Online Courses for High School Students
1-888-972-6237

Geometry (Credit Recovery)

A diagnostic driven credit recovery course is designed to give an expanded opportunity for students who did not succeed the first time in the course.
Students are given the opportunity in each learning unit to demonstrate their knowledge in that area of study. If they demonstrate competency in their unit assessment they will be presented with the following unit. If they do not demonstrate competency then they are required to do the entire unit.

Requirement:
For a student to take a credit recovery course, they must have already taken the class unsuccessfully and have the appropriate seat time.

Course Description:

Semester A:
Geometry CR is the study of the measurement of the world. What makes Geometry CR so engaging is the relationship of figures and measures to each other, and how these relationships can predict results in the world around us. Through practical applications, the student sees how geometric reasoning provides insight into everyday life. The course begins with the tools needed in Geometry CR. From these foundations, the student explores the measure of line segments, angles, and two-dimensional figures. Students will learn about similarity, triangles and trigonometric ratios.

Semester B:
This course builds on the foundation of the first terms in Geometry CR. As in previous courses, deductive and inductive reasoning are emphasized, while applying problem-solving techniques to real-world problems. Students explore quadrilaterals and circles and learn how an object is transformed, as well as how to represent that transformation algebraically and geometrically. Students calculate area and volume of two-dimensional and three-dimensional objects.

Prerequisite: Geometry (Student must have taken Geometry unsuccessfully and have the appropriate seat time).
Course Length: One Semester
Materials:

- GeoGebra, or other geometry software (optional)
- Compass
- Protractor
- Straightedge (such as ruler)
- Calculator: If student does not have a calculator, they can use Gcalc
- Notebook and/or paper
- Printer, for some graded activities that require intricate steps or drawing
- Scanner or digital camera to copy student written work for submission

- Graph Paper

Semester A:

Tools of Geometry

- Notation
- Patterns and Conjectures
- Definitions and Postulates
- Basic Geometric Shapes
- Congruency
- Perimeter, Circumference and Area
- Transformations
- Geometric Constructions
- Congruent Constructions
- Reasoning through Logic Puzzles
- Tools of Geometry Exam

Logic

- Geometric Proofs
- Conditional and Bi-Conditional Statements
- Conjectures
- Conditional Forms
- Syllogism
- Reasoning & Logic
- Counter examples
- Paragraph Proofs
- Understanding Formal Proofs
- Writing Proofs
- Logic Exam

Angles and Lines

- Drawing and Measuring Angles
- Classifying Angles
- Angle Relationships
- Proofs Involving Angles
- Relationships Between Lines
- Parallel and Perpendicular Lines
- Properties of Parallel Lines
- Proofs Involving Lines and Angles
- Lines in the Coordinate Plane
- Applications Involving Lines and Angles
- Angles and Lines Exam

Congruence and Similarity

- Angles and Triangles
- Showing Congruence in Triangles
- Congruence in Right Triangles

- Ratio and Proportion
- Solving Problems with Ratios and Proportions
- Similarity
- Similar Triangles
- Triangle Sum Theorem
- Proofs Involving Congruence and Similarity
- Applications Involving Congruence and Similarity
- Congruence and Similarity Exam

Triangles

- Triangle Properties
- Pythagorean Theorem
- Proving the Pythagorean Theorem
- Isosceles Triangles
- Medians and Altitudes of Triangles
- The Midsegment Theorem
- Inequalities in One Triangle
- Inequalities in Two Triangles
- Proportional Triangles
- Triangle Applications
- Triangles Exam

Trigonometric Ratios

- Similarity in Right Triangles
- Using Special Right Triangles
- The Tangent Ratio
- Applying the Tangent Ratio
- Sine, Cosine & Applications
- Law of Sines
- Law of Cosines
- Applications of all Right Triangles
- Right Triangles in Rectangles
- Distance Formula in 2 & 3 Dimensions
- Trigonometric Ratios Exam

Semester Exam

Semester B:
Quadrilaterals

- Interior Angle Sum Theorem
- Exterior Angle Sum Theorem
- Using Interior and Exterior Angles to Solve Problems
- Quadrilaterals
- The Parallelogram
- Parallelogram Proofs

- Rhombus Proofs
- Algebraic Proofs Involving Quadrilaterals
- Applications Involving Quadrilaterals
- Modeling with Quadrilaterals
- Quadrilaterals Exam

Transformations

- Rigid Motion in a Plane
- Identifying Transformations between Two Figures
- Constructing Multiple Transformations
- Rotational and Reflectional Symmetry
- Translations
- Transformation Problem Solving
- Tessellations
- Using Tessellations to Model Real-Life Problems
- Applications of Transformations
- Creating Frieze Patterns
- Transformations Exam

Circles

- Parts of a Circle
- Circumference and Area of a Circle
- Arcs and Sectors
- Circumference and Arc Length
- Tangent to a Circle
- Measuring Angles with Radians and Degrees
- Inscribed and Circumscribed Angles
- Inscribed Figures in Circles
- Finding Angles Involving Tangents and Circles
- Equation of a Circle
- Circles Exam

Area

- Perimeter of Polygons
- Area of Polygons
- Sector Area
- Calculating Area
- Discovering Solids
- Cubes & Spheres
- Pyramids & Cones
- Cylinders & Prisms
- Unit Conversions

- Area Applications
- Area Exam

Volume

- Introduction to Volume
- Volume of Cubes
- Volume of Prisms
- Volume of Rectangular Prisms
- Volume of Cylinders
- Volume of Spheres
- Volume of Cones
- Volume of Pyramids
- Changing Dimensions
- Solving Real-Life Volume Problems
- Volume Exam

Probability

- Simple Events
- Using an Area Model
- Using a Tree Diagram
- Probability Models
- Unions, Intersections, and Complements
- Expected Value
- Counting
- Permutations
- Combinations
- Categorizing Counting Problems
- Probability Exam

Semester Exam