



**KENOSHA UNIFIED SCHOOL DISTRICT NO. 1
CURRICULUM AND INSTRUCTIONAL SERVICES**

HIGH SCHOOL COURSE SYLLABUS

MATHEMATICS DEPARTMENT

Algebra 2/Trig-Honors (332021 & 332022)

Number of Credits: 1

Prerequisites

Successful completion of algebra (312011 & 312012) and geometry (322021 & 322022)

Course Description

This course is an in-depth study of linear and quadratic equations and inequalities, polynomial functions, radicals, systems of linear and quadratic equations and inequalities, number line graphing, and coordinate plane graphing. There is discussion of the conic sections, analytical geometry, determinants, matrices, complex numbers, and rational expressions. Students learn to use the trigonometric functions and their inverses and apply the law of sines and cosines. This course prepares students for the rigor of Pre-Calculus.

Relevance

This course complements and expands the mathematical content and concepts of Algebra 1 and Geometry. Students who master Algebra 2/Trig will gain experience with algebraic problem solving, reasoning, writing, and trigonometry. They will be prepared for success in Pre-Calculus and in the mathematics necessary for engineering and technology.

Course Standards

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|---------------------------|----------------|-------------------------------|
| A. Mathematical processes | C. Geometry | E. Statistics and probability |
| B. Number relationships | D. Measurement | F. Algebraic relationships |

Most essential benchmarks may be viewed at: www.kusd.edu.

Lifelong Learning Standards

- | | | |
|------------------------|--------------------------|------------------------|
| • Knowledgeable person | • Effective communicator | • Quality producer |
| • Complex thinker | • Self-directed learner | • Contributing citizen |

Lifelong learning benchmarks may be viewed at: www.kusd.edu.

Course Outline

Semester 1:

- Equations and Inequalities: using properties to evaluate and simplify expressions; using problem solving strategies and verbal models; solving linear and absolute value equations and inequalities.
- Linear Equations and Functions: representing relations and functions; graphing linear equations and inequalities in two variables; writing linear equations and inequalities in two variables.
- Linear Systems and Matrices: solving systems of equations using a variety of methods; graphing systems of equations and inequalities; using matrices.

•Quadratic Functions and Factoring: graphing and writing quadratic functions in several forms; solving quadratic equations using a variety of methods; performing operations with square roots and complex numbers.

Semester 2:

•Polynomials and Polynomial Functions: graphing polynomial functions; performing operations with polynomials; solving polynomial equations and finding zeros.

•Rational Exponents and Radical Functions: graphing polynomial functions; performing function operations and finding inverse functions; graphing radical functions and solving radical equations.

•Exponential and Logarithmic Functions: graphing exponential and logarithmic functions; solving exponential and logarithmic equations; writing and applying exponential and power functions.

•Rational Functions: graphing rational functions; performing operations with rational expressions; solving rational equations.

•Quadratic Relations and Conic Sections: writing equations of conic sections; graphing equations of conic sections.

•Trigonometric Ratios and Functions: evaluating trigonometric functions; converting between degree and radian measures; finding coterminal and reference angles; evaluating inverse trigonometric function; applying the Law of Sines and the Law of Cosines.

Board-Approved Instructional Materials

- Larson, Boswell, et al., *Algebra 2*, McDougal Littell, 2007 (ISBN 0-618-59541-1)
- Online Resources: www.classzone.com/math_hs_all.cfm (Choose Algebra 2, 2007)

Parents as Partners

Family involvement is an essential element for a student's success in mathematics. Be positive and support homework, don't do it for them. Think of yourself as a guide rather than your child's teacher. You can help by asking questions and listening. You may also help by visiting the online resources and encouraging your child to take advantage of the tutorials, interactive activities, and other online resources listed above.

Methods of Assessment

Final exams should be cumulative in nature, emphasizing the most essential benchmarks for the course. Results of the final exam represent 20 percent of the final grade, but this single measure *may not* drop a student's grade by more than one letter grade. In courses that rely heavily on a major project, performance exhibition, etc., the project should be divided into stages or components and each of those should be graded separately, providing students with frequent and specific feedback.

Board-Approved Grading Scale

Excerpts taken from School Board Rule 6452

GRADING SCALE

A+=98-100 percent

A=93-97 percent

A-=90-92 percent

B+=86-89 percent

B=83-85 percent

B-=80-82 percent

C+=76-79 percent

C=73-75 percent

C-=70-72 percent

D+=66-69 percent

D=63-65 percent

D-=60-62 percent

F=0-59 percent

MAKE-UP WORK

Students submitting work up to ten school days late without prior approval may receive up to two grades lower on the work than they would have received if the work had been submitted on time (i.e., B+ lowered to a D+). Student work submitted after ten school days without prior approval shall not be accepted for credit and shall be recorded with a score of zero.

Upon returning to school after an absence, a student has the responsibility within the number of days equal to the length of the absence or suspension to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. A truant student has the responsibility on the first day he or she returns to the course/class to meet with the teacher to develop a plan for making up missed work, quizzes, and examinations. Lower grades may not be given for late work due to excused absences, suspension, or truancy unless the work is submitted later than agreed upon deadlines.

See Rule 6452 in its entirety at: www.kusd.edu.