

**Course Title: Geometry**

**Teacher: Peter Fee**

**Hour 4 - Semester 1 - 2021/22**

**0.5 Math Credit**

### **COURSE INFORMATION:**

#### **Course Description ([video](#)):**

Students will use drafting tools to create a blueprint for a Tiny House. In addition, students will research and design the home while keeping a budget; and calculate the perimeter, area, and volume of sections of the house. The second half of the semester will include the movement of the same object on graph paper and through an online computer program.

#### **Prerequisites:**

Basic Algebra

#### **Method of Instruction:**

Part 1: Tiny House Modeling ([Geometric Measurement and Dimension](#))

- Use drafting tools to draw a model of a tiny house.
- Use precise measurements including thickness of boards.
- Learn The Pythagorean Theorem (3, 4, 5 rule) to draw and construct square corners.
- Keep a budget of material including screws and sinks.
- Visualize the building (3-D space shape) and draw it.
- Calculate area and volume of objects associated with the tiny house.
- Question: how much space do you need to live a good life?

Part 2: Character movement ([Congruence](#))

- Draw shapes on a 2-dimensional graph paper and make translations.
- Write computer code to translate simple shapes.

#### **Course Objectives [[Common Core State Standards \(CCSS\)](#)]:**

##### [Geometric Measurement and Dimension](#)

- Explain volume formulas and use them to solve problems
- Visualize relationships between two-dimensional and three-dimensional objects

##### [Congruence](#)

- Experiment with transformations in the plane
- Understand congruence in terms of rigid motions
- Prove geometric theorems
- Make geometric constructions

#### **Graduate Vision Competencies:**

Takes Personal Responsibility & Creative and Critical Thinker