



CTAN 480 – Advanced 3-D Game Character Animation

Spring 2022 – Lecture-Lab

Units: 2

Time: Lecture: Wednesday 12:00 - 1:50pm

Lab: Friday 12:00 - 1:50pm

Location:

Wednesday – SCI L105

Friday - SCI L113

Instructor: Scott Easley

Office: EGG 207

Office Hours: By Request

Contact Info: seasley@usc.edu

TA: TBD

Contact Info: TBD

Office Hours: By Request

Course Description

An applied introduction to the techniques used for animating 3D content for games, cinematics, and visualizations.

Learning Objectives

Gain a thorough applied foundation in the practice of 3D video game character setup, pipeline, and animation. Understand the processes involved in the creation of 3D character animation in games as part of a group project. Use industry leading software and tools to explore the production cycle of animation, how pipelines are implemented to support the production process, and how to manage vision, budget, and time constraints. Develop an understanding of the diverse methods available for achieving similar results and the decision-making processes involved at various stages of project development with systems and scripts in Maya to facilitate turnaround. Gain insight into the differences among the various animation tools. Understanding the opportunities and tracks in the field of 3D animation.

Prerequisite(s):

CTAN 280 Intermediate 3-D Character Animation

Course Notes

There is no text for the course, however each student is expected to make use of the many resources available online, including Autodesk learning documentation, Linda.com resources, and course materials on Blackboard. Course materials, assignment submissions, lecture slides, and updates will be posted on Blackboard. This course is for a letter grade. The grading scale for the course is listed below. Students should plan to bring note taking materials, sketchbooks, or other materials for brainstorming, note taking, sketching, and design work.

Required Readings and Supplementary Materials

Handouts, templates, games, and sample documents will be supplied by the instructors when assigned.

Description and Assessment of Assignments

Students will create both interactive experiences and documentation. The interactive experiences will be either simple prototypes of core game mechanics or a more polished vertical slice. Assignments will be graded on effort, collaboration, execution as compared to goal, and overall quality.

Documentation may consist of: pitch presentations, design documents, technical specifications, playtesting logs, design journals, and other forms of documentation as assigned. Students will learn professional documentation and presentation techniques. Assignments will be graded on effort, collaboration, execution, and, where applicable, iterative improvement.

Prototype Deliverables: Core poses, blocking, and rig for non-bipedal character for use in a student game. Includes planned moves.

Midterm Presentation: Presentation of core poses and pose to pose target movements. Includes rigging system, character documentation and presentation slides.

Final Deliverables: Highly polished moves for an in-game non-bipedal character imported into a final student project, delivered to project specifications. Includes full documentation of animation and rig system, core poses and blocking, and intersection solutions.

Final Presentation: Presentation of final polished animations in-game non-bipedal character for use in a client student game. Includes performance capture of animation in game.

Grading Breakdown

Assignment	% of Grade	Due
Prototype Deliverables	20	Week 6
Midterm Presentation	20	Week 10
Final Deliverables	20	Ongoing
Final Presentation	25	Week 15
Participation	15	Ongoing
TOTAL	100	

Assignment Submission Policy

Written assignments and prototypes are due at the beginning of class of the assigned week.

Attendance Policy

Punctual attendance at all classes is mandatory. Students arriving more than five minutes late to three classes, more than ten minutes late to a single class, or leaving early, will be marked as having an absence from class.

Guidelines for absences affecting grading

- Two absences: lowers grade one full grade point (e.g. from A to B)

- Three absences: lowers grade two full grade points
- Four or more absences: request to withdraw from course (instructor's discretion)

Social media, including text messaging and internet messaging, are excluded from class unless explicitly permitted by the instructor. A 0.5% grade reduction will result from each occurrence of a student being found using them.

Diversity

In making games and interactive media in a professional and ethical way, it is important that you consider diversity. When looking at your projects, you should consider who is depicted and how this work will impact others. What kinds of individuals and communities are represented in your work? What point of view does your work express? This class may assist you in learning how to make work that includes diverse viewpoints, and may discuss racial, religious, gender and sexual orientation issues in the context of games and interactive media.

Diversity and Inclusion

Diversity and Inclusion are foundational to the SCA community. We are committed to fostering a welcoming and supportive environment where students of all identities and backgrounds can flourish. The classroom should be a space for open discussion of ideas and self-expression; however, SCA will not tolerate verbal or written abuse, threats, harassment, intimidation or violence against person or property. If students are concerned about these matters in the classroom setting they are encouraged to contact their SCA Diversity and Inclusion Liaison, <http://cinema.usc.edu/about/diversity.cfm>; e-mail diversity@cinema.usc.edu. You can also report discrimination based on a protected class here <https://equity.usc.edu/harassment-or-discrimination/>

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.

Creating an Inclusive Space

In this class, we make a commitment to foster a welcoming and supportive environment where students of all identities and backgrounds can flourish. This means that you will be expected to offer content warnings when appropriate, use students' stated pronouns, and respect self-identifications. While debate and discussion are welcome, please remain aware of the implications of your words and the images that you include in your work. If the instructor or another student points out something problematic, avoid being defensive; this is a valuable opportunity for us to grow and learn together. If you have a concern about any aspect of the class, you are welcome to speak with the instructor or the advisor for the division.

Syllabus Updates

This syllabus is liable to change up to the beginning of class and possibly over the semester. Please check the posted syllabus regularly, and note all changes that are shared by the instructor in class.

Additional Policies

This course emphasizes teamwork, and one of the desired learning outcomes is for students to develop communication and leadership skills. Students are expected to treat each other with respect, listen to each other, and work together towards a shared, collaborative, healthy work culture. Any student found to be disruptive or engaging in behavior that doesn't meet the standards of respectful teamwork may be asked to leave by the instructor.

If you experience any problems with a fellow student regarding their work, please bring up your concerns with the instructor.

Course Schedule: A Weekly Breakdown

****Subject to change****

	Topics/Lectures	In Class Exercises	Homework/ Due
Week 1	Introduction to the Course and Goals. Intro to Advanced Game Animation – each student works on a projected creature from AGP need or brings in their own. It must have a deadline for someone other than student's personal project.	Research: Advanced animation in games, readability and distance. Focus on creatures with wings, four or six legged animals: No humanoid bipeds unless exception by teacher. Facial? Example rigs distributed, assignment to add to the rig legs or wings.	Homework: Animate move using in-class rigs of Advanced Skeleton Rig Review of modding AS rig to quickly block out Chosen character Propose folder structure.
Week 2	Lecture: Advanced Skeleton Modifications	Choose unique characters for upcoming mock client pitch, prepare existing showreel for visit	Homework: Make assigned core poses using AS Rig
Week 3	Lecture: AGP presentations of games	List unique needs for chosen creature Choose one for animation, start blocking out using AS	Homework: Contact rigger or bring/make your own rig to block out creature
Week 4	Lecture: Folder structure for creature	Animate beginning poses of chosen character using AS rig - Core pose - Use previous toolsets	Due: Bring in research of creature's movements.
Week 5	Lecture: Character gravity, weight speed	Core poses for characters in full range of animations, reference for movement attached in Maya.	Due: Blocking four key poses
Week 6	Lecture: Exports and viewing	Teams export blocked character to game controller and play initial poses and blocked moves.	Due: Prototype Deliverables: Finish first-pass of moves
Week 7	Lecture: Revisit Expressions	List necessary expressions, motion paths, for creature animations.	Due: Begin building out first necessary moves
Week 8	Lecture: How to schedule your animations – which will take longer vs. which ones team needs first	Review of schedule for animations Prep for midterm. Will there be a Final Rig swap? List Need vs. Want update to schedule	Due: Professor and students approves schedule of animation.
Week 9	Lecture: How to plot out pose to pose blocking.	Instructor review of each animation, discuss possible cuts to schedule, rigging swap, folder structure and AGP expectations.	Due: Pose to Pose finished for all characters movements

Week 10	MIDTERM PRESENTATION	MIDTERM PROTOTYPE Students present (individually) their animated characters. All movements expected for creature are blocked out in pose to pose – schedule approved by instructor	Due: Midterm Presentation
Week 11	Review from client team of animations	Animator meets with AGP team and sees core pose animations in game – otherwise triage for scope and time.	Due: Teams meet and discuss feedback and changes to game for final.
Week 12	Lecture: Game fixes vs Animation fixes	Instructor will hear feedback from each student as to whether they made changes to schedule or not. Client team agrees to changes and instructor approves.	Due: Final conversations with teacher on process of character's animation – suggestions for triage
Week 13	Lab work for finishing moves	Polish animations with feedback.	Due: Scheduled plan for changes/fixes/updates for final presentation
Week 14	Lab work for finishing moves	Instructor feedback on poses, smoothness of movement and clarity in game.	
Week 15	Final Project Presentations as exported finished creature moves		DUE: Final Presentation Final Publication
Final	Future explorations in Real Time Animation		Final Documentation

Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call

studenthealth.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

Student Health Leave Coordinator – 213-821-4710

Located in the USC Support and Advocacy office, the Health Leave Coordinator processes requests for health leaves of absence and advocates for students taking such leaves when needed.

<https://policy.usc.edu/student-health-leave-absence/>

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention and Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call

studenthealth.usc.edu/sexual-assault

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED)- (213) 740-5086 | Title IX – (213) 821-8298

equity.usc.edu, titleix.usc.edu

Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following *protected characteristics*: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations. The university also prohibits sexual assault, non-consensual sexual contact, sexual misconduct, intimate partner violence, stalking, malicious dissuasion, retaliation, and violation of interim measures.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298

usc-advocate.symplicity.com/care_report

Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity | Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support & Intervention - (213) 821-4710

campussupport.usc.edu

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call

dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-1200 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.

Office of the Ombuds - (213) 821-9556 (UPC) / (323-442-0382 (HSC)

ombuds.usc.edu

A safe and confidential place to share your USC-related issues with a University Ombuds who will work with you to explore options or paths to manage your concern.

PLEASE NOTE:

FOOD AND DRINKS (OTHER THAN WATER) ARE NOT PERMITTED IN ANY INSTRUCTIONAL SPACE
IN THE SCHOOL OF CINEMATIC ARTS COMPLEX