



CTAN 443L Character Development for 3D Animation and Games

Units: 2

Fall 2019

Lecture: Tuesday 4:00 - 6:50PM

Lab: Friday 9:00 – 11:50 AM

Location: SCI 108

Instructor: Scott Easley

Office: EGG 207

Office Hours: TBD

Contact Info: seasley@usc.edu

SA: Baptiste Laroux

Contact Info: bleroux@usc.edu

Course Description

Working in a studio-simulated atmosphere the student will learn the fundamentals of character rigging and pipelines for video game production and development. It instructs in both the technical and artistic development of creating malleable and solid character rigs and setups as well as pipeline preparation for either individual or team use. Biped, quadruped, fantasy and realistic creatures are all addressed and rigged with hands-on teaching and assignments every week. If you have a 3d animated game project coming up or aim to get into the industry, knowing these processes can save you weeks of rework and help strengthen existing structures against the constant issues within production.

Learning Objectives and Outcomes

Students in CSCI 443L will rig several character meshes within class including the option to bring your own. IK/FK rigging, poly loop modeling, seamless weighting, intuitive folder structure, blendshapes for expression and phonemes with automated scripts are parts of the greater whole of how to set up a pipeline for production. No engineering background necessary, this class aims to break the process all down in a friendly and intuitive way for everybody.

The student will leave class knowing the process of how to rig any basic character, and place it in a structure that a team can work directly on. Creativity and individualism is encouraged.

Prerequisite(s): CTAN 452

Recommended Preparation: Experience with Maya or equal 3d animation and modeling software

Course Notes

This course will assign a letter grade.

Students will submit work via Blackboard, and by showing builds to instructors and peers in class.

Technological Proficiency and Hardware/Software Required

The class uses Maya 2018.

Description and Assessment of Assignments

What kind of work is to be done and how should it be completed, i.e. how the learning outcome will be assessed. Include any assessment and grading rubrics to be used.

Grading Breakdown

Including the above detailed assignments, how will students be graded overall? Participation should be no more than 15%, unless justified for a higher amount. All must total 100%.

Assignment	% of Grade	Due
Weekly Deliverables	50	Ongoing
Midterm Rig Deliverable	15	Week 10
Final Deliverables	20	Week 15
Participation	10	Ongoing
Attendance	5	Ongoing
TOTAL	100	

Grading Scale (Example)

Course final grades will be determined using the following scale

A	95-100
A-	90-94
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69
D	63-66
D-	60-62
F	59 and below

Assignment Rubrics

Assignments and Homework are due at the beginning of class of the assigned week.

Missing an Assignment Deadline, Incompletes:

The only acceptable excuses for missing an assignment deadline or taking an incomplete in the course are personal illness or a family emergency. Students must inform the instructor **before the assignment due date** and present verifiable evidence in order for a deadline extension to be granted. Students who wish to take incompletes must also present documentation of the problem to the instructor or student assistant before final grades are due.

For assignments turned in after the assignment deadline without prior permission from the instructor, a penalty will be imposed equal to 10% of the total available points for the assignment, for each day or part of a day that the assignment is late, up to a maximum of seven days.

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 unexcused absence from class, unless prior permission has been obtained from the instructor. The following guidelines are from the Interactive Media & Games Division handbook regarding absences and grading and apply to all students.

Guidelines for absences affecting grading

- Two unexcused absences: lowers grade one full grade point (for example, from A to B)
- Three unexcused absences: lowers grade two full grade points
- Four or more unexcused absences: request to withdraw from course (instructor's discretion)

Excused absences are:

- Illness (with a doctor's verification)
- Family or personal emergency (with verification)

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.

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.

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.

**PLEASE NOTE:
FOOD AND DRINKS (OTHER THAN WATER) ARE NOT PERMITTED IN ANY
INSTRUCTIONAL SPACES IN THE CINEMATIC ARTS COMPLEX**

Course Schedule: A Weekly Breakdown

****Subject to change****

IMPORTANT:

In addition to in-class contact hours, all courses must also meet a minimum standard for out-of-class time, which accounts for time students spend on homework, readings, writing, and other academic activities. **For each unit of in-class contact time, the university expects two hours of out of class student work per week over a semester.**

(Please refer to the [Contact Hours Reference](#) guide.)

	Topics/Daily Activities	Readings and Homework	Deliverable/ Due Dates
Week 1 August 27	<ul style="list-style-type: none"> Class expectations and methodologies. Components, concepts, and deliverables for the course will be discussed. Proficiency Survey: Forms and interviews will take place to acquire student artistic skill sets and interests 	Familiarity with provided 'Skyrigged' simple IK and FK rig in class. Video on tutorial page	Animate character doing pushup using Skyriigger. (Due Sep 3)
Labor Day Sep 2	<u>Holiday</u>		
Week 2 Sep 3	<ul style="list-style-type: none"> Weighting using paint weights 	Take 'baseman' mesh and rig it using Skyriigger	Rigged baseman mesh (Due Sep 10)
Week 3 Sep 10	<ul style="list-style-type: none"> Paint weights on rigged baseman Yoga animation to check 		Weighted baseman rig + yoga animation (Due Sep 17)
Week 4 Sep 17	<ul style="list-style-type: none"> Spreadsheet weighting Weight baseman 		Precisely weighted baseman rig using spreadsheet (Due Sep 24)
Week 5 Sep 24	<ul style="list-style-type: none"> Setting up custom bones Skinning Setting up default workspace Poly loops 		Custom bones setup for Goblin mesh (Due Oct 1)
Week 6 Oct 1	<ul style="list-style-type: none"> Creating IK/FK joints Nurbs curves controllers 		IK/FK controller animated (Due Oct 8)

Week 7 Oct 8	<ul style="list-style-type: none"> ● In class lab of rigging goblin and yoga animation 		Spreadsheet Weighted Goblin with FK Controllers (Due Oct 15)
Week 8 Oct 15	Lecture		Midterm of rigged Goblin with Yoga animation (Due Oct 22)
Fall Recess Oct 17-18	<u>Fall Recess</u>		
Week 9 Oct 22	<ul style="list-style-type: none"> ● Phonemes/Expressions ● Blendshapes ● Sculpt tools ● Soft select 		Make blendshape heads <ul style="list-style-type: none"> - Phonemes - Expression (Due Oct 29)
Week 10 Oct 29	<ul style="list-style-type: none"> ● Order of operations affecting rig ● Hierarchy of adding to rig 		Make blendshape heads with new jaw and eye controllers (Due Nov 5)
Week 11 Nov 5	<ul style="list-style-type: none"> ● Reference goblin rig ● Cut/paste yoga ● Add hat to rig 	To prep for next class add ik/fk to goblin review online tutorials 5a and 5b	
Week 12 Nov 12	<ul style="list-style-type: none"> ● Add ik/fk arms to custom goblin rig 		IK/FK arms and legs due for Goblin rig (Due Nov 19)
Week 13 Nov 19	Intro quadruped mesh Rig up quadruped		
Week 14 Nov 26	Final mesh delivered		
Week 15 Dec 3	In-class review for final project		
Study Days Dec 7-10	<u>Study Days</u>		
FINAL Dec 11	Final: Online Project Submission Due		Final Due: Fully custom rigged mesh with yoga animation

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:

Student Health Counseling Services - (213) 740-7711 – 24/7 on call
engemannshc.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 Services (RSVP) - (213) 740-4900 – 24/7 on call

engemannshc.usc.edu/rsvp

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

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

equity.usc.edu, titleix.usc.edu

Information about how to get help or help a survivor of 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.

Bias Assessment Response and Support - (213) 740-2421

studentaffairs.usc.edu/bias-assessment-response-support

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation 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 Support and Advocacy - (213) 821-4710

studentaffairs.usc.edu/ssa

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) 442-120 – 24/7 on call

dps.usc.edu

Non-emergency assistance or information.

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.

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