

## 45022 Linear Geometry (3)

### **Knowledge**

The students will be able to define the properties of the 4 isometries of the plane: translations, reflections, rotations, and glide reflections. Students will also be able to define the groups of symmetries of the regular polygons.

### **Comprehension**

The students will be able to compute isometries of planar objects and compare the results of the various isometries. Students will also be able to explain the properties of groups as applied to isometries of the plane.

### **Application**

The students will be able to apply the definitions and properties to selected problems.

### **Analysis**

Students will be able to use the properties of isometries of the planes to illustrate properties and various results about symmetric groups.

### **Synthesis**

Students will be able to use the properties of isometries of the plane to prove classic theorems of Euclidean Geometry.

### **Evaluation**

Students will be able to critique their own proofs and those of their peers.

### **Class Activities**

Discussion of theorems and problems.

### **Out of class Activities**

Weekly homework assignments.