



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

HIGH SCHOOL COURSE SYLLABUS

MATHEMATICS DEPARTMENT

Geometry (321011 & 321012)

Number of Credits: 1

Prerequisites

Successful completion of Algebra 1 (311011 & 311012 or 312011 & 312012)

Course Description

This course is a study of plane and solid geometry. It includes precise definitions, theorems, and postulates relating to plane and solid figures. Students develop deductive reasoning skills as they complete basic proofs relating to these figures. Algebra is integrated throughout the course. Students study topics such as congruence and similarity; properties of lines, triangles, quadrilaterals, and circles; areas; volumes; coordinate geometry; and basic right triangle trigonometry.

Relevance

This course sharpens thinking skills by teaching the process of logical reasoning and deductive thinking. The purpose of geometry is to prepare students to be able to utilize geometric concepts in the real world and in future studies.

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.

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

- Essentials of Geometry: Describing geometric figures, understanding equality and congruence
- Reasoning and Proof: Using inductive and deductive reasoning, understanding geometric relationships in diagrams, writing proofs of geometric relationships
- Parallel and Perpendicular Lines: Using properties of parallel and perpendicular lines, proving relationships using angle measures, making connections to lines in algebra

- Congruent Triangles: Classifying triangles by sides and angles, proving triangles congruent
- Relationships with Triangles: Using properties of special segments in triangles, using triangle inequalities to determine what triangles are possible, extending methods for justifying and proving relationships
- Properties of Transformations: Performing congruence and similarity transformations, making real-world connections to symmetry and tessellations

Semester 2

- Similarity: Using ratios and proportions, showing that triangles are similar, using indirect measurement and similarity
- Right Triangles and Trigonometry: Using the Pythagorean Theorem and its converse, using special relationships in right triangles, using trigonometric ratios to solve right triangles
- Quadrilaterals: Using angle relationships in polygons, using properties of parallelograms, classifying quadrilaterals by their properties
- Properties of Circles: Using properties of circles, applying angle and segment relationships in circles
- Measuring Length and Area: Using area formulas for polygons; relating length, perimeter, and area ratios in similar polygons
- Surface Area and Solids: Exploring solids and their properties, solving problems using surface area and volume

Board-Approved Instructional Materials

- Larson, Boswell, et al., *Geometry*, McDougal Littell, 2007 (ISBN 0-618-59540-6)
- Online Resources: www.classzone.com/math_hs_all.cfm (Choose Geometry, 2007)
- Online version of the student text linked to animated interactive activities is available with registration (registration information provided by math teacher)

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.