**NORTHVIEW HIGH SCHOOL SYLLABUS**

**Geometry**

Math CATS Hours: Tuesdays & Thursdays: 2:45-3:45

Sarah Snyder Tina Ely Matt Coty Andrew Otten ssnyder@nvps.net tely@nvps.net mcoty@nvps.net aotten@nvps.net

Room #1146 Room #1149 Room #1152 Room #1143

**TEXTS:**

Bass, Laurie, Charles, Randall I., Hall, Basia, Johnson, Art, and Kennedy, Dan. Prentice Hall Mathematics Geometry. Pearson, 2007.

**COURSE OVERVIEW:**

This course is designed to meet the Common Core Standards for Geometry. In this course, the basic concepts from Algebra I are enriched. Topics studied include measurement of 2D and 3D shapes, inductive and deductive reasoning, graphing, trigonometry, similarity, congruence, and transformations.

**REQUIREMENTS:**

Notebook

Scientific Calculator

**GRADING POLICY:**

**·**  As a unit based course each semester will have two exams.

· You will have two opportunities each semester to retake a chapter test.

· You must complete a review process set forth by the teacher in order to retake a test.

· The retake score for a given test will be the score that is recorded in the grade book.

· The Geometry classes will use the following scale for their grades:

 Practice Assignments 10%

 Preliminary Assessments 60%

 Exams 15% each

**ASSESSMENTS:**

Assignments consist of Concept quizzes, notebook grades, in-class work and homework.

Assignments vary in point value. Assessments consist of Quizzes and Tests

**SCHEDULE:**

**Semester 1:**

|  |  |
| --- | --- |
| **Chapter P** | **Prerequisite Skills** |
|   |   | Solving Multi Step Equations |
|   |   | Solving for a Variable |
|   |   | Solving Systems |
|   |   | Points in the Plane |
|   |   | Graphing lines |
|   |   | Writing Equations for Lines |
|   |   | Simplifying Radicals |
|   |   | Using the Quadratic Formula |
| **Chapter 1** | **Tools of Geometry** |
|   | 1.1 |  Patterns and Inductive Reasoning |
|   | 1.3 | Points, Lines and Planes |
|   | 1.4 | Segments, Rays, Parallel Lines and Planes |
|   | 1.5 |  Measuring Segments |
|   | 1.6 | Measuring Angles |
|   | 1.7 | Basic Constructions |
|   | 1.8 | The Coordinate Plane |
| **Chapter 2** | **Reasoning and Proof** |
|   | 2.1 | Conditional Statements |
|   | 2.2 | Bi-conditional and Definitions |
|   | 2.3 |  Deductive Reasoning |
| **Chapter 3** | **Parallel and Perpendicular Lines** |
|   | 2.5 |  Proving Angles Congruent |
|   | 3.1 | Properties of Parallel Lines |
|   | 3.2 | Proving Lines Parallel |
|   | 3.3 | Parallel and Perpendicular Lines |
|   | 3.4 | Parallel Lines and the Triangle Angle-Sum Theorem |
|   | 3.5 | The Polygon Angle-Sum Theorems |
|   | 3.7 | Slopes of Parallel and Perpendicular Lines |
| **EXAM 1** |  |
| **Chapter 4** | **Congruence Concepts Without Proofs** |
|   | 2.4 | Reasoning in Algebra |
|   | 4.1 | Congruent Figures |
|   | 4.2 | Triangle Congruence by SSS and SAS |
|   | 4.3 | Triangle Congruence by ASA and AAS |
|   | 4.6 | Congruence in Right Triangles |
|   | 4.5 | Isosceles and Equilateral Triangles |
|   | 4.4 | Using Congruent Triangles: CPCTC |
|   | 4.7 | Using Corresponding Parts of Congruent Triangles |
| **Chapter 4 Proofs** | **Emphasis on Writing Two Column Proofs** |
|   | 4.2 | Triangle Congruence by SSS and SAS |
|   | 4.3 | Triangle Congruence by ASA and AAS |
|   | 4.4 |  Using Congruent Triangles: CPCTC |
|   | 4.5 |  Isosceles and Equilateral Triangles |
|   | 4.6 |  Congruence in Right Triangles |
|   | 4.7 |  Using Corresponding Parts of Congruent Triangles |
| **Chapter 6** | **Quadrilaterals** |
|   | 6.1 |  Classifying Quadrilaterals |
|   | 6.2 | Properties of Parallelograms |
|   | 6.3 | Proving That a Quadrilateral is a Parallelogram |
|   | 6.4 | Special Parallelograms |
|   | 6.5 | Trapezoids and Kites |
| **Indirect Proofs** |  |
|   | 5.4 |  Inverses, Contrapositives, and Indirect Reasoning |
| **Proofs in the Coordinate Plane** |
|   | 6.6 |  Placing Figures in the Coordinate Plane |
|   | 6.7 | Proofs Using Coordinate Geometry |
| **EXAM 2** |  |
| **Chapter 7** | **Similarity** |
|   | 7.1 |  Ratios and Proportions |
|   | 7.2 | Similar Polygons |
|   | 7.3 | Proving Triangles Similar |
|   | 7.4 | Similarity in Right Triangles |
|   | 7.5 | Proportions in Triangles |
| **Chapter 8** | **Right Triangle Trigonometry** |
|   | 5.5 | Inequalities in Triangles |
|   | 8.1 | The Pythagorean Theorem and Its Converse |
|   | 8.3 | The Tangent Ratio |
|   | 8.4 | Sine and Cosine Ratios |
|   | 8.5 | Angles of Elevation and Depression |
| **Special Right Triangles and the Unit Circle** |
|   | 8.2 | Special Right Triangles |
| **Chapter 9** | **Transformations** |
|   | 9.1 | Translations |
|   | 9.2 | Reflections |
|   | 9.3 | Rotations |
|   | 9.4 | Symmetry |
|   | 9.5 | Dilations |
|   | 9.6 | Compositions of Reflections |
| **EXAM 3** |  |
| **Chapter 10** | **Perimeter and Area** |
|   | 1.9 | Perimeter, Circumference, and Area |
|   | 10.1 | Areas of Parallelograms and Triangles |
|   | 10.2 | Areas of Trapezoids, Rhombuses, and Kites |
|   | 10.8 | Geometric Probability |
|   | 10.3 | Areas of Regular Polygons |
|   | 10.5 | Trigonometry and Area |
| **Chapter 11** | **Surface Area and Volume** |
|   | 1.2 | Drawings, Nets and Other Models |
|   | 11.1 | Space Figures and Cross Sections |
|   | 11.2 | Surface Areas of Prisms and Cylinders |
|   | 11.3 | Surface Areas of Pyramids and Cones |
|   | 11.4 | Volumes of Prisms and Cylinders |
|   | 11.5 | Volumes of Pyramids and Cones |
|   | 11.6 | Surface Areas and Volumes of Spheres |
| **Similar Figures with Area and Volume** |
|   | 10.4 |  Perimeters and Areas of Similar Figures |
|   | 11.7 | Areas and Volumes of Similar Solids |
| **Chapter 12** | **Circles** |
|   | 10.6 |  Circles and Arcs |
|   | 10.7 |  Areas of Circles and Sectors |
|   | 12.1 |  Tangent Lines |
|   | 12.2 | Chords and Arcs |
|   | 12.3 | Inscribed Angles |
| **EXAM 4** |  |