



WEEKLY SCHEDULE
MA215 Principles of 3D Animation

Instructor: Jim Tavernetti

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Office hours: *By Appointment*

Week 1

- Lecture:** Explore the animation interface
Align tools
Keyframe animation
Trajectories and the Motion Panel
Timeline shortcuts
Intro to Previewing animations vs. rendering animations
Tangent types and the Curve Editor
- Lab:** Begin working on Bouncing Ball Animation project
- Assignment:** **Bouncing Ball Animations** Complete the ball animation (5-8 seconds). Show a rubber ball and a bowling ball bouncing on some sort of surface in the same scene. **Due Week 2**
- Competency:** Identify the fundamental animation features and functions in the 3D animation software package.
Transform a 3D model using motion and time.

Week 2

DUE: Bouncing Ball Animations

Critique assignments

- Lecture:** Animating using deformers
Animating materials
Rendering Animations for portfolio. Compression, file types, FPS
Controller types. TCB, bezier, path constraint, link constraint, look at target
Applying the principles of timing
Hierarchies and linking. Locking animation axis
Setting up cameras
- Lab:** Begin working on Helicopter assignment.
- Assignment:** **Helicopter Animation** Animate a helicopter picking up and dropping off a payload. Animation must utilize link constraint, look at target, correct helicopter hierarchies with locked animation axis. **Due Week 3**
- Competency:** Identify the fundamental animation features and functions in the

3D animation software package. Integrate into 3D animation the traditional principles of animation. Transform a 3D model using motion and time.

- Week 3** **DUE: Helicopter Animation**
Critique assignments
- Lecture:** Bone Structures
Skin modifier
Modifier animations – FFD, noise, materials
Apply the principals of traditional animation
Squash and stretch, anticipation, exaggeration, staging, pose to pose
- Lab:** Build and rig (Bones and Skin) a flower sack
- Assignment:** **Flower Sack Animation** Create, rig and animate a flower sack applying the principals of traditional animation. **Due Week 4**
- Competency:** Integrate into 3D animation the traditional principles of animation. Transform a 3D model using motion and time. Apply appropriate texture maps for the animation.

- Week 4** **DUE: Flower Sack Animation**
Critique assignments
- Lecture:** Working with Multiple Cameras
Rendering using Video Post
Putting animations together in video editing software.
Adding lights
Adding simple color palette
Prepare for Portfolio Quality renders
- Lab:** How to create Portfolio Quality Animations
- Assignment:** **Preparing and Rendering Portfolio Quality Animations.** Stage and prepare an animation for “Portfolio Quality” folder. Students may pick 1 out of the 3 to work on further. **DUE Week 5**
- Competency:** Integrate into 3D animation the traditional principles of animation. Transform a 3D model using motion and time. Apply appropriate texture maps for the animation.

- Week 5** **DUE: Portfolio Quality Animation**
Critique assignments
- Lecture:** Storyboards and Thumbnails
- Lab:** Fixing mistakes and re-rendering animations
- Assignment:** **#1:** Create an interactive environment for animation. Create a “mouse-trap” like animation. All rigging must be documented. **DUE Week 10**
#2: Animation Storyboard and Thumbnails Create a storyboard

and thumbnails. **DUE Week 6**

Competency: Integrate into 3D animation the traditional principles of animation.
Transform a 3D model using motion and time.
Apply appropriate texture maps for the animation.
Apply basic camera and lighting techniques.

Week 6

DUE: Animation Storyboard and Thumbnails

Lecture: Review
Morphing
How do I set up this animation?
Animatics

Lab: Challenge the Teacher. Question and answer session. Methods for animating your storyboard. Build your environment.

Assignment: **Morph Assignment, Begin Modeling 3D Assets & Environment**
#1: Animate a character using at least 3 separate morph targets.

DUE Week 7

#2: 3D asset modeling. **DUE Week 7**

Competency: Integrate into 3D animation the traditional principles of animation.
Transform a 3D model using motion and time.
Apply appropriate texture maps for the animation.
Apply basic camera and lighting techniques.

Week 7

DUE: Morph Assignment, Progress on 3D Assets and Environment

Critique assignments

Lecture: Following your storyboard and client needs

Lab: Continue working on FINAL animation based on storyboard

Assignment: **Animatic & 3D Assets** Create an 8 to 10 second animatic of your storyboard. **DUE Week 8**

Competency: Integrate into 3D animation the traditional principles of animation
Transform a 3D model using motion and time.
Apply appropriate texture maps for the animation.
Apply basic camera and lighting techniques.

Week 8

DUE: Animatic and Camera Shot Sequence, Completed 3D Assets

Lecture: Creating and testing liking hierarchies
Using layers and freezing to keep things organized

Lab: Open Lab

Assignment: **Begin Animating Scene**

Competency: Integrate into 3D animation the traditional principles of animation.
Transform a 3D model using motion and time.

Apply appropriate texture maps for the animation.
Apply basic camera and lighting techniques.

Week 9 **DUE: Animation Progress**
Lecture: Following storyboards and client needs
Lab: Continue working on FINAL animation based on storyboard
Assignment: **Preview Animation Render** Setting up and rendering a preview animation for approval.
Competency: Integrate into 3D animation the traditional principles of animation
 Transform a 3D model using motion and time
 Apply appropriate texture maps for the animation
 Apply basic camera and lighting techniques
 Produce an animation based on the storyboard for the project

Week 10 **DUE: Preview Animation Render**
Lecture: Final changes and quality vs. render time
 Portfolio Quality renders
 Class Critique
Lab: Open lab
Assignment: **Portfolio Quality Renders+ 1 Process Render** Prepare and Render Portfolio Quality Animation **Due Week 11**
Competency: Produce an animation based on the storyboard for the project.

Week 11 **DUE: Portfolio Quality Renders + 1 Process Render**
Lecture: “Portfolio Quality” ceremony
Lab: last minute corrections and re-renders for “Portfolio Quality” folder.

Points Breakdown

Due	Assignment	Points Possible	Points Earned
All	Participation	15	
Wk #2	Bouncing Ball Animations	10	
Wk #3	Helicopter Animation	10	
Wk #4	Flower Sack Animation	10	
Wk #5	Portfolio Quality Animation	55	
Wk #6	Animation Storyboard and Thumbnails	10	
Wk #7	Morph Assignment, Progress on 3D Assets and Environment	10	
Wk #8	Animatic and Camera Shot Sequence, Completed 3D Assets	10	
Wk #9	Animation Progress	10	

Wk #10	Preview Animation Render	10	
Wk #11	Portfolio Quality Renders	150	
Total		300	

Extra Credit Points Breakdown

You must have a signed document that you are part of a club or attended workshops. You may use the back of the syllabi to obtain these.

All	Clubs and Organizations: First one joined additional	15 10	
All	Workshops and events: First one attended additional	15 10	
MAX		75	

Total Points 300

A	279-300
A-	270-278
B+	261-269
B	249-260
B-	240-248
C+	231-239
C	219-230
C-	210-218
D+	201-209
D	195-200
F	0-194
Late Work	0

This Schedule is subject to change according to the needs of the class as determined by the instructor.