

Pre-Calculus Syllabus

Course Description: Precalculus is a rigorous, college-preparatory course that builds upon concepts from Algebra II and Geometry. Aligned with the Texas Essential Knowledge and Skills (TEKS), this course emphasizes the study of advanced functions—including polynomial, rational, exponential, logarithmic, and trigonometric—along with conic sections, sequences and series, vectors, and introductory limits. Students will engage in mathematical modeling, problem-solving, and analytical reasoning to prepare for success in Calculus and other higher-level math courses. Real-world applications are a key component of our instruction.

Topics by Grading Period:

1 st 9-weeks	2 nd 9-weeks	3 rd 9-weeks	4 th 9-weeks
Trigonometric Functions, Graphing Trigonometry Functions & Inverse Trigonometry Functions, and Applications of Trigonometry	Vectors & Parametric Equations, Proving Trigonometric Identities, and Solving Trigonometric Equations	Polynomials, Rationals, Exponentials & Logarithms, and Special Functions	Polar Equations, Conics, Sequences & Series, and Limits

Teaching strategies: Instruction will include a mix of teaching methods to support various learning styles and promote student success. Lessons will combine direct instruction, guided practice, collaborative group work, and class discussions to encourage critical thinking and peer interaction. Visual aids, use of a graphing calculator, hands-on activities, and real-world examples will be used to reinforce key concepts. Students will also work independently to develop problem-solving skills and mathematical confidence.