| 910        | Outcomes  | HW<br>0121 | HW<br>0130 | HW<br>0218 | So Far |
|------------|---|------------|------------|------------|--------|
| 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.                             |            |            |            |        |
| <b>2</b> a | Apply transforms to 2D and 3D objects.  |            |            | /          | /      |
| 2b         | Project 3D objects onto a 2D viewport.  |            |            |            |        |
| 2c         | Perform color and light computations.   |            |            |            |        |
| <b>2</b> d | 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. |            |            |            |        |
| 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.                                       |            | +          | /          | I      |
| 4b         | Demonstrate proper separation of concerns.  |            | +          | +          | +      |
| 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.  | +          | +          |            | +      |

| <b>Totals</b> |   |  |  |  |
|---------------|---|--|--|--|
| +             | 6 |  |  |  |
| 1             | 1 |  |  |  |
| /             | 2 |  |  |  |
| -             | 0 |  |  |  |
| 0             | 0 |  |  |  |
|               |   |  |  |  |