



**Catholic
Memorial**
HIGH SCHOOL

Year Long Course Plan

Department: Mathematics

Course: Geometry 422-423

Essential Learning Outcomes: After successfully completing this course, students will be able to:

1. Identify, describe, and analyze properties of figures, relationships among figures, and relationships among their parts
2. Use geometric models to solve mathematical and real-world problems
3. Present convincing arguments by means of demonstration, informal proof, counter-examples, or any other logical means to show the truth of statements and generalizations
4. Use the two-dimensional rectangular coordinate system and algebraic procedures to describe and characterize geometric properties and relationships
5. Organize work and present mathematical procedures and results clearly, systematically, succinctly, and correctly
6. Use reason and logic to evaluate information, perceive patterns, identify relationships, formulate questions, pose problems, and make and test conjectures
7. Communicate logical arguments
8. Analyze non-routine problems and arrive at solutions by various means
9. Develop effective oral and written presentations employing correct mathematical terminology, notation, symbols, and conventions for mathematical arguments and display of data
10. Determine measurements directly using geometric tools, formulas, and applications of geometric properties

<i>Quarter 1</i>	<i>Quarter 2</i>
<p>Unit 1: Tools of Geometry (ELO 1,2,3,4,5,6,7,8,9,10)</p> <ul style="list-style-type: none"> • Patterns and Inductive Reasoning • Points, Lines, and Planes • Segments, rays, parallel lines and planes • Measuring segments and angles • Basic constructions • Coordinate plane • Perimeter, circumference and area • ASSESSMENT: Written Quiz and Test <p>Unit 2: Reasoning and Proof (ELO 1,2,3,5,6,7,8,9,10)</p> <ul style="list-style-type: none"> • Conditional statements and their converses • Biconditionals and good definitions • Deductive Reasoning • Reasoning in algebra • Relationships between angle pairs • ASSESSMENT: Written Quiz and Test <p>Unit 3: Parallel and Perpendicular lines (ELO 1,2,3,4,5,6,7,8,9,10)</p> <ul style="list-style-type: none"> • Properties of parallel lines • Proving lines are parallel 	<p>Unit 4: Congruent Triangles (ELO 1,2,3,5,6,7,8,9, 10)</p> <ul style="list-style-type: none"> • Congruent Figures • Triangle Congruence by SSS and SAS • Triangle Congruence by ASA and AAS • Using Congruent Triangles: CPCTC • Isosceles and Equilateral Triangles • Congruence in Right Triangles • Using Corresponding parts of Congruent Triangles • ASSESSMENT: Written Quiz and Test <p>Unit 5: Relationships Within Triangles (ELO 1,2,3,5,6,7,8,9,10)</p> <ul style="list-style-type: none"> • Midsegments of Triangles • Bisectors in Triangles • Concurrent Lines, Medians, and Altitudes • Inverses, Contrapositives, and Indirect Reasoning • Inequalities in Triangles • ASSESSMENT: Written Quiz and Test

