

CSULB - SPRING 2021

Computer Animation 1

Instructor: Jon Finch
Email: jon.finch@csulb.edu
Office hours: Wednesday 6:00 PM - 7:00 PM
I am also available by appointment - just email. Available for ZOOM - one-ON-one conversation

Office: ONLINE

Course: Art 426 Section 1
Times: Wed 4:00 pm-9:45 pm

Term: SPRING 2021
Class Location: VIRTUAL

Introduction:

ART 426 introduces students to 3D computer animation. Creating environments and creating characters for 3D computer animation will be discussed.

Course Objectives: Students will understand and apply processes for creating imagery and animation using 3D computer tools.

Expected Student Learning Outcomes: By the end of the course:

- A. Students must be able to navigate the Maya interface.
- B. Students must be able to model/ edit simple 3D objects.
- C. Students must be able to shade/texture and light 3D objects.
- D. Students must be able to create and render images and simple animations using maya.

This course has three specific aims:

- (1) Become self-sufficient in learning the technical aspects of computer animation using Maya;
- (2) View the process and product of animation as artistic and personal expression, not just a technical exercise
- (3) Develop your ability to critique and improve work in progress.

*I reserve the right to change this outline and class assignments as necessary for the best development of the class *

Types of assignments:

1. Homework/In Class Assignments: Students will be assigned tasks related to particular topics of 3D computer animation throughout the semester. These assignments will be used to assess student understanding of the specific topics.
2. Midterm Assignment: For midterm, students will be assigned a particular task which demonstrates an understanding of multiple topics in 3D computer animation. This assignment will be used to assess student understanding of multiple topics.
3. Final Project: At the end of the semester, students will be assigned a particular task which demonstrates an understanding of multiple topics in 3D computer animation. This assignment will be used to assess student understanding of multiple topics.

Texts: None required

Course Materials: 4GB (16 -32gb would be better)

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TOTAL GRADE OUT OF 100%

UNIVERSITY + COURSE GRADING RUBRIC

FINAL COURSE GRADES AS DEFINED BY THE UNIVERSITY

http://web.csulb.edu/divisions/aa/catalog/2010-2011/academic_information/grading_procedures.html

The following definitions apply to final course grades assigned in all undergraduate and graduate courses:

University Expectations A:

"A" - Performance of the student has been at the highest level, showing sustained excellence in meeting all course requirements and exhibiting an unusual degree of intellectual initiative.

University Expectations B:

"B" - Performance of the student has been at a high level, showing consistent and effective achievement in meeting course requirements.

University Expectations C:

"C" - Performance of the student has been at an adequate level, meeting the basic requirements of the course.

University Expectations D:

"D" - Performance of the student has been less than adequate, meeting only the minimum course requirements.

University Expectations F:

"F" - Performance of the student has been such that minimal course requirements have not been met.

[ATTENDANCE]

UNIVERSITY POLICY

http://web.csulb.edu/divisions/aa/catalog/current/academic_information/class_attendance.html

Students are expected to attend classes regularly. Classroom attendance is often one of the most necessary and important means of learning and, in many classes, is essential to the educational objectives of the course.

WE ONLY MEET ONCE A WEEK - MISSING 1 CLASS CAN CAUSE YOU TO MISS KEY INFORMATION

HOW TO GET AN "A"

1. Attend every class
2. Make obvious attempt at homework assignments - don't just put a cube in a scene.
3. Perform well on Mid term - follow instructions and apply to scene.
4. Bring everything together you've learned through the semester and create a final project movie.

Basis for Assigning the Course Grade:

Class attendance and participation = 10%

Homework/In Class Assignments = 20%

Midterm = 30%

Final = 40%

INSTRUCTORS ATTENDANCE POLICY

Missing 1 Class Unexcused: Loss of instruction. Professor will not reteach you content that you missed

Missing 2 Classes Unexcused: 15% taken from final grade Professor will not reteach you content that you missed

Missing 3 Classes Unexcused: 20% taken off final grade Professor will not reteach you content that you missed

Missing 4 or More Classes Unexcused: Automatic failure of course

The course instructor is not responsible for notifying you when your lateness or absence from class is impacting your grade. A record of your attendance is available at upon request.

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COMMUNICATION POLICY

Students should email the instructor at the university email address provided only, please do not email the instructor at private email address. Emails received after 4:00pm are not guaranteed to be answered the same day . All emails will be answered within 48

PLAGIARISM / ACADEMIC INTEGRITY POLICY

Work that you submit is assumed to be original unless your source material is documented appropriately, such as a Works Cited page. Using the ideas or words of another person, even a peer, or a web site, as if it were your own, is plagiarism. Students should read the section on cheating and plagiarism in the CSULB catalog - http://www.csulb.edu/divisions/aa/catalog/current/academic_information/cheating_plagiarism.html.

UNIVERSITY WITHDRAW POLICY

Class withdrawals during the final 3 weeks of instruction are not permitted except for a very serious and compelling reason such as accident or serious injury that is clearly beyond the student's control and the assignment of an Incomplete grade is inappropriate (see [Grades - http://www.csulb.edu/depts/enrollment/student_academic_records/grading.html](http://www.csulb.edu/depts/enrollment/student_academic_records/grading.html)). Application for withdrawal from CSULB or from a class must be officially filed by the student with Enrollment Services whether the student has ever attended the class or not; otherwise, the student will receive a grade of "WU" (unauthorized withdrawal) in the course. Please refer to the CSULB Course Catalog - http://www.csulb.edu/divisions/aa/catalog/current/academic_regulations/withdrawal_policy.html to get familiar with the policy.

TECHNICAL ASSISTANCE

If you need technical assistance at any time during the course or need to report a problem with BeachBoard, please contact the Technology Help Desk using their online form - http://www.csulb.edu/divisions/aa/academic_technology/thd/contact/ or by phone at (562) 985-4959 or visit them on campus in the Academic Service (AS) building, room 120.

ACCOMMODATION NEEDS

Students with disabilities who need reasonable modifications, special assistance, or accommodations in this course should promptly direct their request to the course instructor. If a student with a disability feels that modifications, special assistance, or accommodations offered are inappropriate or insufficient, they should seek the assistance of the Director of the CSULB Disabled Student Services, please see their website - <http://www.csulb.edu/divisions/students/dss/> or contact them via email at dss@csulb.edu or by phone at (562) 985-4635.

CLASSROOM POLICIES

Cell phone use is not permitted during class time. Computer use is limited to classroom application ONLY. The use of electronics for non-class work may result in the lowering of your participation, lowered engagement within the course, and may result in immediate removal from the course for the day. Please do not leave the classroom to play Pokemon Go...

MISCELLANEOUS

Projects created in this course may be used by the department and lab for purposes of promotion for students, the Department, or the University in general. The Department may also use these materials for instructional purposes in future courses. Students will be notified accordingly.

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It is the students' responsibility to make themselves aware of each faculty member's guidelines by carefully reading the syllabus. (PS 04-05)

Faculty members may drop students who fail to attend class during the first week of the semester. However, students should not presume that they will be dropped by the faculty member. Students who have registered for a class, but never attended, should verify whether or not they are officially enrolled. It is the student's responsibility to withdraw officially from the class.

Students may have a valid reason to miss a class. When any of the following reasons directly conflict with class meeting times, students are responsible for informing faculty members of the reason for the absence and for arranging to make up missed assignments, tests, quizzes, and class work insofar as this is possible. Excused absences include, but are not limited to:

1. Illness or injury to the student
2. Death, injury, or serious illness of an immediate family member or the like
3. Religious reasons (California Education Code section 89320)
4. Jury duty or government obligation
5. University sanctioned or approved activities (examples include: artistic performances, forensics presentations, participation in research conferences, intercollegiate athletic activities, student government, required class field trips, etc.)

Faculty members are not obligated to consider other absences as excused. Faculty members may require students to provide documentation for excused absences.

There are numerous classes offered on campus where attendance is crucial since student participation is essential. Absence from these courses may impact the work and participation of other students. Students who anticipate extended or multiple absences during a particular semester should consult with their advisor and the faculty member before enrolling in any class to determine whether it will be possible to complete the requirements for the course. Students who realize after enrollment that they will have extended or multiple absences should consult with the faculty member to see whether it will be possible to complete the course requirements.

The earliest possible notification is preferred. In some circumstances, it may be possible for the student to notify the faculty member of anticipated absences (e.g. for religious reasons or for scheduled athletic events) during the first week of enrollment. Advance notification (minimally one week in advance) is required for the following absences:

1. Jury duty and other government obligation
2. Religious reasons
3. University sanctioned or approved activities

The California Education Code (section 89320) requires "each state university, in administering any test or examination, to permit any student who is eligible to undergo the test or examination to do so, without penalty, at a time when that activity would not violate the student's religious creed. This requirement shall not apply in the event that administering the test or examination at an alternate time would impose an undue hardship which could not reasonably have been avoided. In any court proceeding in which the existence of an undue hardship which could not reasonably have been avoided is an issue, the burden of proof shall be upon the institution."

It is the responsibility of the student to make advance notification, contact the faculty member to make arrangements to make up any academic work that may be missed, submit assignments on time, and to make arrangements regarding activities, tests, quizzes, or exams that may be scheduled during the absences.

If a student does not notify the faculty member one week in advance of the date of absences for these reasons (jury duty, governmental service, religious observances, or University sanctioned activities), the instructor is not required to adjust the class schedule or to allow for make up activities, tests, or exams. Students shall not, however, be penalized for excused absences when circumstances make it impossible to provide advance notice (e.g. student is engaged in a University sanctioned event such as a performance, tournament, or playoff which cannot be anticipated).

A student who expects to be absent from the University for any valid reason, and who has found it difficult to inform the instructor, should notify the academic department office. The department office shall notify the student's instructors of the nature and duration of the absence. It remains the responsibility of the student to arrange with instructors to make up any academic work missed.

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LECTURE TOPICS

***** Subjects may shift due to how fast we cover subject material *****

1. Class Orientation
 - Maya interface Road trip
 - Moving objects
 - Preferences
 - Channel box
 - Translation/Rotation/Scale tools
 - Primitives
 - Saving scene
2.
 - Setting up Project
 - Modeling Toolkit
 - Polygon anatomy
 - Polygon editing tools
 - Imageplanes
3. Modeling / Editing Tools
 - insert Edge Loop
 - Merge
 - Snap tools
 - Extrusion
 - Component selection techniques
4. Advanced Modeling tools/ techniques
5. Lights / Shaders / Arnold rendering engine
 - Skydomes/ HDRI images
 - Adjusting Maya lights to work with Arnold
 - Maya basic shader types
 - Arnold Standard Surface Shader
6. UVing 101
 - UVing tools /UV editor
 - Project techniques
 - Adjusting UVs/texturing
7. MID - TERM - open notes/internet/test covering all lectures up to that date - details will be given on day of test - DATE TBD
 - Lecture
 - Discussion on creating good deformable geometry
 - Character rigging process
 - Skeleton creation tools
 - Create skeleton
 - Naming conventions
 - Mirroring skeleton
 - Joint placement
 - Bind geometry to skeleton
 - Skinning - methods for cleaning up skinning weights component editor vs paints weights tool
 - Basic constraint systems

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8. Auto rigging - Rapid Rig Basic.MEL use
- Setting up autorig

9. - Finish auto rigging

10. Animation
- Tangents /tangent types
- Keyframing
- Adjusting/controlling keyframes
- Playblast

11. Bouncing ball and pendulum

12. Walk cycles
Lip sync animation process

13 . FINAL PROJECT - Tell a simple story

- 15 - 30 seconds minimum
- Use everything you've learned this semester to create an animated short based on your focus of interest
- Render animation out of Maya and bring into Adobe Premiere for final 1920 X 1080 QUICKTIME/Mp4 output - there will be a short lecture to explain this process.

14 . Work on final project in class

15. - Work on final project in class

16 . - Work on final project in class

***** FINAL PRESENTATION - May 12 at 5:00 pm ****