DIG 3305C 3D DIGITAL ANIMATION TECHNIQUES

COURSE NUMBER: DIG 3305C	CLASS NUMBER CREDIT HOURS: 3.
SEMESTER/YEAR: SUMMER B 2020	**Instructor:** AARON C KARLSON
Virtual Office Hours: WED 4-5 PM Or By Appointment	**CONTACT EMAIL: PLEASE USE CANVAS MAIL FOR ALL COURSE-RELATED CORRESPONDENCE**
CONTACT PHONE: (352) 294-2000	**COURSE WEBSITE: CANVAS**

COURSE DESCRIPTION
Practical techniques for the implementation of three-dimensional digital animations. Basic principles of 3D design workflow in modeling, texturing, lighting, rendering and animation. Understanding basic object and bipedal motion and key-framing using both industry-standard and open-source tools to perform a frame-by-frame study of traditional and contemporary motion picture animation.

PREREQUISITE KNOWLEDGE AND SKILLS
DAS major and Junior standing or higher

PURPOSE OF COURSE
To familiarize students with the methodology and software used in creating 3D digital art. Students will gain practical experience through modeling and texturing simple geometry, animating using key frames, and finalizing projects through lighting and rendering. This course is intended to introduce students to 3D workflow and practices used in the film industry.

COURSE GOALS AND/OR OBJECTIVES: By the end of this course, students will be able to:

- Understand the general work-flow for creating 3D assets for film or games.
- Understand image sequences and post production process of 3D animation.
- Apply materials that control 3D surface appearance.
- Create original objects, characters and environments.
- Create/manage key frames for animation film.

Course schedule:
This course incorporates lecture, discussion, quizzes, and projects that demonstrate content understanding. Individual assignments will be explained in detail as the course progresses.

WEEK	Topical Areas	Assignments /Quizzes Given	Assignments Due	DATE & TIME DUE
1	Overview of course and objectives Overview of materials and software • Project formats and naming conventions • Foundational terms and intro to 3D animation Introduction to the production pipeline Introduction to Maya: • Maya 2020 GUI • Navigating the viewport • Primitive objects • Basic 3D transforms • Creating basic key frames • Setting up project folders Modeling Intro: • Navigating orthographic and perspective views/ using keyboard shortcuts • Scene organization utilizing the Outliner • Components of polygons • Soft selection • Parenting, grouping, and duplication • Creating component level animation	Download all necessary software Given Project 1: Animating Primitives and Components in 3D Animation Production Pipeline and Maya Basics Quiz		
2	Modeling Objects in Maya: • Smooth mesh preview • Mesh tools • Modeling workflow • Creating image planes • Correct topology Basics of Texturing I: UVs • Review project folders • Materials overview • Unwrapping UVs • UV tools • Cutting & Sewing UV edges	Given: Project 2: Modeling Utilizing Reference Photos	Due Project 1: Animating Primitives and Components in 3D	**July 13 11:59 PM**
3	Review: Unwrapping UVs Basics of Texturing II: Materials • Exporting UVs • Painting in Photoshop • Creating seamless textures • More UV Tools • Intro to lights and rendering Basics of Texturing II: Materials • Exporting UVs • Painting in Photoshop	Given: Project 3: UV Mapping/Texturing/Lighting	Due: Project 2: Modeling Utilizing Reference Photos	**July 20 11:59 PM**

	• Creating seamless textures • More UV Tools • Intro to lights and rendering Setting up a render in Maya • 3 Point Lighting • Linear Workflow • Color Management • Applying a bump map • Rendering with Arnold			
4	History of animation The 12 Principles of Animation Animating a bouncing ball • Intro to animation rigs • Studying film reference • Utilizing the Graph Editor • Graph editor tangents Character Animation Part I • Pre-rigged character overview • Walk cycle (Legs and Lower Body) • Advanced character controls • File referencing Character Animation Part II • Adding personality to characters • Walk cycle (upper body) • Editing the graph editor	Given: Project 4: Bouncing Ball in 3D Given: Project 5: Character Walk Cycle Quiz: Norman Rig Overview and 12 Principles of Animation	Due: Project 3: UV Mapping/Texturing/Lighting Due: Project 4: Bouncing Ball in 3D	**July 27 11:59 PM** **July 31 11:59 PM**
5	Character Animation in Maya Part III • Using character constraints • Implementing reference footage • Demonstrating weight • Lip sync in Maya • Character emotions	Given: Final Project and checkpoints	Due: Project 5: Character Walk Cycle	**August 7 11:59 PM**
6	Review: Final Project Progress • Camera animation • Post production in AE • Work on final project • Final project feedback • Review rendering and post production • Final project feedback • Implementing sound and backgrounds in AE	**• FINAL PROJECTS DUE 11:59 PM Eastern Time AUGUST 14**	**Final Project Checkpoint** **Final Project**	**August 12 11:59 PM** **August 14 11:59 PM**

EVALUATION OF GRADES

Assignment Descriptions	Total Points	Percentage of Grade
Participation – Students are expected to actively participate in class discussions, both in class as well as in class online forums outside class meetings.	100	10%
Weekly Assignments and Quizzes – Weekly assignments and group projects are due the Tuesday session of each week unless otherwise noted. The work will be uploaded to CANVAS prior to the beginning of class otherwise the work will be considered late.	100	55%
Final Project – The result of the semester long effort in learning. It is expected that in this final project, students employ the principles and techniques they have learned during the semester.	100	35%

GRADING SCALE:

Letter Grade	% Equivalency	GPA Equivalency
A	94 – 100%	4.0
A-	90 – 93%	3.67
B+	87 – 89%	3.33
B	84 – 86%	3.00
B-	80 – 83%	2.67
C+	77 – 79%	2.33
C	74 – 76%	2.00
C-	70 – 73%	1.67
D+	67 – 69%	1.33
D	64 – 66%	1.00
D-	60 – 63%	.67
E, I, NG, S-U, WF		0.00

More information on grades and grading policies is here:
https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/

COURSE POLICIES:

PARTICIPATION / ATTENDANCE POLICY Students are expected to actively participate in class discussions in online course forums, and all assigned group activities including student-scheduled group meetings, project proposals, and project submissions.

MAKE-UP POLICY Assignments and presentations may not be submitted late. Documented emergencies or medical situations may be the only accepted reasons for an excused absence on the day of a presentation.
Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

COURSE TECHNOLOGY The students will be required to have access to and use a personal computer with the access to the Internet. Word editing software will be required for written assignments, and the equivalent of Microsoft Office, as well as the student's choice of software for making video from Powerpoint or Keynote slideshows. The University of Florida and Digital Worlds requires that students have access to and on-going use of a laptop/mobile computer for DIG courses in order to be able to function in the current learning environment.

COURSE COMMUNICATIONS Students can communicate directly with the Instructor regarding the course material through the course management system (CANVAS) using "Canvas Mail".

COURSE TECHNOLOGY SUPPORT:

The Technology Support Center provides computer support for Digital Worlds students who access Zoom, lecture recordings, student equipment, facilities and other technology-based resources.
http://digitalworlds.ufl.edu/support
For computer assistance related to Zoom, lecture recordings, student equipment, and facilities request please Submit a Help Ticket or email support@digitalworlds.ufl.edu.
For support related to account services, technical consulting, mobile device services, software services, administrative support, application support center, and learning support services, please contact the UF Computing Help Desk available 24 hours a day, 7 days a week at 352-392-4357 or helpdesk@ufl.edu.

UF POLICIES:

UNIVERSITY HONESTY POLICY
UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

CLASS DEMEANOR
Students are expected to arrive to class on time and behave in a manner that is respectful to the instructor and to fellow students. Please avoid the use of cell phones and restrict eating to outside of the classroom. Opinions held by other students should be respected in discussion, and conversations that do not contribute to the discussion should be held at minimum, if at all.

STUDENTS REQUIRING ACCOMMODATIONS
Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, https://www.dso.ufl.edu/drc) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

NETIQUETTE COMMUNICATION COURTESY
All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats, more information can be found at: http://teach.ufl.edu/wp-content/uploads/2012/08/NetiquetteGuideforOnlineCourses.pdf

SOFTWARE USE
All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

STUDENT PRIVACY
There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html

ONLINE COURSE EVALUATIONS
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at evaluation results.

CAMPUS RESOURCES

HEALTH AND WELLNESS
U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: http://www.counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.
Sexual Assault Recovery Services (SARS)
Student Health Care Center, 392-1161.
University Police Department at 392-1111 (or 9-1-1 for emergencies), or http://www.police.ufl.edu/.
E-learning Technical Support
352-392-4357 (select option 2) or e-mail to Learning- learning-support@ufl.edu
Career Connections Center
Reitz Union, 392-1601. Career assistance and counseling. https://career.ufl.edu
Library Support
Various ways to receive assistance with respect to using the libraries or finding resources. http://cms.uflib.ufl.edu/ask
Teaching Center
Broward Hall, 392-2010 or 392-6420. General study skills and tutoring. http://teachingcenter.ufl.edu/
Writing Studio
2215 Turlington Hall, 846-1138. Help brainstorming, formatting, and writing papers. http://writing.ufl.edu/writing-studio/
Student Complaints Campus
http://regulations.ufl.edu/wp-content/uploads/2012/09/1.0063.pdf
Online Students Complaints
http://www.distance.ufl.edu/student-complaint-process

Disclaimer: This syllabus represents the instructor's current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.