

# 3D Modeling & Animation I: Grades 9-12

Understand the career pathways and career opportunities in 3D Modeling and Animation 1.00

- 1 Understand career opportunities in 3D Modeling and Animation. 1.01
- 2 Understand opportunities in the Technology Student Association. 1.02

Apply durable employability skills 2.00

- 1 Recognize durable employability skills and their importance. 2.01
- 2 Apply durable employability skills. 2.02

Understand 3D modeling software and asset production workflow. 3.00

- 1 Understand the capabilities and interface of 3D modeling software. 3.01
- 2 Understand 3D asset production and workflow. 3.02

Apply basic modeling techniques. 4.00

- 1 Understand transformations in 3D space and subdivisions to edit geometry. 4.01
- 2 Implement tools to edit 3D meshes. 4.02
- 3 Implement techniques to produce 3D models. 4.03

Understand the use and purpose of materials and textures. 5.00

- 1 Understand the material editor and material components. 5.01
- 2 Apply UV mapping and custom materials to a 3D mesh. 5.02

Apply basic lighting and rendering. 6.00

- 1 Understand lights, light attributes, and render settings. 6.01
- 2 Implement lighting techniques and composition. 6.02
- 3 Execute a scene with realistic lighting. 6.03

Understand the basics of animation. 7.00

- 1 Understand keyframing, timing, and interpolation. 7.01
- 2 Implement constraints and hierarchy. 7.02
- 3 Execute a scene with animated assets. 7.03

**Apply the use of virtual cameras. 8.00**

**1 Implement the use of virtual camera movements. 8.01**

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**2 Execute a scene with camera movement. 8.02**