

Learning Experience Template

Course/Seminar Title: **Geometry & Probability - B (CP)**

HS32242 (1 credit)

Seminar **Course** Other

Learning Experience Description:

This course is tailored to the student who requires additional time to master concepts in mathematics. Topics build from the previous course and include the study of circles, polyhedron, basic trigonometry, area, volume, coordinate geometry, and conditional probability. The concepts of deductive and inductive proof are studied. Math communication, GeoGebra, the use of hands-on activities, projects and technology will be threaded throughout, as well as tutorial and supervised study. Enrollment is by teacher recommendation and skill readiness inventory. Students are prepared to continue with Algebra 2 A.

Measurement Topic areas touched upon in the learning experience (quick list):

Math: Geometry: Attributes and Properties

Math: Geometry: Measurement

Math: Geometry: Coordinate Systems

Expected Learning Targets (that students would have an opportunity to certify on):

MA.GAP.HS.11	3: Is skilled at using trigonometric ratios, ratios for special right triangles, and the Pythagorean Theorem to solve right triangles in applied problems 2: Know the terms: opposite, adjacent, hypotenuse. Knows the terms: sine, cosine, tangent and their inverses. Knows the trigonometric ratios
MA.GME.HS.9	3: Is skilled at finding surface area of triangular and rectangular prisms, triangular and rectangular pyramids. 2: Knows the terms: nets, surface area. Knows surface area of three dimensional figures can be found using nets made up of triangles and rectangles.
MA.GME.HS.10	3: Is skilled at finding volume of cones, cylinders, spheres, prisms and pyramids 2: Knows the formulas for finding volume of cones, cylinders, spheres, prisms and pyramids
MA.GME.7.6	3: Is skilled at finding the area of triangles, parallelograms, trapezoids, and other polygons. 2: Knows the area of right triangles, other triangles, quadrilaterals, and other polygons can be found by composing and decomposing into simpler figures. Knows the formula for finding area of triangles parallelograms and trapezoids.
MA.GAP.HS.13	3: Understand the relationship between inscribed angles, radii, chords, arc lengths and sectors of circles. 2: Know the terms: inscribed, central and circumscribed angles; tangent lines, radii, chords, secant lines, arc lengths, and areas of sectors of circles, minor arc, semi-circle
MA.GAP.HS.14	3: Is skilled at using theorems of triangle similarity to solve problems. 2: Understands the terms: geometric mean, proportional, ratio
MA.GCS.HS.5	3: Understands using coordinates to find perimeter of polygons and areas of triangles and rectangles. Understands using simple geometric theorems on a coordinate plane 2: Knows the term: theorem, Pythagorean Theorem. Knows distance formula and the slopes of parallel & perpendicular lines
MA.GME.HS.13	3: Is skilled at finding surface area of cones, cylinders, spheres, prisms and pyramids 2: Knows the formulas for finding the surface area of cones, cylinders, spheres, prisms and pyramids

MA.GME.7.7 3: Is skilled at finding area and circumference of circles 2: Knows the formula for area and circumference of a circle. Know the terms: circumference, radius diameter, pi. Knows that pi can be approximated by 3.14 and 22/7. Knows the relationship between the radius and diameter of a circle

Other related Measurement Topics/Learning Targets that may be touched upon and possibly certified by students (likely through additional work):

Math: Geometry: Measurement

MA.GME.HS.11 3: Is skilled at using the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles. 2: Is skilled at sketching a diagram of a triangle based on descriptions involving angle of elevation, angle of depression or bearings.

MA.GME.HS.12 3: Is skilled at finding the area of a non-right triangle using trigonometry. 2: Understand the different formulas that can be used to find the area of a non-right triangle.

Suggested Prerequisite Learning Experiences (courses, seminars, learning targets):

Algebra 1 & Data Analysis B
Geometry & Probability A