

DEPARTMENT: MATHEMATICS	COURSE TITLE: TRANSFORMATIONAL GEOMETRY COURSE NUMBER: 302
GRADE(S): 9-12	PRE-REQUISITES (IF ANY):

UNIT	LENGTH	CONTENT	SKILLS	METHODS OF ASSESSMENT	FRAMEWORK STRAND(S) & STANDARD(S)
		Class activities follow the sequence of labs, while homework assignments allow students to develop and practice skills that will be necessary for success in algebra. This course is self-paced. All students are required to finish at least Lab 5.	Fractions and decimals appear in every unit.	Notebook 75% Lab summaries 40% Homework 25% Tests 10% Class Participation 25% Punctuality, preparation, on-task behavior	
Scaling		<ul style="list-style-type: none"> Analyze the role of x and y scale factors as they affect the appearance of a shape 	<ul style="list-style-type: none"> Introduction to vocabulary of the Cartesian plane Plotting points 	<ul style="list-style-type: none"> Lab summaries Homework assignments Class participation 	
Translating		<ul style="list-style-type: none"> Analyze the role of x and y translations as they affect the appearance of a shape 		<ul style="list-style-type: none"> Lab summaries Homework assignments Class Participation 	
Shape Vocabulary		<ul style="list-style-type: none"> Infer definitions from example and counterexample Apply definitions to exercises on the Cartesian plane 	<ul style="list-style-type: none"> Polygon Convex Vertices Edges Reflection symmetry Rotational symmetry 	<ul style="list-style-type: none"> Lab summaries Homework assignments Class Participation 	
Rotation		<ul style="list-style-type: none"> Use angle of rotation to create designs with n-fold rotational symmetry. 	<ul style="list-style-type: none"> Positive versus negative rotations Equivalence mod 360 	<ul style="list-style-type: none"> Lab summaries Homework assignments Class Participation 	
Tiling and Congruence		<ul style="list-style-type: none"> Use scaling, translating, and rotation to create tessellations on the coordinate plane 		<ul style="list-style-type: none"> Lab summaries Homework assignments Class Participation 	
Shearing		<ul style="list-style-type: none"> Analyze the role of horizontal and vertical shears as they affect the appearance of a shape. Use shearing and other transformations to animate a shape. 	<ul style="list-style-type: none"> Introduction to QuickBasic programming 	<ul style="list-style-type: none"> Lab summaries Homework assignments Class Participation 	