



Outcomes		HW 0129	HW 0212	HW 0226	HW 0319	HW 0326	HW 0404	HW 0418	HW 0502	HW2 *	Final	Totals
1	Represent, model, and create visual information digitally.											
1a	...in terms of pixels and geometric primitives.		+	+							+	
1b	...in terms of polygon meshes: vertices, edges, and faces.									+	+	
1c	...as a composition of multiple discrete objects (scenes).				/							
2	Manipulate and display visual information in 2D and 3D.											
2a	Apply transforms to 2D and 3D objects.						+	+			+	<div> <div>+</div> <div>15</div> </div> <div> <div> </div> <div>3</div> </div> <div> <div>/</div> <div>0</div> </div> <div> <div>-</div> <div>0</div> </div> <div> <div>O</div> <div>0</div> </div> <div> <div>A</div> </div>
2b	Project 3D objects onto a 2D viewport.						-			+	+	
2c	Perform color and light computations.								+		+	
2d	Perform clipping and hidden surface removal (HSR).								+		+	
3	Use and develop computer graphics APIs in both 2D and 3D.											
3a	Animate scenes in 2D and 3D.							+			+	
3b	Implement 2D graphics primitives such as line segments, circles, and polygon fills.			+							+	<div> <div>+</div> <div>15</div> </div> <div> <div> </div> <div>3</div> </div> <div> <div>/</div> <div>0</div> </div> <div> <div>-</div> <div>0</div> </div> <div> <div>O</div> <div>0</div> </div> <div> <div>A</div> </div>
3c	Perform bit-level color manipulation.			+							+	
3d	Develop a library of geometric primitives, operations, and matrix transformations.				/							
3e	Render a 3D scene using programmable shaders.								+		+	
4	Follow academic and technical best practices throughout the course.											
4a	Write syntactically correct, functional code.	+	+		/	+		+				
4b	Demonstrate proper separation of concerns.		+	+	+	/		+	+		+	<div> <div>+</div> <div>15</div> </div> <div> <div> </div> <div>3</div> </div> <div> <div>/</div> <div>0</div> </div> <div> <div>-</div> <div>0</div> </div> <div> <div>O</div> <div>0</div> </div> <div> <div>A</div> </div>
4c	Write code that is easily understood by programmers other than yourself.	+		+	+			+	/		+	
4d	Use available resources and documentation to find required information.	+	+	+		+	+	+	+		+	
4e	Use version control effectively.	+	+	+	+	+	+	+	+		+	
4f	Meet all designated deadlines.	+	+	+	+	+	+	+	+		+	

* Cumulative re-review of code cleanup, recursion, projection, and polygon meshes.