





|                                                                                                                                                            | HW<br>0119 | HW<br>0204 | HW<br>0225 | HW<br>0308 | HW<br>0329a | HW<br>0329b | HW<br>0428a | HW<br>0428b | So<br>Far | Totals |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|-------------|-------------|-------------|-------------|-----------|--------|---|
| <b>1 Represent, model, and create visual information digitally.</b>                                                                                        |            |            |            |            |             |             |             |             |           | +      | 5 |
| <b>1a</b> ...in terms of pixels and geometric primitives.                                                                                                  |            | +          |            |            |             |             |             |             | +         |        | 4 |
| <b>1b</b> ...in terms of polygon meshes: vertices, edges, and faces.                                                                                       |            |            |            |            |             |             |             |             |           | /      | 0 |
| <b>1c</b> ...as a composition of multiple discrete objects (scenes).                                                                                       |            |            |            |            |             |             |             |             |           | -      | 0 |
| <b>2 Manipulate and display visual information in 2D and 3D.</b>                                                                                           |            |            |            |            |             |             |             |             |           | O      | 0 |
| <b>2a</b> Apply transforms to 2D and 3D objects.                                                                                                           |            |            |            |            |             |             |             |             |           |        |   |
| <b>2b</b> Project 3D objects onto a 2D viewport.                                                                                                           |            |            |            |            |             |             |             |             |           |        |   |
| <b>2c</b> Perform color and light computations.                                                                                                            |            |            |            |            |             |             |             |             |           |        |   |
| <b>2d</b> Be familiar with established algorithms such as clipping and hidden surface removal (HSR).                                                       |            |            |            |            |             |             |             |             |           |        |   |
| <b>3 Use and develop computer graphics APIs in both 2D and 3D.</b>                                                                                         |            |            |            |            |             |             |             |             |           |        |   |
| <b>3a</b> Develop a library of 2D and 3D objects.                                                                                                          |            |            |            |            |             |             |             |             |           |        |   |
| <b>3b</b> Animate scenes in 2D and 3D.                                                                                                                     |            |            |            |            |             |             |             |             |           |        |   |
| <b>3c</b> Perform bit-level color manipulation.                                                                                                            |            |            |            |            |             |             |             |             |           |        |   |
| <b>3d</b> Render a 3D scene using programmable shaders.                                                                                                    |            |            |            |            |             |             |             |             |           |        |   |
| <b>4 Follow academic and technical best practices throughout the course.</b>                                                                               |            |            |            |            |             |             |             |             |           |        |   |
| <b>4a</b> Write syntactically correct, functional code.                                                                                                    |            | +          |            |            |             |             |             |             | +         |        |   |
| <b>4b</b> Use coding best practices, demonstrating principles such as DRY, proper separation of concerns, correct scoping of variables and functions, etc. |            |            |            |            |             |             |             |             |           |        |   |
| <b>4c</b> Write code that is easily understood by programmers other than yourself.                                                                         |            |            |            |            |             |             |             |             |           |        |   |
| <b>4d</b> Use available resources and documentation to find required information.                                                                          | +          | +          |            |            |             |             |             |             | +         |        |   |
| <b>4e</b> Use version control effectively.                                                                                                                 | +          | +          | +          | /          |             |             |             |             | +         |        |   |
| <b>4f</b> Meet all designated deadlines.                                                                                                                   | +          | +          | +          | /          |             |             |             |             | +         |        |   |