



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

**HIGH SCHOOL COURSE SYLLABUS**

**MATHEMATICS DEPARTMENT**

**Math Analysis (351011 & 351012)**

**Number of Credits: 1**

**Prerequisites**

Successful completion of Geometry (321011 & 321012) or Geometry Honors (322021 & 322022) and Algebra 2 (331011 & 331012) or Algebra 2/Trig (332021 & 332022)

**Course Description**

This course is an extension of Algebra 2 /Trig. Algebra 2 and trigonometry skills and concepts are reinforced and strengthened. The graphing calculator is introduced as an aide in the study of nonlinear functions, such as rational and polynomial functions.

**Relevance**

This course expands the mathematical content and concepts of Algebra 2 and Geometry. Students gain experience with algebraic problem solving, reasoning, writing, and trigonometry. Students who master math analysis will be prepared for precalculus and then may go on to advanced placement calculus. This course also prepares students for college math courses.

**Course Standards**

- |                           |                |                               |
|---------------------------|----------------|-------------------------------|
| 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](http://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](http://www.kusd.edu).

**Course Outline**

**Semester 1**

- **Linear Relations and Functions:** Compositions of functions, graphing linear functions and inequalities, writing equations, piecewise function.
- **The Nature of Graphs:** Symmetry and coordinate graphs, parent functions, inverse functions and relations, continuity and end behavior, critical points and extrema, rational function graphs
- **Polynomial and Rational Functions:** Polynomial functions, quadratic equations, remainder and factor theorems, rational root theorem, rational equations, radical equations and inequalities

## Semester 2

- Exponential and Logarithmic Functions: Exponential functions, logarithmic functions, common logarithms, natural logarithms and applications
- The Trigonometric Functions: Angles and degree measure, trigonometric ratios and functions, right triangles, Law of Sines, Law of Cosines
- Graphs of Trigonometric Functions: Angles and radian measure, amplitude, period, and translation of sine and cosine functions, graphing trigonometric functions, trigonometric inverses and their graphs
- Trigonometric Identities and Equations: Basic trig identities, verifying trig identities, sum and difference identities, double-angle and half-angle identities, solving trig equations

### **Board-Approved Instructional Materials**

- Holiday, Cuevas, et al., *Advanced Mathematical Concepts*, Glencoe, 2006 (ISBN 0-07-868277-4)
- Online resources: [www.amc.glencoe.com](http://www.amc.glencoe.com)

### **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	B+=86-89 percent	C+=76-79 percent	D+=66-69 percent
A=93-97 percent	B=83-85 percent	C=73-75 percent	D=63-65 percent
A-=90-92 percent	B-=80-82 percent	C-=70-72 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](http://www.kusd.edu).**