

3D Animation 2

Exam Information	Description
Exam number 8192 Items 29 National Career Cluster Arts, A/V Technology, & Communications Certification available Yes	3D Animation 2 is a course that builds on the skills and knowledge acquired in 3D Animation 1, using advanced 3D graphic software tools to create complex models and animations. Candidates will learn the entire animation workflow from planning, storyboarding, development, testing, and delivery of client project-based work. They will also explore how to research and solve real world animation problems, refine their artistic and technical abilities in 2D and 3D animation, and develop work that can be used in a professional portfolio. This course is mainly project-based and requires creativity, collaboration, and communication skills.

Exam Blueprint and Performance Skills

Standard	Percentage of exam score
1. 12 Principles Of Animation	20%
2. Animation Pipeline: Pre-production Practices	23%
3. Animation Pipeline: Production Practices	17%
4. Animation Pipeline: Post-Production	11%
5. Rigging Techniques	11%
6. Advanced Animation Techniques	14%
7. Work-Based Learning	3%

*Includes performance skill evaluation

Standard 1 - 12 Principles of Animation

Candidates will show greater understanding of the 12 Principles of Animation

Objective 1 Analyze and implement the 12 Principles of Animation.

1. Squash and Stretch
2. Anticipation
3. Staging
4. Straight Ahead and Pose to Pose
5. Follow Through and Overlapping Action
6. Slow In and Slow Out
7. Arcs
8. Secondary Action
9. Timing
10. Exaggeration
11. Appeal
12. Solid Drawing

Standard 2 - Animation Pipeline: Pre-Production Practices

Candidates will understand and demonstrate pre-production practices.

Objective 1 Candidates will understand the uses of storyboarding

1. Story development
2. Identify storyboard layering (foreground, background, midground, overlay)
3. Identify staging (i.e. close up, wide, medium, etc...)
4. Identify movements (dolly/zoom, pan, tilt, truck)

Objective 2 Candidates will understand the uses of animatics(animated storyboards)

1. Identify timing/duration
2. Identify temporary audio elements (scratch audio, sound effects, music)
3. Identify transitions

Objective 3 Identify uses of concept art in the animation pipeline

1. Character art
2. Environmental
3. Props

Performance Skills

Understand and implement pre-production practices in candidate projects.

Optional: Standard performance evaluations on the final page of this document

Standard 3 - Animation Pipeline: Pre-Production Practices

Candidates will understand and demonstrate production practices.

Objective 1 Candidates will understand asset management

1. Import or create models
2. Import or create textures
3. Import or create materials
4. Import or create lights
5. Import or create animation
6. Import or create cameras

Objective 2 Candidates will understand character animation

1. Rigging
2. IK (Inverse Kinematics)
3. FK (Forward Kinematics)
4. Straight ahead animation
5. Pose to pose animation
6. Blocking
7. In-betweens
8. Reining

Objective 2 Candidates will understand visual effects

1. Candidates will understand visual effects
2. Simulation
3. Rigidbodies
4. Fluid dynamics
5. Cloth
6. Particles
7. Hair
8. Procedural materials

Performance Skills

Understand and implement production practices in candidate projects

Optional: Standard performance evaluations on the final page of this document

Standard 4 - Animation Pipeline: Post-Production

Candidates will understand post-production as it releases to the animation pipeline.

Objective 1 Candidates will understand render outputs

1. Rendering
2. File formats (.jpg, .png, .exr, .mp4)
3. Compositing
4. Color Correction

Objective 2 Candidates will understand video editing

1. Compiling rendered scenes into sequence
2. Add final sound effects
3. Add final voice tracks
4. Add final music

Performance Skills

Understand and implement post-production practices in candidate projects

Optional: Standard performance evaluations on the final page of this document

Standard 5- Animation Pipeline: Production Practices

Candidates will implement rigging techniques

Objective 1 Candidates will create a simple rigged object or character.

1. IK / FK
2. Joints/Controls
3. Parent/Child relationships (Hierarchy)Sub
4. Vertex animation (Blend shapes / morph targets)

Objective 2 Candidates will identify expression driven controls

1. Drivers/Set Driven Keys
2. Custom scripts

Performance Skills

Understand and implement rigging techniques in candidate projects

Optional: Standard performance evaluations on the final page of this document

Standard 6- Rigging Techniques

Candidates will participate in a work-based learning experience and/or candidate competition.

Objective 1 Candidates will demonstrate advanced uses of the principles of animation

1. Body Mechanics
2. Acting Choices
3. Character personality
4. Emotion
5. Subtext
6. Timing and Rhythm

Objective 2 Candidates will continue to strengthen their skills in cycle animations

Objective 3 Candidates will Implement the use of particles and simulations.

Performance Skills

Demonstrate advanced animation techniques in candidate projects.

Optional: Standard performance evaluations on the final page of this document

Standard 7- Rigging Techniques

Candidates will participate in a work-based learning experience and/or candidate competition.

Objective 1 Participate in a work-based learning experience. (Optional)

1. Take a field trip to an animation business
2. Do a job shadow for someone in the animation career
3. Listen to an industry or post-secondary guest speaker
4. Work for an animation company

Objective 2 Participate in a digital media candidate competition. (Optional)

1. Take a field trip to an animation business

2. Do a job shadow for someone in the animation career
3. Listen to an industry or post-secondary guest speaker
4. Work for an animation company

Performance Skills

Candidates will use the Strands & Standards in this course to create an advanced animation project.

Optional: Standard performance evaluations on the final page of this document

Performance Skills Evaluation

Exam name: *Exam title*

Candidate Name: _____

Performance assessments may be completed and evaluated any time before the certification is issued. The following performance skills can be used in connection with the associated standards and exam. The evaluator will function as the subject matter expert to determine if the candidate meets the skills requirements with a Yes/No for passing.

Standard 1 – 12 Principles of Animation Analyze and implement the 12 Principles of Animation.	Pass:
Standard 2 – Animation Pipeline: Pre-Production Practice - Candidates will understand the uses of storyboarding - Candidates will understand the uses of animatics(animated storyboards) - Identify uses of concept art in the animation pipeline	Pass:
Standard 3 – Animation Pipeline: Production practices - Candidates will understand asset management - Candidates will understand character animation - Candidates will understand visual effects	Pass:
Standard 4 – Animation Pipeline: Post-Production - Candidates will understand render outputs - Candidates will understand video editing	Pass:
Standard 5 – Rigging Techniques - Candidates will create a simple rigged object or character. - Candidates will identify expression driven controls	Pass:
Standard 6 – Advanced Animation Techniques - Candidates will demonstrate advanced uses of the principles of animation - Candidates will continue to strengthen their skills in cycle animations. - Candidates will implement the use of particles and simulations.	Pass:
Standard 7 – Work-Based Learning - Participate in a work-based learning experience. (Optional) - Participate in a digital media candidate competition. (Optional)	Pass:

Evaluator Name: _____

Date: _____