



**WEEKLY SCHEDULE
MA280 3D Animation II**

Instructor: Jim Tavernetti

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Office hours: *By Appointment*

Week 1

- Lecture:** Principles of animation
Introduction to CAT - Character Animation Tools
- Lab:** Bend animation. Character will bend down and demonstrate the principles of animation
- Assignment:** **Bend Animation** Use the CAT rig to create two separate bend animations. **Due Week 2**
Model Character Model a character for rigging tutorial **Due Week 5**
- Competency:** Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.

Week 2

- DUE: Bend Animation**
Critique assignments
- Lecture:** Principles of animation
Pose to pose animation
Importance of Keyframes
TCB vs. Bezier rotation
When to use IK and FK
- Lab:** Swing animation. Character will swing an object and demonstrate the principles of animation.
- Assignment:** **Swing Animation** Use the CAT rig to create two separate swing animations. **DUE Week 3**
- Competency:** Explore Forward Kinematics and Inverse Kinematics.
Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.

Week 3

- DUE: Swing Animation**
Critique assignments
- Lecture:** Principles of animation
Working with foot movement

- Lab:** Footwork
Walk cycle. In place and through a scene
- Assignment:** Walk Cycle Use the CAT rig to create two separate walk animations. One will be in place and the other through a scene **Due Week 4**
- Competency:** Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation. Explore Forward Kinematics and Inverse Kinematics

- Week 4** **DUE: Walk Cycle**
Critique assignments
- Lecture:** Principles of animation
Footwork review
- Lab:** Jump animation
- Assignment:** Jump Animation. Use the CAT rig to create two separate jump animations. **DUE Week 5**
- Competency:** Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation. Explore Forward Kinematics and Inverse Kinematics

- Week 5** **DUE: Jump Animation**
Modeled Character
Critique assignments
- Lecture:** Character Rigging
Using bones and CAT
Skinning
Introduction to generic rig
- Lab:** Rig your character
Practice with generic rig
- Assignment:** Finish Character Rig Animation 1
Do one animation per week-5 total. You can do these in any order. All characters must be personalized and a set must be created.
- Pick up animation. This animation will demonstrate weight. Can be light or heavy
 - Walk animation. This animation must demonstrate correct foot movement.
 - Hop or jump animation. This animation must demonstrate all principles of animation.
 - Two animations with audio. These animations must focus on character movement.
- Competency:** Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.

Explore Forward Kinematics and Inverse Kinematics
Apply industry-standard storyboard and scripting techniques to animations.

Week 6

DUE: Character Rig Animation 1

Critique assignments

Lecture: Exaggeration and anticipation
Using animation layers

Lab: Open Lab – animation layers

Assignment: Animation 2

Do one animation per week-5 total. You can do these in any order.
All characters must be personalized and a set must be created.

- Pick up animation. This animation will demonstrate weight.
Can be light or heavy
- Walk animation. This animation must demonstrate correct foot movement.
- Hop or jump animation. This animation must demonstrate all principles of animation.
- Two animations with audio. These animations must focus on character movement.

Competency: Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.
Explore Forward Kinematics and Inverse Kinematics
Apply industry-standard storyboard and scripting techniques to animations.
Demonstrate materials and mapping principles.

Week 7

DUE: Animation 2

Critique assignments

Lecture: Pose to Pose or straight ahead action.

Lab: Open lab

Assignment: Animation 3

Do one animation per week-5 total. You can do these in any order.
All characters must be personalized and a set must be created.

- Pick up animation. This animation will demonstrate weight.
Can be light or heavy
- Walk animation. This animation must demonstrate correct foot movement.
- Hop or jump animation. This animation must demonstrate all principles of animation.
- Two animations with audio. These animations must focus on character movement.

Competency: Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.
Explore Forward Kinematics and Inverse Kinematics
Apply industry-standard storyboard and scripting techniques to animations.
Demonstrate materials and mapping principles.

Week 8

DUE: **Animation 3**

Lecture: Curves vs. robotic animation

Lab: Open Lab

Assignment: **Animation 4**

Do one animation per week-5 total. You can do these in any order.
All characters must be personalized and a set must be created.

- Pick up animation. This animation will demonstrate weight.
Can be light or heavy
- Walk animation. This animation must demonstrate correct foot movement.
- Hop or jump animation. This animation must demonstrate all principles of animation.
- Two animations with audio. These animations must focus on character movement.

Competency: Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.
Explore Forward Kinematics and Inverse Kinematics
Apply industry-standard storyboard and scripting techniques to animations.
Demonstrate materials and mapping principles.
Apply basic camera and lighting techniques.

Week 9

DUE: **Animation 4**

Lecture: Following storyboards and research

Lab: Open Lab

Assignment: **Animation 5**

Do one animation per week-5 total. You can do these in any order.
All characters must be personalized and a set must be created.

- Pick up animation. This animation will demonstrate weight.
Can be light or heavy
- Walk animation. This animation must demonstrate correct foot movement.
- Hop or jump animation. This animation must demonstrate all principles of animation.
- Two animations with audio. These animations must focus on character movement.

Competency: Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.
 Explore Forward Kinematics and Inverse Kinematics
 Apply industry-standard storyboard and scripting techniques to animations.
 Demonstrate materials and mapping principles.

Week 10

DUE: Animation 5

Lecture: Lighting and rendering animations
 Portfolio Quality renders
 Class Critique
 Camera and composition

Lab: Lighting and Rendering

Assignment: **Portfolio Quality Renders** Prepare and Render Portfolio Quality Demo Reel. Pick the three best animations of the quarter and edit them together. **Due Week 11**

Competency: Demonstrate the basic principles of traditional animation translated to a 3D environment to produce a short 3D animation.
 Explore Forward Kinematics and Inverse Kinematics
 Apply industry-standard storyboard and scripting techniques to animations.
 Demonstrate materials and mapping principles.

Week 11

DUE: Portfolio Quality Renders

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	Bend Animation	10	
Wk #3	Swing Animation	10	
Wk #4	Walk Cycle	10	
Wk #5	Jump Animation	10	
Wk #6	Character Rig Animation 1	20	
Wk #7	Animation 2	15	
Wk #8	Animation 3	15	
Wk #9	Animation 4	15	
Wk #10	Animation 5	15	

Wk #11	Portfolio Quality Demo Reel	150	
Total		300	

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.