



Reseda High School Police Academy Magnet Geometry

Instructor: E. Junio

GENERAL INFORMATION:

Teacher: **Ms. E. Junio**

Room Number: **FA2**

Main Office Contact No: **(818) 758-3600**

COURSE DESCRIPTION

The Geometry skills and concepts developed in this discipline are useful to all students. Aside from learning these skills and concepts, students will develop their ability to construct formal, logical arguments and proofs in geometric settings and problems. Although the curriculum is weighted heavily in favor of plane (synthetic) Euclidean geometry, there is room for placing special emphasis on coordinate geometry and its transformations.

I. TOPICS COVERED (Projects Included)

Unit 1: Foundations of geometry and geometric proof

Undefined terms

Pieces of lines and associated properties, postulates, and theorems

Radius of a search area

Angles and associated properties, postulates, and theorems

Proofs of congruent segments and angles

Parallel lines cut by a transversal and associated properties, postulates, proofs, and theorems

Solving a crime, "Where did the shot come from?"

Unit 2: Triangles and other polygons

Categorizing triangles and their associated parts

Basic triangle properties, postulates, proofs, and theorems

Congruence and similarity of triangles and corresponding parts

Relationships between angles of polygons, and number of sides of polygons

Congruence and similarity of polygons and corresponding parts

Unit 3: Right triangles, the Pythagorean Theorem, and trigonometry

The Pythagorean Theorem and finding sides of right triangles

Radius of a search area revisited

Proving the Pythagorean Theorem

Using special case right triangles

Using trigonometry to find sides of right triangles

Sniper problems

Approximating suspect height

Proving trigonometric properties and laws

Unit 4: Circles

Properties of lines and angles on circles

Arcs and sectors

Circumference and area of circles

Search area once again

James Bond problems

Arc length and sector area

Unit 5: Parallelograms

Categorizing parallelograms and their associated parts

Basic parallelogram properties, postulates, proofs, and theorems

Congruence and similarity of parallelograms and corresponding parts

Geometric Town

Unit 6: Perimeter, area, and volume of polygons and polyhedrons

Perimeter and area of common polygons

More James Bond problems

Lateral area and surface area of prisms and cylinders

Lateral area and surface area of cones and pyramids

Surface area of spheres and hemispheres

Volume of prisms, cylinders, cones, pyramids, spheres, and hemispheres

Even more James Bond problems

Unit 7: Constructions, Transformations, and Logic

Constructing basic geometric shapes

Deconstructing someone else's construction

Translations, Reflections, and Rotations

The parts of logical statements

Negations, inverse, converse, and Contrapositive of statements

Counterexamples

Refuting an alibi

Deductive vs. Inductive logic

Following a hunch vs. just the facts

Tin Man

II. REQUIRED MATERIALS

Pencils

Notebook

Graph paper (1/4 inch grid) (provided by teacher)

Ruler, compass, protractor

Erasers

Scientific Calculator

Other suggested project supplies

III. CLASSROOM RULES/POLICIES

Students are expected to:

1. **STAND AT ATTENTION** upon entering room and throughout roll call until teacher has **“at eased”** you.
2. Students stand when an adult enters the room (either the guest or you may dismiss them).

3. Refer to adults as “Ma’am” or “Sir”.
4. Raise your hand if you have a question or need to get up from your seat.
5. Address academy members correctly and respectfully.
6. Reseda High’s dress code, inspection day, and character policies are strictly enforced. Participation points will be issued for those dressed:
 - o Police Academy students are in uniform on Tuesdays
7. Attendance is important. If a student is not in class for TWO consecutive days, teacher will email the counselor right away.
8. **We abide by all school rules** (no cell phones visible in class, no eating, no electronic gadgets of any kind, no hats or hoods in class, etc.). See RHS dress code policy.

IV. CLASSROOM CONSEQUENCES

1. If the student fails to abide by the classroom rules, the consequences are:
 - a. Teacher conference
 - b. Teacher assigns detention and calls home
 - c. Teacher initiates parent conference and disciplinary contract
(All referrals will be accompanied with a form.)
2. For P.A. students only- If the student is defiant, the teacher may issue up to **25 push-ups** to that individual. Push-ups are **not** for Law students. Push-ups should not be abused. The teacher can also have the class leader issue a **15-7 report and a comment card**.
3. Any excessive tardies and/or behavioral problems will be communicated with parent, counselor and coordinator.

V. TEST/QUIZ POLICY

Students should generally expect quizzes to assess an understanding of the current unit’s concepts. Chapter tests will be given approximately every 2 to 3 weeks at the end of each unit. Students, who have a planned absence on the day of the test or quiz, need to make prior arrangements with me to take them. If this is not done and a student has an excused absence on the day of a quiz, they will make it up the day they return. If they miss the day of a test, they need to make it up during lunch. If this is not done in a timely manner, they will receive a zero on the test/quiz. If they are gone because of an unexcused absence, they will receive a zero on the test/quiz. Everyone is expected to take the final.

VI. HOMEWORK POLICY

Assigned homework is intended to provide practice and to generate questions for class discussion. The homework grade is based on effort. In order to receive credit for homework, all work must be shown for each question assigned. Full credit will not be given for late work except when lateness is excused by the parent or office.

VII. MAKE-UP WORK

You will be allowed of the number of days that you were absent to make-up missed work.

VIII. GRADING RATIONALE

A. Grades will be calculated based on the following percentages:

1. Tests and Quizzes – 40%
2. Warm-up and Classwork – 35%
3. Project and Performance – 15%
4. Homework – 10%

B. Grading scale is as follows:

- 90 TO 100 ----- A
- 80 TO 89 ----- B
- 70 TO 79 ----- C
- 60 TO 69 ----- D
- Below 60 ----- F

IX. STUDENT PROGRESS

1. Students' progress will be monitored by diagnostic weekly or biweekly quizzes or tests as well as midterm and mester exams.
2. All assessments will be returned to students in a timely manner for parental review.
3. Teachers will provide a record keeping tool to enable students to be continually aware of their own progress.