Course and Contact Information

Instructor: Raquel Coelho

Office Location: ART 213

Telephone: Email only please

Email: raquel.coelho@sjsu.edu

Office Hours: Tuesdays and Thursdays - 11 am to noon (ART 213 or ART 224)

Class Days/Time: Mondays and Weds 8:30am to 11:20am

Classroom: ART 224 (Mac Lab)

Course WebPage

Course materials such as syllabus, handouts, notes, assignment instructions, etc. can be found on the Canvas learning management system course website. You are responsible for regularly checking our class page on Canvas to learn of any updates.

Course Description

This class will introduce students to basic concepts and practices currently used in the field of 3D computer animation. Today, 3D Computer animation is a very dynamic and heavily interdisciplinary field, involving fine arts, science, mathematics, physics, acting and animation. In this class, we will focus our attention on how to create believable movement by applying the traditional principles of animation to the 3D digital environment and using the computer as a tool to animate.

Learning Outcomes

Upon successful completion of this course, students will be able to:

1. Demonstrate through their animation assignments that they can apply the following 2D principles of animation to 3D scenes: arcs, timing, spacing (slow in, slow out), squash and stretch, staging and overlapping action.

2. Create believable scenes in 3D depicting: a bouncing ball; two balls bouncing with different weights; an a flexible moving whip; a ball bouncing with an overlapping tail; a basic human walk; a personality walk.

Required Texts/Readings

Textbook

The Animator's Survival Kit
By Richard Williams
Published by Faber and Faber

How to Cheat in Maya 2014
By Kenny Roy
Published by Focal Press
Other equipment / material requirements (optional)

- A USB flash drive or external drive for storing DATA; (8 GB recommended)

- Sketch book and pencils for drawing.

- 2 Sheets of transparencies and dry eraser (2 different colors)

- The latest version of Maya is available in all computers in the animation lab on campus.

- 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 mini-Dv cam, a flip 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.

- You will need the ability to perform a simple film editing on your shots. I recommend a software called Quicktime Pro – it only works with quicktime 7 - (available for PCs or Macs, the price is $29.99 in the apple store site. o purchase your copy, go to http://www.apple.com/quicktime/pro/). Quicktime pro is also available (free) in all computers of our lab.

Library Liaison (Optional)

Rebecca Kohn
Phone: (408)808-2007
Email: rebecca.kohn@sjsu.edu

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

There will be weekly assignments and required readings. Students should complete the weekly assignments and have them assembled as a demo reel at the end of the semester. Chosen assignments and demo reel will be graded, as well as participation in class.

Students are expected to complete and hand in every assignment for the course. Deadline for assignments will be strictly observed. STUDENTS ARE RESPONSIBLE FOR KEEPING A DIGITAL COPY OF ALL SCENES AND ASSIGNMENTS. PLEASE BACKUP YOUR WORK OFTEN.

Attendance

Students are expected to attend class regularly. Lateness of over 15 minutes counts as an absence. Students with 3 or more consecutive non-justified absences will most likely fail the class – in three weeks we will cover a lot of ground and if you miss three consecutive weeks of classes it will be really hard to catch up later. Please send me an email (preferably in advance) if you are unable to attend class.

NOTE that University policy F69-24 at http://www.sjsu.edu/senate/docs/F69-24.pdf states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Grading Policy

Effort, participation: 10%
Assignments: 70%
Final Demo reel: 20%
Grades will reflect a student's overall engagement with the course material from throughout the term, as determined by factors such as completion of all assignments, the quality of assignment work, class participation, progress and effort. Students are responsible for maintaining an updated record of all completed assignments.

OBS: I will only give out an Incomplete if you have or are 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 F (Fail).

Grading Percentage Breakdown
94% and above = A
93% - 90% = A-
89% - 87% = B+
86% - 84% = B
83% - 80% = B-
79% - 77% = C+
76% - 74% = C
73% - 70% = C-
69% - 67% = D+
66% - 64% = D
63% - 60% = D-
below 60% = F

Please note:
A = Excellent or Superior; or top 10% (93 to 100) = 4.0
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% (0-68) = 0.00

Students can consult their grades on the Canvas page for this class.

Classroom Protocol
Failure to comply with the following 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
2. Beverages may be kept only on the shelf in the rear of the lab
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 - do not prop the door open!
11. Cel phones should be turned off in the lab
University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU’s policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises. See University Policy S90–5 at http://www.sjsu.edu/senate/docs/S90-5.pdf. More detailed information on a variety of related topics is available in the SJSU catalog, at http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12234.12506.html. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

Dropping and Adding

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 year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. 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.

Information about the latest changes and news is available at the Advising Hub at http://www.sjsu.edu/advising/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course and the following items to be included in the syllabus:

“Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”

- It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
- In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.

“Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sjsu.edu/studentconduct/.

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Accommodation to Students’ Religious Holidays

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the
responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at http://www.sjsu.edu/senate/docs/S14-7.pdf.

**Student Technology Resources**

Computer labs for student use are available in the Animation and Illustration program computer lab, in room ART 224. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

**SJSU Peer Connections**

Peer Connections, a campus-wide resource for mentoring and tutoring, strives to inspire students to develop their potential as independent learners while they learn to successfully navigate through their university experience. You are encouraged to take advantage of their services which include course-content based tutoring, enhanced study and time management skills, more effective critical thinking strategies, decision making and problem-solving abilities, and campus resource referrals.

In addition to offering small group, individual, and drop-in tutoring for a number of undergraduate courses, consultation with mentors is available on a drop-in or by appointment basis. Workshops are offered on a wide variety of topics including preparing for the Writing Skills Test (WST), improving your learning and memory, alleviating procrastination, surviving your first semester at SJSU, and other related topics. A computer lab and study space are also available for student use in Room 600 of Student Services Center (SSC).

Peer Connections is located in three locations: SSC, Room 600 (10th Street Garage on the corner of 10th and San Fernando Street), at the 1st floor entrance of Clark Hall, and in the Living Learning Center (LLC) in Campus Village Housing Building B. Visit Peer Connections website at http://peerconnections.sjsu.edu for more information.

**SJSU Writing Center**

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the Writing Center website at http://www.sjsu.edu/writingcenter.

**SJSU Counseling Services**

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at http://www.sjsu.edu/counseling.
Course Number / Title, Semester, Course Schedule

List the agenda for the semester including when and where the final exam will be held. Indicate the schedule is subject to change with fair notice and how the notice will be made available.

Course Schedule

IMPORTANT NOTE: This schedule is subject to changes. Assignments can change due to guest visitors, school events and overall learning process of students enrolled in the class.

INTRODUCTION AND INTERFACE

1. INTRODUCTION
Introduction To ART 051 Intro to 3D Animation

2. INTERFACE OVERVIEW
TOPICS: Establishing work routines; Overview of Maya Interface; Playing with shapes, colors, scaling and moving things around; timing and spacing.
ASSIGNMENT: Slow in and slow out with simple geometric shapes (translation and rotation)

3. ANIMATION INTERFACE, ROLLING BALLS
TOPICS: Graphic Editor and Dope sheet; Planning for Animation; Weight, gravity, speed, timing and spacing in animation; Curves and tangents in the graph editor: spline, flat, stepped, linear
ASSIGNMENTS:
Rolling balls:
1. one light ball and one heavy ball in the same scene - rotation and translation at the same time
2. Interface tutorial (from the book)

BOUNCING BALL SECTION

4. BOUNCING BALL - 01
TOPICS: Drawing/Planning for computer Animation; How to use the transparencies and the "train tracks"; Weight, timing, Spacing, Arcs, Easy ins and Easy outs.
ASSIGNMENTS:
1. Ball bouncing in place (no squash and stretch)
2. Ball bouncing across the screen (no squash and stretch)
3. challenge assignment: falling cube (cube falls and bounces once or twice)

5. BOUNCING BALL - 02
TOPICS: Weight, Timing, Spacing, Squash and Stretch
ASSIGNMENTS:
1. Refine/Fix last week’s Bouncing Ball Assignment -
2. Animate two bouncing balls, making sure you show the difference of weight/mass in between them: one ball should be very heavy and the other one very light. They both should ball across the screen, and they both should have squash and stretch. Please shoot video ref and plan for this assignment on paper before animating on the
For grades, please bring your video reference, a JPEG image showing your planning thumbnails, a quicktime with your final assignment.

* This assignment will be graded (10% of your total grades)

6. OVERLAPPING ACTION - 01
TOPICS: Overlapping action, arcs, timing, space
ASSIGNMENT:
Animating a swing:
1. in place
2. with sideways translation of the base (driving force)

7. OVERLAPPING ACTION - 02
TOPICS: More on overlapping action - how to manage the graph editor
pose to pose, and straight ahead
driving force, and its effect on the overlapping action
copying and pasting key frames in graph editor and on the timeline
ASSIGNMENT:
Applied overlapping action: Arm Studies – first pass

8. OVERLAPPING ACTION - 03
ASSIGNMENT:
Applied overlapping action: Arm Studies – redo or refining

9. OVERLAPPING ACTION - 04
ASSIGNMENT: Ball with tail
* The final version of your ball with tail assignment will be graded (10% of your total grades)

9. BASIC WALK (BLOCKING LOWER BODY) - 01
TOPICS:
A simple Walk (lower body)
steps to create animation: research, planning, blocking, animation, final touches.
Key poses for a walk, mechanics of walk
Transfer of weight during a walk, balance
Planning for Walk
ASSIGNMENT:
Block Walk Cycle - stepped mode - legs only.
10. BASIC WALK (ADDING DETAIL TO LOWER BODY) - 02
TOPICS: Mechanics of walk, hip motion, overlapping action for the arms
ASSIGNMENT:
   1. Refining legs on your Walk Cycle arcs in walks.

11. BASIC WALK (ADDING ANIMATION ON SPINE, HEAD AND ARMS) - 03
TOPICS: Upper body animation on a walk.
ASSIGNMENT:
   Adding animation on spine, neck and head
   Adding the arms to the walk
   Posing the hands, making sure they look relaxed
   Taking the overlap all the way to the fingers

12. REFINING BASIC WALK - 04
ASSIGNMENT
   1. Based on feedback, refine and polish your basic walk cycle animation
   2. Starting on New Topic: Walk with personality
      Video reference and planning thumbnails for “Personality Walk” assignment

PERSONALITY WALK

13. PERSONALITY WALK 01
   Basic Walk Due
   * The final version of your basic walk assignment will be graded (20% of your total grades)
   Block lower body for personality walk

14. WALKS SECTION/PERSONALITY WALK 02
   Character Walk–
   Address notes on the first pass of your blocking, add upper body

15. WALKS SECTION/PERSONALITY WALK 03 - DEMO REEL GUIDELINES
   TOPICS: Preparing your final Class Reel for the class
   Simple editing using Quicktime pro
   Adding Slates and sound
   ASSIGNMENT:
   Smooth out animation (take it out of blocking)
   Addressing notes on Intermediate animation
   Keep working on your “Personality animation”
   Prepare your final class reel
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<th><strong>FINALS</strong></th>
<th>Wednesday, May 20, 8:30am - 9:30am</th>
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**FINAL EXAM**  
Final Demo Reel Due (20% of your final grades)  
“Walk with Character” Assignment due (30% of your final grades)  
Watch all the work on the big screen and party!

**Grades Breakdown:**

- 10% = Heavy and Light bouncing balls  
- 10% = Ball with tail  
- 20% = Basic Walk cycle  
- 30% = Personality walk  
- 20% = Final reel with all animations, including any revision you want to present  
- 10% = Participation and overall engagement with course and class