3D Animation 2

Exam Information

Exam number
8192

Items
29

Points
35

Prerequisites
3D Animation 1

Recommended course length
One semester

National Career Cluster
Arts, A/V Technology, & Communications

Performance standards
Included (Optional)

Certificate available
Yes

Description

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. Students 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

Standard	Percentage of exam
1. 12 Principles of Animation	20%
2. Animation Pipeline: Pre-production practices	23%
	17%
3. Animation Pipeline: Production practices	11%
	11%
4. Animation Pipeline: Post-production	14%
	3%
5. Rigging techniques	
6. Advanced animation techniques	
7. Work-based learning	

Standard 1

Students 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 1 Performance Evaluation included below (Optional)

3D Animation 2

Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of 8 or higher on the rating scale. Students may be encouraged to repeat the objectives until they average 8 or higher.

Student's Name: _____

Class: _____

Standard 2

Students will understand and demonstrate pre-production practices.

Objective 1 Students 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 Students 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 student projects.

Standard 3

Students will understand and demonstrate production practices.

Objective 1 Students 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 Students 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. Re ining

Objective 3 Students will understand visual effects

1. Students 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 student projects

Standard 4

Students will understand post-production as it relates to the animation pipeline.

Objective 1 Students will understand render outputs

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

Objective 2 Students 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 student projects

Standard 5

Students will implement rigging techniques.

Objective 1 Students 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 Students will identify expression driven controls

1. Drivers/Set Driven Keys
2. Custom scripts

Performance Skills
Understand and implement rigging techniques in student projects

Standard 6

Students will implement advanced animation techniques.

Objective 1 Students 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 Students will continue to strengthen their skills in cycle animations.

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

Performance Skills
Demonstrate advanced animation techniques in student projects.

Standard 7

Students will participate in a work-based learning experience and/or student 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 student competition. (Optional)

1. Enter a school or school digital media contest
2. Prepare and submit an entry for the Digital Media Arts Festival
3. Enter and compete in a CTSO (Career & Technical Student Organization) competition in an animation area

Performance Skills

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

Workplace Skills

1. Communication
2. Problem Solving
3. Teamwork
4. Critical Thinking
5. Dependability
6. Accountability

Performance standards rating scale

0	Limited skills	2	→	4	Moderate skills	6	→	8	High skills	10

Standard 1 – 12 Principles of Animation   Score:

- Analyze and implement the 12 Principles of Animation.

Standard 2 – Animation Pipeline: Pre-production practices   Score:

- Students will understand the uses of storyboarding
- Students will understand the uses of animatics(animated storyboards)
- Identify uses of concept art in the animation pipeline

Standard 3 – Animation Pipeline: Production practices

- Students will understand asset management
- Students will understand character animation
- Students will understand visual effects

Standard 4 – Animation Pipeline: Post-production

- Students will understand render outputs
- Students will understand video editing

Standard 5 – Rigging techniques

- Students will create a simple rigged object or character.
- Students will identify expression driven controls

Standard 6 – Advanced animation techniques

- Students will demonstrate advanced uses of the principles of animation
- Students will continue to strengthen their skills in cycle animations.
- Students will implement the use of particles and simulations.

Standard 7 – Work-based learning

- Participate in a work-based learning experience. (Optional)
- Participate in a digital media student competition. (Optional)

Score: (move to the right)

Performance standard average score:

Evaluator Name: _____

Evaluator Title: _____

Evaluator Signature: _____

Date: _____