Los Angeles Unified School District
Maywood Academy High School
6125 Pine Avenue, Maywood, CA 90270
Phone (323)8386000

GEOMETRY AB SYLLABUS
Teacher :   Mrs. Lourdes P. Lapitan
Room: 320A
Textbook: Prentice Hall Mathematics - California Geometry

Description: The major purpose of geometry is to present patterns which are important to the development of thinking skills and problem-solving skills. The students will work with the body of geometry theorems, including geometry of two and three dimensions. Students engage in intellectual activities that include analyzing, classifying, planning, comparing, etc., and communicate their processes and results. They draw on mathematical and scientific ideas and use tools, such as calculators, compasses, protractors, and other assorted instructional materials. They use various techniques to solve problems and investigations. They work in small groups or independently, doing an investigation which includes a full range of mathematical concepts. Assessment is integrated with the curriculum and instruction. As a result, all students will exhibit high levels of achievement by completion of rigorous mathematics that provide barrier-free access to postsecondary education, or entry into a technology education, or entry into a technology rich workplace.

Prerequisite: Algebra 1AB

Unit 1: **Focus Standards**
1.0 Students demonstrate understanding by identifying and giving examples of undefined terms, axioms, theorems, and inductive and deductive reasoning.
 2.0 Students write geometric proofs, including proofs by contradiction.
 3.0 Students construct and judge the validity of a logical argument and give counterexamples to disprove a statement.
7.0 Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
12.0 Students find and use measures of sides and of interior and exterior angles of triangles and polygons to classify figures and solve problems.
Scope and Sequence
This introductory unit helps students develop geometric sense by working through the foundations of geometric reasoning and developing geometric ideas connected to the study of polygons, angles and parallel lines. Students are provided with opportunities to perform constructions relating to these topics such as constructing the line parallel to a given line through a point off the line. Students are given opportunities to use reasoning (inductive and deductive), write proofs and disprove statements using logical arguments.
Unit 2: **Focus Standards**
4.0 Students prove basic theorems involving congruence and similarity.
5.0 Students prove that triangles are congruent or similar, and they are able to use the concept of corresponding parts of congruent triangles.
6.0 Students know and are able to use the triangle inequality theorem.
7.0 Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.
14.0 Students prove the Pythagorean theorem.

Scope and Sequence
The unit begins with the concepts of triangle congruence and similarity. Students then progress to study the properties of quadrilaterals. The unit concludes with the study of the Pythagorean Theorem, specifically its proof. Relevant constructions can be included throughout the unit, such as constructing the circumcircle of a triangle, and students are given every opportunity to develop logical reasoning skills and mathematical proofs as they apply to each new topic of study. For example, using proof by contradiction to prove conjectures based on the triangle inequality theorem and using coordinate geometry to prove conjectures about triangle congruence or quadrilaterals.

Unit 3:   Focus Standards

8.0 Students know, derive, and solve problems involving the perimeter, circumference, area, volume, lateral area, and surface area of common geometric figures.

9.0 Students compute the volumes and surface areas of prisms, pyramids, cylinders, cones, and spheres; and students commit to memory the formulas for prisms, pyramids, and cylinders.

10.0 Students compute areas of polygons, including rectangles, scalene triangles, equilateral triangles, rhombi, parallelograms, and trapezoids.

18.0 Students know the definitions of the basic trigonometric functions defined by the angles of a right triangle. They also know and are able to use elementary relationships between them. For example, Tan x = sin x / cos x and $Sin^2 x + Cos^2 x = 1$

19.0 Students use trigonometric functions to solve for an unknown length of a side of a right triangle, given an angle and a length of a side.

Scope and Sequence

Students study special right triangles and trigonometric ratios. They then progress to a study of area, volume and surface area and investigate how changes in dimension affect perimeter, area and volume. Relevant constructions can be included throughout the unit. Students are given every opportunity to develop logical reasoning skills and mathematical proofs as they apply to each new topic of study.

Unit 4:   Focus Standards

7.0 Students prove and use theorems involving the properties of parallel lines cut by a transversal, the properties of quadrilaterals, and the properties of circles.

21.0 Students prove and solve problems regarding relationships among chords, secants, tangents, inscribed angles, and inscribed and circumscribed polygons of circles.

22.0 Students know the effect of rigid motions on figures in the coordinate plane and space, including rotations, translations, and reflections.

Scope and Sequence

Students study the properties of circles and their relationships with lines and polygons. Students also study transformations, i.e., rigid motion in the coordinate plane. Relevant constructions can be included throughout the unit; for example, constructing the tangent to a circle from a point not on the circle, and students are given every opportunity to develop logical reasoning skills and mathematical proofs as they apply to each new topic of study.

Goals / Expectations:
- Respect and follow the school policies, classroom rules and procedures.
- Use time appropriately. Begin work promptly & complete all activities on or before due date.
- Work independently and be cooperative with classmates whenever assigned to do group work.
- Obey teacher's instruction the first time they are given.

Classroom Rules:
1) Be nice and respectful to all.
2) Be organized and prepared for class (with materials, textbook and homework)
3) Be an engaged learner/stay on task.
4) Do not interrupt other students' learning.
5) Listen to directions.
6) Absolutely no gum/food/or any electronic device permitted.
7) Keep hands, feet and objects to yourself.

Consequences for breaking classroom rules include phone call and conference with parents (in some cases, the parent will be invited to sit in class), referral with the dean and/or counselor, and a "U" in cooperation grade.

Requirements: Lined papers   Textbook with cover   Graph paper
Notebook (divided into 4 sections: daily agenda, new vocabulary, CST review problems, notes, sample problems/practice exercises)

Home work will be collected every Tuesday & Thursday. Late submission will be given half credit only. In case of excused absences, student still needs to submit missed home work and will be given full credit.

Grading Policy: To pass this course, a student needs a grade of D or better.

Grading Scale: **A** = 90% - 100%   **D** = 50 – 65%

                                       B = 80% - 89%   **F** = 49% & below

                                       C = 66% – 79%

Cooperation Grade: U – Unsatisfactory   **S** – Satisfactory   **E** - Excellent

How Cooperation Grade is given:

        N – noisy, disruptive, & disrespectful

        O – off task, not cooperating in group work, not following teacher's instruction

        T – using cell phone, MP3, or any other electronic devices,

<u>**E**</u> = none of N, O, T   <u>**S**</u> = any 2 of N, O T   <u>**U**</u> = at least 3 of N, O, T

<u>**Academic Dishonesty**</u>

CHEATING will not be tolerated in my class at any level. If a student is caught cheating during tests and other individually assigned class work/ homework, it will be considered a ground for being dropped from the course and/or a zero on the quiz/exam/homework/class work.

<u>**Parents' Involvement:**</u>

Parents' regular communication with the teacher is highly appreciated especially if a note home requesting for a conference is given to the student concerned.

Mrs. Lourdes P. Lapitan

Teacher

Classroom expectations and policies are designed to achieve a desirable classroom environment and to make students and their parents aware of what is expected from them in advance. Please fill-up the information below and return this portion to Ms. Lapitan at the next class meeting. I look forward to a fruitful summer with all of you.

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Cut and return this part of the page only.

I have read and fully understood the above-mentioned classroom expectations and policies and have discussed them with my parent/guardian. I agree to abide by these while a student in Mrs. Lapitan's Geometry AB class.

_____   _____

Student's Printed Name & Signature   **Parent/Guardian's Printed Name & Signature**

Date Signed:_____   **Parent's Cell phone Number:_____**