Instructor: Raquel Coelho  
Email: raquel.coelho@sjsu.edu  
Office hours:  
Mon 11:30am-12:30 -Thurs 11:30am-12:30pm  
Class Location:  
{MAC Computer Lab}  
Class Days/Times:  
Tues/Thurs, 8:00am to 10:50am

Course Description

In this class we will apply the traditional principles of animation to assignments for intermediate level focusing on character animation. We will also work on improving the workflow of creating a shot, with emphasis on achieving a strong blocking more efficiently. Techniques for polishing the animation will also be addressed. In addition to body mechanics scenes, students will collect and study scenes from feature film animation, and will work on short studies focusing on specific problem areas of character animation.

Course Learning Outcomes

By the end of this class students should be able to:

- Understand well the Maya workflow, and how to take a shot from design to final phase
- Block a shot more quickly and efficiently and polish a shot using the principles of traditional animation
- Animate broad action with solid body mechanics, appropriate for an intermediate level
- Know how to apply the traditional principles of animation in order to produce believable movement
- Use strong storytelling and character development in their animated scenes
- Create believable characters that appear to have thoughts and emotions of their own

Prerequisite to enrollment

ANI 128a Digital Animation I

Required supplies

- A USB flash drive or external drive for storing DATA; (a minimum of 8 GB recommended)
- Sketch book and pencils for drawing.
- Tape (scotch tape to tape acetate to monitors)
- Maya is available in all computers in the animation lab on campus. For this class, we are going to be mostly using Maya 2015. Please remember that as a student you can get Maya free of charge, if you go to the autodesk site. If you have an older version of Maya in your computer, please upload the latest one from the autodesk site.
- You will be required to shoot video reference for some of the assignments. Please be prepared to do so, making sure you have some kind of device to record video. This device could be a smart phone, mini-Dv cam, a webcam or a digital camera that can shoot video. If you don't have one, think of someone that can help you with shooting video reference for class.
As part of the SJSU Animation/Illustration program, in this class, as well as every other, it is expected that you possess the Adobe Creative Suite and will utilize it at some point in executing your projects for this class. It should be installed on your laptop along with the Microsoft Office Suite:

http://its.sjsu.edu/services/software/

- RIGS AND PROPS
Please use our assets library for your prop needs.
The address of the library ai.sjsu.edu/assets

CHARACTERS
Listed below are the characters allowed in this class. There are paid and free options. Please make sure to always read all the documentation of the character you are downloading, watch the videos etc. Some of the characters are very complex, and have many options for Ik/FK, orientation of head, neck and wrists, etc etc. Expect to spend at least 6 hours getting to know your character and understand all the options of the rig.

Your can use the following rigs in this class (please check the rules and abide to the terms of use):

FREE:

Malcolm:

Norman:

Bonny:
http://www.joshsobel animator.com/#!bonnie-rig/c1k6j

Mery
http://www.cgmeetup.net/home/mery-rig-free-maya-character-rig-female-character-rig/

Kayla:
http://www.joshsobelrigs.com/kayla

Hare:
http://www.cgmeetup.net/home/hare-rig-free-maya-rig-cartoon-character-rig/

Morpheus:

Also:

PAYED OPTIONS:
If you are willing to pay for more options, you can use the characters from LongWinter studios (http://longwintermembers.com/) or Animates (http://animationrigs.com/) but check with the instructor first, because not all characters are suitable for this course.
companies. Please look at the PDFs under "files" for more information.

Required text/readings:

The Animator’s Survival kit
By Richard Williams
Published by Faber and Faber
ISBN 0-571-20228-4
ISBN 0-571-21268-9

Acting and Performance for Animation
by Derek Hayes and Chris Webster
ISBN-10: 0240812395

Please buy these two books (paper please, not digital version) and consult them often

Course Requirements and Assignments

Assignments will consist of weekly "shot pick apart" assignments, poses and short studies.
In addition, each student will work on group or individual scenes (3 for the entire semester).
All poses, short studies and scenes will be assemble as a class reel movie file at the end of the semester for grades.
Expect a minimum of 9 hours working on assignments every week.

Grades

Grades will reflect a student's overall engagement with the course material from throughout the term, as determined
by factors such as the quality and creativity of assignment work, class attendance, class participation, progress and
effort. Students are responsible for maintaining an updated record of all completed assignments.

Project 1 = 20 points
Project 2 = 20 points
Project 3 = 20 points
Final Individual class reel: 30 points
Participation: 10 points
Total = 100 points

OBS: Student will only be granted an incomplete grade if they are going through exceptional situations that
required them to miss a majority of classes, or important class milestones, for example experiencing a compelling
family emergency and/or life crisis. If you receive an incomplete you have to complete the work on your own and
have one year to submit all final materials for consideration or your grade reverts to an FG.

Grading Percentage Breakdown

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
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<tbody>
<tr>
<td>94% and above</td>
<td>A</td>
</tr>
<tr>
<td>93% - 90%</td>
<td>A-</td>
</tr>
<tr>
<td>89% - 87%</td>
<td>B+</td>
</tr>
<tr>
<td>86% - 84%</td>
<td>B</td>
</tr>
<tr>
<td>83% - 80%</td>
<td>B-</td>
</tr>
<tr>
<td>79% - 77%</td>
<td>C+</td>
</tr>
<tr>
<td>76% - 74%</td>
<td>C</td>
</tr>
<tr>
<td>73% - 70%</td>
<td>C-</td>
</tr>
<tr>
<td>69% - 67%</td>
<td>D+</td>
</tr>
</tbody>
</table>

Please note:

A = Excellent or Superior; or top 10% (93 to 100)
B = Above Average; or second 10% (83-92) = 3.0
C = Average; or third 10% (77-82) = 2.0
D = Below average, minimum passing grade (69-76); or fourth 10% = 1.00
F = Failure or Exceptionally Poor; or bottom 60%

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Classroom Protocol

Failure to comply with these rules will result in a one week expulsion from the lab for every student present at the time of the offense.

1. Food is prohibited in the computer lab and during class time. Please eat before class or after, not during class.
2. Beverages may be kept only on the shelf in the rear of the lab, and never next to computers;
3. Only students registered in digital classes or BFA are allowed in the lab;
4. No internet browsing is allowed during class time. That includes social network sites, any kind of chat or instant messages, news, youtube or any other site at all. Students caught browsing the internet during class will be promptly removed from the lab.
5. A notebook and taking notes is mandatory during all lectures or when teacher is explaining a topic or giving assignment guidelines.
6. The lab is for digital class related work only (No painting, charcoal rendering, sculpting, massaging, etc...)
7. No inappropriate imagery on the computers nor dry erase board
8. Headphones only; no sounds audible to other students allowed
9. Do not disconnect, attach, rearrange, or install anything on the computer systems (USB and external drives are permitted)
10. The lab doors must remain closed and locked at all times
11. Cell phones should be turned off in the lab

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs Syllabus Information web page at http://www.sjsu.edu/gup/syllabusinfo

Access to the lab

The lab is accessible to your students every day of the week outside of class times, except in the times when there is a class there. The current class schedule for lab is posted at the front door of the lab.

For building access, students can use their tower id cards with the omnilock on the back side of the building near the parking lot. The classroom also has a omnilock. If students are in the class after 10 pm on the weekdays and over the weekends, they will need an after hours pass. After hour passes will be distributed by the instructor.

Dropping and Adding

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Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s Catalog Policies section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic calendar web page located at: http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The Late Drop Policy is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.
GUIDELINES FOR ASSIGNMENTS

PRESENTATION AND FORMAT

All animation scenes should start, from blocking, with a set composition including a camera with aim, and correct aspect ratio. Please consider your composition carefully, and make sure the camera angle and staging is adequate to the scene you have in mind. From day one I want to see playblast movies from the correct camera angle.

All Maya final assignments (including poses, quick studies and animations) should be rendered in the due date in HD 720 aspect ratio. They should include shadows and be well presented, with the character in high res (smooth skin) and with appropriated lighting.

Please note: WIP passes do not need to be fully rendered (such as blocking and refining passes). But please always fully render your final passes. All final animations should be fully rendered in the correct aspect ratio, and with shadows for their due dates.

PROJECTS, FILE ORGANIZATION AND NAMING CONVENTION

Please use maya to create a project for each animation project you will be working on. Your files will be organized within the folders created by Maya. When working on the lab, just copy your project directory to the computer in the lab, open Maya and “set project” to your folder. Work on your scene, and copy the project back to you flash or external drive.

Keep your files organized and name them with your firstNameLastname. Use numbers to save different versions of your animation – this way you can go back to a previous version if one version gets corrupted, preventing you from loosing work. The best way to do that is using the automatic “incremental save” in Maya.

BACK UP YOUR WORK

Back up often. You should have always a copy of your projects in your flash or external drive, and in your own desktop or laptop computer. If you have some extra cash, you may want to invest on a dedicate external drive for backing up your scenes. It’s never a bad idea to be on the safe side with your data!

DEADLINES

Deadlines for all assignments will be strictly observed. Try your best to complete projects within the deadline. Assignments are planning with a specific deadline in mind for a reason. Please keep the deadlines in mind when organizing your homework schedule. This class requires a minimum or 10 hours a week dedicated to homework. Any less than that will hurt the quality of your work. You do need to put in the hours! In some weeks, expect to put MORE than 10 hours for completion of all homework.

WORK COLLABORATIVELY

Animation is a very collaborative field. Even if you are a shy person, try to reach out for your classmates. Ask questions in class, connect with your classmates and ask them to give feedback on your work, or to help you when you are stuck. Help others when you see they need help. Doing this together will be more fun, and everybody will learn a lot more.
WEEKLY SCHEDULE

WEEK 1 – Assignments due the week of August 29th

POSE: Someone sneaking and spying on someone else

SHOT PICK APART: Someone hiding from someone else. Analyze the body positions and timing. Count how many frames in the holds and in the transitions. Draw poses on your sketch book.

QUICK STUDY: Spine overlap. In the given scene, please make the spine feel flexible using overlap on the spine. 60 frames max. Try to do this quick study using the advanced character (Malcolm recommended!)

PROJECT: Project 01 –

Deadlines: ANI128a_section 01: Sept 26th; ANI 128b_section02: Sept 27th

(between 120 and 160 frames per shot) – 20 points

THE HUNT
GROUP PROJECT!
Groups (3-5 animators per group).

Choose one of the scenarios:

Create a sequence for a hunt scene. Your sequence can have the hunt itself or shots leading up to the hunt... You should convey story and character traits through body language only – no dialogue, please. This is a short group sequence, one shot only per group member. It’s not a short story, just 3 or 4 shots of a sequence. We need to feel something happened before the shots, and we need to feel something is happening after. No guns please!!!! Hunters use spears, knives, hatchets, bow and arrow or similar. Think of obstacles on the way of this hunter, or places where he can hide: trees, rocks, caves, bushes, ruins of old temples etc...

Pick a scenario and develop an acting sequence:
- native american indian;
- a viking hunt;
- brazilian natives in the amazon jungle;
- hunting in the ice (alaska or other super cold place);
- hunting in mongolia
- any other native group of humans from asia, africa or other place.

DUE week 1
RIG STUDY: Get familiar with the rig you will use; watch videos, read the documentation, learn how to setup the picker. Try to do the quick study using the same character.

a) background story for the scene. Character description for your characters
b) thumbnails describing the action on your scene (FOR THE WHOLE STORY)
   b) video reference (FOR EACH SHOT)
c) planning for main poses including frame number FOR EACH SHOT; draw your panels on the correct aspect ratio (HD) and work carefully creating the best composition for each shot.
d) animatic with the whole story panels timed (EACH INDIVIDUAL SHOT STITCHED TOGETHER IN THE ANIMATIC).
WEEK 2 - Assignments due the week of September 5th

POSE: Someone SCARED

SHOT PICK APART: Study a shot with someone escaping someone, hiding or running away from someone

QUICK STUDY: Arm overlap, including hands and fingers. Move the arms and make sure there's overlap between each section of the arm and hands

SCENE: Project 01 “THE HUNT”:
Solid blocking in copied pairs

WEEK 3 - Assignments due the week of September 12th

POSE: Someone EXTREMELY HAPPY, EXULTANT

SHOT PICK APART: Study a shot of someone chasing someone else

QUICK STUDY: Looking back. What happens to the spine when a character looks back? What parts of the spine your character uses? How about the neck? How much rotation in each part? Do the COG moves as well? Can you add and arc in the head movement?

SCENE: Project 01: THE HUNT
Revise blocking if needed; then go on to first pass animation (first pass refining)

WEEK 4 – Assignments due the week of September 19th

POSE: Someone VERY PROUD OR EVEN OBNOCSIOUS

SHOT PICK APART: Body mechanics shots (parkour, chases, runs, etc); Look online for other student work (not SJSU student) featuring cool body mechanics actions. List 5 to 10 things you like about the shot, and would like to achieve in your own animation.

QUICK STUDY: Close up of a hand pick up the handle of the frying pan. Attention to each finger! Details! Make the connection real. Shoot reference before doing the shot.

SCENE: Project 01: Polish your shot. Take it as far as you can
WEEK 5 - Assignments due September 26th

POSE: Someone FEELING SMALL AND/OR AFRAID OF SOMETHING OR SOMEONE

SHOT PICK APART: a character dancing (3d animation)

ANIMATION QUICK STUDY: none

SCENE: Project 01: THE HUNT DUE
Project 02 will be kicked off in class

Project 01: DANCING (kick off)
Deadlines:
ANI 128b_01 : Oct 26th
ANI 128b_01 : Oct 27th

DUE NEXT WEEK
1) Research about different styles of Dancing. Look into musicals, videos of dancing competitions and research a variety of styles (Ballet, modern dance, flamenco, folk dances, tap dance etc)
2) Choose your dance routine and pick your video reference; 1 character ONLY; dance should be big and bold – avoid dance steps where everything happen in the same place. American broadway style and modern dance are good examples of what will work best in animation.
3) thumbnail your shot. You don’t have to follow exactly the video, you can create your own coreography by editing together the bits your like the most in different videos.
4) plan your shot using the correct aspect ratio. Spend time working the best composition for your shot.

WEEK 6 - Assignments due Oct 3rd

TEXT to STUDY: LIFE AFTER BLOCKING
what type of tangents should you use?
how to tackle polishing and what should i do first?
what animation principles should i focusing on?
how to handle holds and transitions?
POSE: Someone DANCING with attitude

SHOT PICK APART: off balance. What happens when a character is off balance? Pick the main frames where the body is off balance, trace the center of gravity is and show how the weight of the character is off.

ANIMATION QUICK STUDY: start with two feet on the ground. Raise one of the legs as high as you can (whithout making the character look weird) then put the feet back on the ground. Make the necessary repositioning of the COG, spine and head so that the character is never off balance.

SCENE: Bring your planning/video reference/thumbnails/ ideas for review

WEEK 7 - Assignment due Oct 10th

POSE: Someone DESPERATED
**SHOT PICK APART:** The coolest moving holds you can find. The ones that really have an effect on the story. How many frames? What parts move?

**ANIMATION QUICK STUDY:** overshoot to cushion transitions. pointing finger gesture with one of the arms, cushion the transition with a overshoot. try with IK arms, and with FK.

**SCENE:** Blocking your dance. Make sure to include hand poses and eye line. Attention to position of COG and feet; attention to weight shifts and center of gravity

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**WEEK 8 - Assignments due Oct 17th**

**POSE:** Sleeping deeply or Laying down unconscious after a fainting event (sofa? Chair? Think of a great place to faint or to sleep)

**SHOT PICK APART:** Transitions and holds in a stylized shot of your choice

**ANIMATION QUICK STUDY:** Create a 40 frames moving hold for someone who is standing in a cool pose

**SCENE:** POLISH First pass - Trace arcs. Cushion transitions. Make sure no body part is locked. Make the movement gracious by using arcs and overlap. Animate fingers. Add blinks and basic face expressions. Work on the lighting for your shot. Add any BG elements that you still need to add. Maybe a BG painting?

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**WEEK 9 - Assignments due Oct 24th**

**POSE:** none

**SHOT PICK APART:** none

**QUICK STUDY:** none

**SCENE:** Final polishing for Dance Scene. Make it good enough to be in your demo reel and show to industry professionals. Please render with shadows. Make it look good!

**KICK OFF NEW PROJECT** (in class)

Project 02: DANCING DUE On the second class of the week (Weds for section 01 and Thursday for section 2)

PROJECT 03 Kick off:
Project 3: Group assignment (pantomime only, no dialogue please):
* This assignment will be due in finals!

Pick one:
1. A sequence with a character that moves a bit like an animal (for example, tiger, monkey, rodent etc)
2. A short love story
3. A sequence inspired by one of the pose assignments
4. A comedic moment
5. A dramatic, serious, heartfelt sequence

Create a short sequence for one of the ideas above

DUE NEXT WEEK:

- written paragraph with your story (word doc)
- char description (personality, physical attributes, mood)
- thumbnails showing most important moments of your story
- what are the ideas you are trying to convey in each shot?
- story board of all scenes
- animatic

WEEK 10 - Assignments due on Oct 31st

POSE: Someone is ACTING LIKE A MONKEY (have fun! Make it funny!)

SHOT PICK APART: a great story moment with very little movement on the characters (one of two poses max)

ANIMATION QUICK STUDY: spine flexibility, move the head all the way towards the floor and back, using overlapping action and making your character feel very flexible


Layout your animatic shots in 3D. Position the camera, props and character for each shot (no pose on the character, just place him/her on the scene to give us an idea of the scale. Work on camera placement and camera angle.

Initial ideas for color of the scene and lighting (where the lighting is coming from? What type of mood? If you need camera movement add it to your layout pass.

Playblast and stitch all shots together with the correct number of frames for each shot. Make it work!

Add music if need. This prep work is very important in order to have a successful sequence!

WEEK 11 - Assignments due on Nov 7th:

Focus on group scene only; Blocking due - If needed, revise your planning. If planning was “okeyed” last week, go on and block your individual shots. Please put all shots together in sequence before class so that we we play the whole sequence in class. As always, work on your individual shot but connect to your group so that you show the whole sequence in class.
WEEK 12 - Assignments due on Nov 14th:
Focus on group scene only; Revise blocking if needed, make every pose matter. Make the eye line absolutely perfect. Make sure the timing is tight.

WEEK 13 - Assignment due on Nov 21st:
Focus on group scene only; Polishing first pass. Arcs, overlapping action. Unlock body parts, bring it to life. Arcs, overlapping action. Unlock body parts, bring it to life.

WEEK 14 - Assignment due on Nov 28th:
Focus on group scene only; Polishing second pass. Your scene needs to have beautiful arcs (TRACE THEM!!!! FIX THEM!!!!), great expressive poses, tight timing, a flexible living character. We need to believe in your character.

Do a first pass on the lighting. Discuss with your group your ideas for the lighting and mood of the scene. Make it good.

WEEK 15 - Assignment due on Dec 5th:
PROJECT 03 FINAL POLISHING PASS. FINAL LIGHTING PASS. Show me what you have for final comments before FINALS.

Class FINALS Days/Times:
section 1: Thursday, December 15th at 8:30am

FINAL CLASS REEL SPECS:
1. A title card with your name, course number and title, semester and year
2. All the poses (2 seconds each)
3. All quick studies
4. All of YOUR shots
5. At the end of the class reel, please add the complete group sequences.

Note:
Characters need to be in High res (everything in high res, including face, hands, hair and body)
Shots need to be rendered with good shadows and good lighting
Format is HD 720
Please export your movie as H264

Order of assignments in the reel:

1. **Title card**
2. **Poses:**
   - sneaking/spyin scared
   - extremely happy
   - proud/obnouscious
   - feeling small/afraid of something or someone
   - dancing
   - desperate
   - sleeping or fainted
   - acting like a monkey!
3. **Quick studies**
   - spine overlap
   - arm overlap
   - head looking back (with live spine)
   - hand grabbing frying pan
   - weight shift with foot raising up
   - overshoot for a pointing finger
   - moving hold (cool, standing)
   - spine torsion
4. **Project 01** (your scene only)
5. **Project 02**
6. **Project 03** (your scene only)
7. **Project 01**: whole sequence
8. **Project 03**: whole sequence