Geometry

Course Number: MA2004
Grade level: 10
Credits: 1.0
Prerequisite Courses: Algebra I

Course Description

Offering a hands-on approach to instruction, MA2004 is an interactive course designed to introduce the basics of geometry through engaging lectures and informative lesson plans. Students will be challenged to apply previously learned knowledge to higher-level ideas such as reasoning and proof, geometric relationships, and logic. This informative two-semester course covers fundamentals of shapes, surface area and volume of shapes, and transformations, as well as learning strategies that include writing, analyzing, and using proofs. High school students will gain valuable, tangential knowledge of more complex concepts such as trigonometry.

Course Objectives

Throughout the course, you will meet the following goals:

- Understand that there is more than one type of geometry and each is founded on a set of accepted truths
- Use logic and proof to draw conclusions and verify statements
- Use symbols and notation to represent geometric relationships
- Analyze drawings and diagrams to establish geometric relationships and form logical conclusions
- Model and solve real-world phenomena using geometric principles
- Represent and verify geometric relationships in the rectangular coordinate system
- Use set theory and geometric models to calculate probabilities and make informed decisions

Student Expectations

This course requires the same level of commitment from you as a traditional classroom course would. Throughout the course, you are expected to spend approximately 5-7 hours per week online on the following activities:

- Interactive lessons that include a mixture of instructional videos and tasks
- Assignments in which you apply and extend learning in each lesson
- Assessments including quizzes, tests, and cumulative exams

Communication

Your teacher will communicate with you regularly through discussions, e-mail, chat, and system announcements. Through this communication with your teacher, you will monitor your progress through the course and improve your learning by reviewing material that was challenging for you.

You will also communicate with classmates, either via online tools or face-to-face, as you do the following:

- Collaborate on projects
- Ask and answer questions in your peer group
- Develop speaking and listening skills

Grading Policy

You will be graded on the work you do online and the work you submit electronically to your teacher. The weighting for each category of graded activity is listed below.

Assignments	15%
Essays	5%
Labs	5%
Lesson Quizzes	30%
Unit Tests	20%
Cumulative Exams	20%
Additional	5%

Scope and Sequence

When you log into the Virtual Classroom, you can view the entire course map, which provides a scope and sequence of all topics you will study. Clicking a lesson's link in the course map leads to a page listing instructional activities, assignments, and learning objectives specific to that lesson. The units of study are summarized below.

Unit 1: Geometric Structure and Patterns

Unit 2: Congruence and Similarity

Unit 3: Trigonometry

Unit 4: Geometry of Shapes

Unit 5: Dimensions and Algebraic Connections