

## Math 216 Course Content and Objectives

COURSE CONTENT AND SCOPE - <b>Lecture:</b> Outline the topics included in the lecture portion of the course ( <i>Outline reflects course description, all topics covered in class</i> ).	Hours Per Topic	COURSE OBJECTIVES - <b>Lecture:</b> Upon successful completion of this course, the student will be able to... ( <i>Use action verbs - see <a href="#">Bloom's Taxonomy</a> for 'action verbs requiring cognitive outcomes.'</i> )
Probability.	9	Compute probabilities, use tree diagrams to solve problems involving multistage experiments, and calculate geometric probabilities. Use simulations to estimate probabilities and compare the results to those obtained by theoretical methods. Calculate the odds, conditional probabilities, and find the expected value. Use permutations and combinations in probability.
Introduction to data analysis and statistics.	8	Display data, calculate measures of central tendency and variation, and find abuses of statistics.
Introductory geometry.	8	Identify acute and obtuse angles and measure angles. Identify right, acute, obtuse, scalene, isosceles, and equilateral triangles. Identify kites, isosceles trapezoids, parallelograms, rectangles, squares, and a rhombus. Find the missing angle measures of polygons. Construct polyhedra using nets.
Constructions, congruence, and similarity.	9	Construct angles, triangles, and circles. Determine which triangles and quadrilaterals are congruent. Construct parallel lines, perpendicular lines, angle bisectors, and the incenter of a triangle. Determine which triangles and figures are similar. Find equations of lines and solve systems of linear equations. Fit a line to data.
Concepts of measurement.	10	Convert units of measure, find the distance between two points, calculate the circumference of a circle, and find the arc length. Calculate the area of polygons and circles. Use the Pythagorean theorem to calculate the length of a side of a right triangle. Find the surface area of right prisms, cylinders, pyramids, cones, and spheres. Calculate the volume of right rectangular prisms, prisms, cylinders, pyramids, cones, and spheres. Convert metric and English measures of volume. Convert measures of temperature.
Motion geometry and tessellations.	8	Construct translations, perform rotations, and find equations of lines perpendicular to a given line. Perform reflections, glide

		reflections, and size transformations. Determine line symmetries, rotational symmetries, and point symmetry. Determine symmetries of three-dimensional figures. Construct regular and semiregular tessellations of the plane.
Final examination.	2	Final examination.
	Total: 54	
Total Lecture Hours In Section I Class Hours:		54