6 10.1 – 10.3 +other supplemental materials	**Compositions, Inverses, and Combinations of Functions;** **Polynomial and Rational Functions** Power, polynomial, and rational functions Short-run and long-run behaviors Comparing power, exponential, and log functions Composition and combinations of functions Inverse functions
5	~9	13.1 – 13.4 +other supplemental materials	**Sequences and Series** Sequences Arithmetic series Finite and infinite geometric series

Pre-Calculus Honors B Pacing Guide: Topics & Objectives

Unit	# of Days	Chapter / Section	Topics
1	~15	7.2, 7.4-7.6 +other supplemental material	**Intro to Trigonometry** Radian and degree measures Solving right triangles and special right triangles Unit circle Reference angles and co-terminal angles Sine, cosine, and tangent functions Inverse trig functions Non-right triangles Solving trig equations
2	~17	6.1-6.5 7.1, 7.3, 7.4 8.2-8.4 +other supplemental material	**Graphs of the Trigonometric Functions** Periodic functions Graphs of sine, cosine, and tangent Sinusoidal functions and graphs Transformations of graphs (shifting, reflecting, stretching/compressing) Graphs of reciprocal trig functions Graphs of inverse trig functions Inverse trig functions and solving trig equations Trig identities
3	~13	8.3 9.1-9.2 +other supplemental material	**Trigonometric Identities** Identities, expressions, and equations Trig functions and relationships Sum and difference formulas Double-angle and half-angle identities Simplifying, solving, evaluating, and proving trig equations/expressions
4	~8	8.5-8.6 +other supplemental materials	**Polar Coordinates and Parametric Equations** Polar coordinates Complex numbers Parametric equations Implicit vs. explicit equations Circles, ellipses, hyperbolas