

WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Geometry

Course Number: 00212

Course Prerequisites: Recommended grade average of 60% in both Algebra 1A and Algebra 1B OR completion of either Algebra 1CP or Algebra II CP with an average between 60% and 70%.

Course Description: This course starts with basic concepts related to geometry including but not limited to points, lines, and planes. The course builds on those basic concepts to include parallel and perpendicular lines, polygons, various triangles, transformations, and the study of spheres and solids. Algebraic skills are incorporated with practical applications to concrete problems.

Suggested Grade Level: Grades 11-12

Length of Course: Two Semesters

Units of Credit: 1

PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:

Mathematics (7 – 12) Mathematics CSPG #50

To find the CSPG information, go to [CSPG](#)

Certification verified by the WCSD Human Resources Department: ☒ Yes ☐ No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic

Mark Types: Check all that apply.

☒ F – Final Average ☒ MP – Marking Period ☒ EXM – Final Exam

GPA Type: ☐ GPAEL-GPA Elementary ☐ GPAML-GPA for Middle Level ☒ NHS-National Honor Society

☒ UGPA-Non-Weighted Grade Point Average ☒ GPA-Weighted Grade Point Average

State Course Code: 02071

To find the State Course Code, go to [State Course Code](#), download the Excel file for SCED, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

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TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Board Approved Textbooks, Software, and Materials:

Title: envision Geometry
Publisher: Pearson
ISBN #: 9780328937639
Copyright Date: 2018
WCSD Board Approval Date: 6/29/2020

Supplemental Materials: Kutasoftware.com

Curriculum Document

WCSD Board Approval:

Date Finalized: 6/5/2020
Date Approved: 6/29/2020
Implementation Year: 2020-2021

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

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SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS

Performance Indicator	PA Core Standard and/or Eligible Content	Month Taught and Assessed for Mastery
Find Segment Lengths	G-CO.1, A-CED.1	August September
Find the Length of a Segment	G-CO.1, A-CED.1	August September
Use the Segment Addition Postulate	G-CO.1, A-CED.1	August September
Use the Protractor Postulate to Measure an Angle	G-CO.1, A-CED.1	August September
Use the Angle Addition Postulate to Solve Problems	G-CO.1, A-CED.1	August September
Use Congruent Angles and Congruent Segments	G-CO.1, A-CED.1	August September
Define Vocabulary Related to Basic Constructions	G-CO.12	August September
Find a Midpoint	G-GPE.6	August September
Derive the Distance Formula	G-GPE.6	August September
Find the Distance	G-GPE.6	August September
Apply Vertical Angles Theorem	G-CO.9, A-REI.1	September October
Identify Angle Pairs	G-CO.1, G-CO.9	September October
Explore Angle Relationships	G-CO.1, G-CO.9	September October
Find Angle Measures	G-CO.1, G-CO.9	September October
Understand Angle Relationships	G-CO.9, G-CO.10, G-MG.3	September October
Determine Whether Lines are Parallel	G-CO.9, G-CO.10, G-MG.3	September October
Solve a Problem With Parallel Lines	G-CO.9, G-CO.10, G-MG.3	September October
Investigate the Measures of Triangle Angles	HSG-CO.9, G-CO.10	September October
Use the Triangle Angle Sum Theorem	HSG-CO.9, G-CO.10	September October
Apply the Triangle Exterior angle Theorem	HSG-CO.9, G-CO.10	September October
Apply the Triangle Theorems	HSG-CO.9, G-CO.10	September October
Find Slopes of Parallel Lines	G-GPE.5	September October
Check Parallelism	G-GPE.5	September October
Check Perpendicularity	G-GPE.5	September October

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Write Equations of Parallel and Perpendicular Lines	G-GPE.5	September October
Identify Rigid Motions	G-CO.4, G-CO.5, G-CO.2	October November
Reflect a Figure Across a Line	G-CO.4, G-CO.5, G-CO.2	October November
Reflect a Figure on a Coordinate Plane	G-CO.4, G-CO.5, G-CO.2	October November
Describe a Reflection on the Coordinate Plane	G-CO.4, G-CO.5, G-CO.2	October November
Use Reflections	G-CO.4, G-CO.5, G-CO.2	October November
Find the Image of a Translation	G-CO.4, G-CO.5, G-CO.2	October November
Write a Translation Rule	G-CO.4, G-CO.5, G-CO.2	October November
Compose Translations	G-CO.4, G-CO.5, G-CO.2	October November
Relate Translations and Reflections	G-CO.4, G-CO.5, G-CO.2	October November
Draw Rotations in the Coordinate Plane	G-CO.4, G-CO.5	October November
Use Rotations	G-CO.4, G-CO.5	October November
Investigate Reflections and Rotations	G-CO.4, G-CO.5	October November
Explore Glide Reflections	G-CO.4, G-CO.5, G-CO.2	October November
Find the Image of a Glide Reflection	G-CO.5, G-CO.6	October November
Determine a Glide Reflection	G-CO.5, G-CO.6	October November
Identify Transformations for Symmetry	G-CO.3, G-CO.6	October November
Identify Lines of Symmetry	G-CO.3, G-CO.6	October November
Identify Rotational Symmetry	G-CO.3, G-CO.6	October November
Determine Symmetries	G-CO.3, G-CO.6	October November
Use Symmetry	G-CO.3, G-CO.6	October November
Understand Congruence	G-CO.4, G-CO.5, G-CO.2	November December
Verify Congruence	G-CO.5, G-CO.6	November December
Identify Congruent Figures	G-CO.5, G-CO.6	November December
Determine Congruence	G-CO.5, G-CO.6	November December
Apply Congruence	G-CO.5, G-CO.6	November December
Understand Angles of Isosceles Triangles	G-CO.10, G-SRT.5	November December
Use the Isosceles Triangle Theorem	G-CO.10, G-SRT.5	November December

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Use the Converse of the Isosceles Triangle Theorem	G-CO.10, G-SRT.5	December November
Use Perpendicular Bisectors to Solve Problems	G-CO.10, G-SRT.5	November December
Show That Equilateral Triangles are Equiangular	G-CO.10, G-SRT.5	November December
Find Angle Measures in Isosceles and Equilateral Triangles	G-CO.10, G-SRT.5	November December
Explore the Side-Angle-Side Congruence Criterion	G-CO.8	November December
Apply the SAS Congruence Criterion	G-CO.8	November December
Explore the Side-Side-Side Congruence Criterion	G-CO.8	November December
Determine Congruent Triangles	G-CO.8	November December
Explore the ASA Congruence Criterion	G-CO.8, G-SRT.5	November December
Apply the ASA Congruence Criterion	G-CO.8, G-SRT.5	November December
Investigate the AAS Congruence Criterion	G-CO.8, G-SRT.5	November December
Use Triangle Congruence Criteria	G-CO.8, G-SRT.5	November December
Determine Congruent Polygons	G-CO.8, G-SRT.5	November December
Investigate Right Triangle Congruence	G-CO.10, G-SRT.5	November December
Use the Hypotenuse-Leg Theorem	G-CO.10, G-SRT.5	November December
Identify Corresponding Parts in Triangles	G-CO.10, G-SRT.5	November December
Use Common Parts of Triangles	G-CO.10, G-SRT.5	November December
Find equidistant points	G-CO.9 A-REI.3	December January
Use perpendicular bisector	G-CO.9 A-REI.3	December January
Apply the Perpendicular Bisector Theorem	G-CO.9 A-REI.3	December January
Find equidistant points from the sides of a angle	G-CO.9 A-REI.3	December January
Apply the Angle Bisector Theorem	G-CO.9 A-REI.3	December January
Identify special segments in triangles	G-SRT.5, G-CO.10, G- GPE.5, A-REI.6, A- REI.10	December January
Find length of a median	G-SRT.5, G-CO.10, G- GPE.5, A-REI.6, A- REI.10	December January
Investigate side and angle relationships	G-CO.10 A-REI.3	December January
Use the Triangle Longer Side Theorem	G-CO.10 A-REI.3	December January
Use the Triangle Larger Angle Theorem	G-CO.10 A-REI.3	December January

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Use the Triangle Inequality Theorem	G-CO.10 A-REI.3	December January
Investigate side lengths in triangles	G-CO.10 A-REI.3	December January
Apply the Hinge Theorem	G-CO.10 A-REI.3	December January
Apply the Converse of the Hinge Theorem	G-CO.10 A-REI.3	December January
Explore polygon interior angle sums	G-SRT.5	January February
Apply the Polygon Interior Angle-Sum Theorem	G-SRT.5	January February
Understand exterior angle measures of a polygon	G-SRT.5	January February
Find an exterior angle measure	G-SRT.5	January February
Find the measures of interior angles	B.5, B.3	January February
Investigate the diagonals of a kite	B.3, B.7, B.8	January February
Use the diagonals of a kite	B.3, B.7, B.8	January February
Explore parts of an isosceles trapezoid	B.3, B.7, B.8	January February
Solve problems involving isosceles trapezoid	B.3, B.7, B.8	January February
Apply the Trapezoid Midsegment Theorem	B.3, B.7, B.8	January February
Explore opposite sides of parallelograms	C.11, B.5	January February
Use opposite sides of parallelograms	C.11, B.5	January February
Explore angle measures in parallelograms	C.11, B.5	January February
Use angles of a parallelogram	C.11, B.5	January February
Explore the diagonals of a parallelogram	C.11, B.5	January February
Find unknown lengths in a parallelogram	C.11, B.5	January February
Investigate sides to confirm a parallelogram	C.11, B.5	January February
Explore angle measures to confirm a parallelogram	C.11, B.5	January February
Find values to make parallelogram	C.11, B.5	January February
Investigate diagonals to confirm a parallelogram	C.11, B.5	January February
Identify a parallelogram	C.11, B.5	January February
Verify a parallelogram	C.11, B.5	January February
Find diagonals of a rhombus	C.11, B.5, B.3	January February
Find lengths and angle measures in a rhombus	C.11, B.5, B.3	January February

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Find diagonal lengths of a rectangle	C.11, B.5, B.3	January February
Find diagonals and angles measures of a square	C.11, B.5, B.3	January February
Use diagonals to identify rhombuses	C.11, B.5	January February
Use diagonals to identify rectangles	C.11, B.5	January February
Identify special parallelograms	C.11, B.5	January February
Use properties of special parallelograms	C.11, B.5	January February
Apply properties of special parallelograms	C.11, B.5	January February
Dilate a figure	A.1, A.2, A.5	February March
Analyze dilations	A.1, A.2, A.5	February March
Find a scale factor	A.1, A.2, A.5	February March
Dilate a figure with the center at the origin	A.1, A.2, A.5	February March
Use scale factor to find length and area	A.1, A.2, A.5	February March
Graph a composition of a rigid motion and a dilation	A.1, A.2, A.5	February March
Describe a composition of a rigid motion and a dilation	A.1, A.2, A.5	February March
Find similarity transformations	A.1, A.2, A.5	February March
Define similarity	A.1, A.2, A.5	February March
Establish the AA Similarity Theorem	A.3, B.5	February March
Establish the SSS~ Similarity Theorem	A.3, B.5	February March
Verify triangle similarity	A.3, B.5	February March
Find lengths in similar triangles	A.3, B.5	February March
Explore proportions from parallel lines	G-CO.10 G-SRT.4	February March
Use the Side-Splitter Theorem	G-CO.10 G-SRT.4	February March
Find a length using the Side-Splitter Theorem	G-CO.10 G-SRT.4	February March
Use Pythagorean Theorem and its converse	G-SRT.4 G-SRT.8, G-SRT.5	March April
Investigate side lengths in 45-45-90 triangles	G-SRT.4 G-SRT.8, G-SRT.5	March April
Explore side lengths in a 30-60-90 triangle	G-SRT.4 G-SRT.8, G-SRT.5	March April
Apply special right triangle relationships	G-SRT.4 G-SRT.8, G-SRT.5	March April
Understand trigonometric ratios using similarity	G-SRT.6 G-SRT.7, G-SRT.8	March April

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Write trigonometric ratios	G-SRT.6 G-SRT.7, G-SRT.8	March April
Find trigonometric ratios of special angles (30, 45, 60)	G-SRT.6 G-SRT.7, G-SRT.8	March April
Use trigonometric ratios to find distances	G-SRT.6 G-SRT.7, G-SRT.8	March April
Use trigonometric ratios to find angle measures	G-SRT.6 G-SRT.7, G-SRT.8	March April
Identify angles of elevation and depression	G-SRT.7 G-SRT.8	March April
Use angles of elevation and depression	G-SRT.7 G-SRT.8	March April
Use trigonometry to solve problems	G-SRT.7 G-SRT.8	March April
Relate central angles and arc measures in circles.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate arc length to circumference.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Apply arc length.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate the area of a circle to the area of a sector.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Find the area of a segment of a circle.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Solve problems involving circles.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Understand tangents to a circle.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Use tangents to solve problems.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Find lengths of segments tangent to a circle.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Find measures involving tangent lines.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate central angles and chords.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate arcs and chords.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate chords equidistant from the center.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Solve problems involving chords of a circles.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May

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Relate inscribed angles to intercepted arcs.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Use the inscribed angles theorem and its corollaries.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Explore angles formed by a tangent and a chord.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Use arc measure to problem solve.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Relate secants and angle measures.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Use secants and tangents to solve problems.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Develop chord length relationships.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Use segment relationships to find lengths.	G-C.1, G-C.2, G-C.3, G-C.4, G-C.5, G-CO.1	April May
Develop and apply Euler's Formula.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Find the volumes of prisms and cylinders.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Apply the volumes of prisms and cylinders to solve problems.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Solve density problems.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Find the volume of pyramids and cones.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Apply the volume of pyramids and cones to solve problems.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Find the measure of a composite figure.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Find the volumes of spheres, hemispheres, and composite figures.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June
Use the volumes of spheres, hemispheres, and composite figures to solve problems.	G-GMD.1, G-GMD.2, G-GMD.3, G-GMD.4, G-MG.1, G-MG.2	May June

ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: Suggested but not limited to: Bell-Ringers, Exit Ticket, Cooperative Learning, Pre-assessments, Observations, Written Work, Quizzes, Oral Response, Self-Evaluation, and Homework

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: Suggested but not limited to: Performance Assessments, Chapter/Unit Tests, and Projects