UNIVERSITY OF SOUTHERN CALIFORNIA
John C. Hench Division of Animation and Digital Arts
CTAN 450a Animation Theory and Techniques Fall 2015, 2 Units
Class: Tuesday 7:00pm – 9:50pm, SCA 356
Lab: Friday 9:00am – 11:50am SCB 102
Instructor: Lou Morton, lmorton@usc.edu
Office Hours: Available Upon Request
Student Assistant: Sophie Xing, sophiexi@usc.edu

Course Description:
This class provides an overview of the contemporary tools and skills needed for producing 2D digital and digital-analog hybrid animation. Students will be exposed to the basic fundamentals of animation mechanics as well as the technical knowledge needed to produce 2D animation using the Adobe suite. Emphasis is placed on innovative and artist driven work. Over the semester we'll watch a wide variety of examples of 2D animation from past and present that highlight the topics covered in the class.

You are expected to research and practice the tools outside of class. SA monitored lab hours are every Friday from 9:00am-11:50am in SCB 102. In addition to class and lab time, you will have access to the digital labs during posted available hours.

Course Objectives:
-Obtain the basic technical skills needed for creating images and 2D animation using the Adobe Suite
-Learn the basic fundamentals of animation mechanics and timing
-Understand how to use these tools to achieve desired visual design and movement

By the end of this course students will be able to identify, research and utilize the tools necessary to create a short 2D digital-analog hybrid animated movie.

Class Schedule

Week 1 08/25
DISCUSS: Class introduction and overview of the semester, the different types of software used for 2D animation, 24 fps, animating on ones and twos, squash and stretch, eases, arcs, keyframes
DEMO: Hand drawn bouncing ball in Flash
ASSIGNMENT #1: Bouncing ball animation

Week 2 09/01
DISCUSS: Creating artwork for animation in Photoshop and Illustrator, the difference between vector and bitmap images, working at the correct size / aspect ration, setting up layers for animation
DEMO: Creating layered documents in Photoshop and Illustrator, importing into After Effects
ASSIGNMENT #2 (Due 9/15): Design a collage world using Photoshop and/or Illustrator

Week 3 09/08

DISCUSS: The concept of parallax and multi-plane set-up; Importing images, keyframes, transformation properties
DEMO: Setting up pre-comps and animating multiple layers in After Effects
ASSIGNMENT #2 (Cont.): Finish the collage world design, import the layers into After Effects and create a simple camera move

Week 4 09/15
DISCUSS: Hand drawn animation Part 01, overview of the basic fundamentals, squash and stretch, overlap, secondary action, Introduction to the Flash timeline
DEMO: Frame by frame animation of an object demonstrating fundamentals covered in class
ASSIGNMENT #3: Demonstrate understanding of squash and stretch, secondary action or overlap by animating a very simple object using hand drawn animation in Flash

Week 5 09/22
DISCUSS: Hand drawn animation Part 02, anticipation and follow through, basic principles of character animation, straight ahead and pose to pose, applying the previous weeks ideas to a character or abstract object
DEMO: Animating a character take in Flash, cleaning up a rough animation in Flash or Photoshop
ASSIGNMENT #4: Animate an abstract shape or simple character expressing one emotion in Flash
Extra Credit: clean up the animation in Photoshop

Week 6 09/29
DISCUSS: Cycles and loops, animation and rhythm
DEMO: Creating an animated cycle in Flash and embedding it into a symbol; use the same principles to create a cycle in Photoshop and embed it into a pre-comp in After Effects
ASSIGNMENT #5: Make a looping hand drawn animation

Week 7 10/06
DISCUSS: Puppet animation, rigging objects in Flash and After Effects
DEMO: Rigging a puppet in After Effects and Flash, animating one part of the puppet
ASSIGNMENT #6: Using provided file, rig a puppet in After Effects and do a simple animation
Extra Credit: Create your own puppet artwork and rig the puppet in After Effects and do a simple animation

Week 8 10/13
DISCUSS: Rotoscope techniques using hand drawn animation and other methods
DEMO: Shooting a sequence in class. Importing the image sequence into Photoshop, and rotoscoping with different brushes
ASSIGNMENT #7: Rotoscope a 5 second clip from found footage, or from video that you shoot.

Week 9 10/20
DISCUSS: Sound and animation, visual music, lip synch
DEMO: Netmix, Opus and Audition
ASSIGNMENT #8 (Due 11/03): Improve upon any of the previous assignments by adding sound effects from Netmix or that you record yourself

Week 10 10/27
DISCUSS: Storyboarding and approaches to creating a project, style frames
DEMO: creating text and adding effects in After Effects
ASSIGNMENT #8 (Cont.): Continue improving upon the chosen previous assignment by adding effects or text

Week 11 11/03
DISCUSS: Final Project
DEMO: share professional examples of storyboards and animatics
ASSIGNMENT: Decide on final project either as individual or group. Create a pitch for your final project, either using a style frame or storyboard.

Week 12 11/10
DEMO: Tips and tricks in AE: motion blur, frame blending, lighting, adding textures
In class production time and one-on-one mentoring
ASSIGNMENT: Begin working on final project due 12/15

Week 13 11/17
In class production time and one-on-one mentoring
ASSIGNMENT: Continue working on final project

Week 14 11/24
Thanksgiving break

Week 15 12/01
In class production time and one-on-one mentoring
ASSIGNMENT: continue production on final project

Study Days 12/05 – 12-08

Final Class 12/15 7-9pm

Resources:

 SOFTWARE TUTORIALS - LYNDA.COM - account
‣ http://www.lynda.com

 SOFTWARE TUTORIALS - ADOBE TV - no account needed
‣ Photoshop:
http://tv.adobe.com/watch/learn-photoshop-cs6/what-is-photoshop-cs6/
‣ Premier Pro:
http://tv.adobe.com/watch/digital-video-cs6/overview-of-adobe-premiere-procs6/
‣ After Effects:
http://tv.adobe.com/watch/digital-video-cs6/introduction-to-after-effects-cs6/
‣ Audition:
http://tv.adobe.com/watch/digital-video-cs6/what-is-audition/
‣ Digital Video Pipeline:
http://tv.adobe.com/show/digital-video-cs6/

SOFTWARE and TECHNICAL HELP SOURCES – blogs

‣ Creative Cow: http://forums.creativecow.net
‣ Video Copilot: http://www.videocopilot.net

RECOMMENDED TEXTS - not required:

‣ "ANIMATOR'S SURVIVAL KIT" Richard Williams, Faber and Faber press, 2001
http://www.amazon.com/The-Animators-Survival-Richard-Williams/dp/0571202284
‣ "CHARACTER ANIMATION CRASH COURSE", by Eric Goldberg, Silman-James Press, 2008
http://www.amazon.com/Illusion-Life-Disney-Animation/dp/0786860707/
‣ "THE ILLUSION OF LIFE", Frank Thomas and Ollie Johnston
http://www.amazon.com/Illusion-Life-Disney-Animation/dp/0786860707/

You will all have personal folders on the animation network. These will be accessible only to you. In addition, there will be a class folder where you will turn in your projects and assignments and find material needed for class exercises. The SA will set you up with a user name and password the first or second week of class. There is no required text for this class. We will be using the lynda.com online tutorials to complement material covered in class. All registered USC students have free access to the lynda.com tutorials. To access them, go to www.usc.edu/its/lynda, and use your USC email and password to log on. You are only required to watch these tutorials. You do not need to follow along and hand in a project, but I will expect you to be familiar with the material before the next class. Feel free to work ahead on these and watch additional tutorials that interest you.

Grading

You will be graded as follows:

Assignments #1	05pts total
Assignment #2	10pts total
Assignment #3-7, 5pts each	25pts total
Assignment #8	15pts total
Final Project	25pts total
Participation	15pts total
Attendance*	05pts total

*Three unexcused absences are grounds for failing the course. If you arrive after 9:10pm, you will be marked as tardy. Three tardy marks equal one absence.

Points break down for final grade are as follows:

94-100=A	80-83=B	67-69=D+
90-93=A-	77-79=C+	64-66+=D
87-89=B+	74-76=C	60-63=D-
84-86=B	70-73=C-	Below 60=F

All projects and assignments are to be loaded onto the network by 9:00am on the day they are due, or they will be considered late. We do not have time to wait for you to render or upload your work after class begins. I will deduct 10% for each week an assignment is late. I expect everyone

to attend class and be on time unless you have an excused medical condition or family emergency. We have only 15 weeks to cover a lot of material.

Materials
1. Head phones for listening to the video tutorials and working with sound.
2. A 2-GB or larger USB travel drive to transport and back-up your files.

Students Who Miss a Final Examination
If a student whose work is of a passing grade misses a final examination because of documented illness or emergency that occurred after the 12th week of the semester, he/she may be given the mark of IN (Incomplete). IN Incomplete is assigned when work is not completed because of documented illness or other "emergency" occurring after the twelfth week of the semester. Registrar's Note: Recommended definition of emergency: "A situation or event which could not be foreseen and which is beyond the student's control, and which prevents the student from taking the final examination or completing other work due during the final examination period. Also note that as defined above, a student may not request an IN before the end of the twelfth week; the rationale is that the student still has the option to drop the course until the end of the twelfth week. The grade of IN exists so there is a remedy for illness or emergency which occurs after the drop deadline. Arrangements for an IN and its completion must be initiated by the student and agreed to by the instructor prior to the final examination. http://www.usc.edu/dept/ARR/grades/index.html

Statement for Students with Disabilities
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

Statement on Academic Integrity
USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: http://www.usc.edu/dept/publications/SCAMPUS/gov/. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: http://www.usc.edu/student-affairs/SJACS/.

DISRUPTIVE STUDENT BEHAVIOR: Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. A student responsible for disruptive behavior may be required to leave class pending discussion and resolution of the problem and may be reported to the Office of Student Judicial Affairs for disciplinary action.