3D DIGITAL ANIMATION TECHNIQUES

COURSE NUMBER: DIG3305C	CREDIT HOURS: 3.0
SEMESTER/YEAR: SPRING 2016	CLASS LOCATION: OORC, NORMAN (NRG) 0120
	CLASS MEETING TIME(S): TUE 10:40 -11:30 AM / THURSDAY 10:40 – 12:35 PM
INSTRUCTOR: Seunghyuk (David) Jang	**OFFICE HOURS:** *Friday 4:00 – 6:00 pm Office 118*
COURSE TA OR COORDINATOR: *TBA*	**COURSE WEBSITE:** *http://lss.at.ufl.edu*

COURSE COMMUNICATIONS: Students can communicate directly with the instructor regarding the course material in-class or through CANVAS. Students are also encouraged to post general questions to the discussion board through CANVAS, the course management system.

REQUIRED SOFTWARE AND TEXTBOOK:

- Williams, Richard. *The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet*. Faber & Faber, 2012.
  Williams, Richard. *The Animator's Survival Kit App:*
  https://itunes.apple.com/us/app/the-animators-survival-kit/id627438690?mt=8
  *UF Bookstore: http://www.bkstr.com/floridastore/home

- Autodesk Maya 2016 (Educational version is free for students) DOWNLOAD
- Adobe Photoshop CS6/CC
- Adobe After Effects CS6/CC
- Two-monitor setup for software instruction (ONLINE students only)
- Edited lectures will be available for your viewing within 24-48 hours after the end of the each of class meetings on TUES and THURS.

RECOMMENDED TEXTS AND ONLINE RESOURCES:

- Mastering Autodesk Maya 2015 : Autodesk Official Press by Todd Palamar
  ISBN-13: 978-1118862513 / ISBN-10: 1118862511 Edition: 1st
  Also View in iTunes
  https://itunes.apple.com/us/book/mastering-autodesk-maya-2015/id899976591?mt=11

- Lynda.com, Online tutorial *(FREE access for UF students)*

ADDITIONAL RESOURCES AND SUPPLEMENTAL READINGS:

- Introducing Autodesk Maya 2015 : Autodesk Official Press by Dariush Derakhshani
  ISBN-13: 978-1118862841 / ISBN-10: 1118862848 Edition: 1st
  Also View in iTunes
  https://itunes.apple.com/us/book/introducing-autodesk-maya/id889935294?mt=11

COURSE DESCRIPTION:
This course is designed to instill an understanding of 3D animation techniques from modeling to rendering including modeling techniques, lighting, texturing and animating. During the course of the semester, students will be assigned various weekly projects that must be submitted prior to the assigned due date to receive a grade. For the final project, each student will create a short animated film, 30-60 seconds in length, through which they will learn the production process of animation including writing a treatment, storyboarding, and timing through animatic and final rendered animations.

PREREQUISITE COURSE: 2D Digital Animation Techniques (DIG3313)

COURSE GOALS AND/OR OBJECTIVES: By the end of this course, students will be able to:
1. Understand the general work-flow for creating 3D assets for film or game.
2. Understand image sequences and post production process of 3D animation.
3. Apply materials that control 3D surface appearance.
4. Create original objects, characters and environments.
5. Create/manage key frames for animation film.

INSTRUCTIONAL METHODS: The course incorporates lecture, in-class exercises and assignments to apply and reinforce skills learned. Additionally, students will be asked to participate in weekly online critiques to strengthen their skills in analysis and critical thinking. Individual assignments will be explained in detail as the course progresses.

Course Schedule:

Week	Class Topics + Objectives	Assignments + Readings
1	Course Objectives Overview of course and objectives • History of 3D Animation • Foundational terms Introduction to 3D Animation • Maya 2016 GUI • Primitive objects • Basic 3D transforms • Basic Animation "key" • *Connection to After Effects	**Review the class lecture** **Be familiar with the Maya interface** **Assign 1: Primitives in 3D**
2	Review: Basics of Maya Further introduction to Maya GUI • Polygons vs NURB • Navigating views • Polygon components • Organizing object (Outline) • Soft Selection	**Assign 2: Primitive Landscape** **DUE** Assign 1: Primitives in 3D

Week	Class Topics + Objectives	Assignments + Readings
3	Review: Basics of Maya Part II Modeling in Maya • Smooth Mesh Preview • Parenting in outline • Image Plane • More tools for mesh	**Assign 3: Modeling with image plane** DUE Assign 2: Primitive Landscape
4	Review: Modeling in Maya Materials and Texturing I • Materials overview • Unwrapping the UV • UV Tools	**Assign 4: Texturing and UV PART I** DUE Assign 3: Modeling with image plane
5	Review: Unwrapping UVs Materials and Texturing II • Exporting UV • Painting in Photoshop • More UV Tools • Cut & Sew the UV edges	**Assign 5: Texturing and UV PART II** DUE Assign 4: Texturing and UV PART I
6 02/10-02/12	Review: Materials and Texturing Setting up a render scene in Maya • 3 Point Lighting • Linear Workflow • Color Management • Apply a bump map • Mental Ray render setting for realistic render. • Final Gather / Global Illumination	**Assign 6: Lighting and Rendering** DUE Assign 5: Texturing and UV PART II
7	Review: Lighting and Rendering Motion Path in Maya • Maya to AE • NURBS Curves • Non-Linear Deformers • Apply Motion Path • Graph Editor in Maya	**Assign 7: Solar System Animation.** DUE Assign 6: Lighting and Rendering
8	Review: Animation in Maya Part II 3D Bouncing Ball in Maya • Review the 2D bouncing ball • Major principles in bouncing ball • 3D Environment setup	**Assign 8: Bouncing Ball in 3D** **Final Project Proposal** DUE Assign 7: Solar System Animation
9	**NO CLASS:** Spring Break	

Week	Class Topics + Objectives	Assignments + Readings
10	Review: Bouncing Ball In-class Critique Character Animation Part I • Pre-rigged character overview • Norman/Morpheus Rig • Viewport 2.0	**Assign 9: Character Walk Cycle (Legs)** **DUE** Assign 8: Bouncing Ball in 3D Final Project Proposal
11	Review: Character Walk Cycle(Legs) Character Animation in Maya Part II • Unique walk cycle • Tweaking graph editor	**Assign 10: Characteristic Walk Cycle** **DUE** Assignment 9: Character Walk Cycle (Leg)
12	Review: Characteristic Walk Cycle Character Animation in Maya Part III • Constraint • Using Locator	**Assign 11: Final Project Progress (Part I)** **DUE** Assign 10: Characteristic Walk Cycle
13	Review: Character Animation in Maya Part II • Lip Sync in Maya	**Assign 12: Lip Sync Animation** **DUE** Assign11: Final Project Progress (Part I)
14	Review: Lip Sync Animation • Outdoor Lighting • Work on Final project • Rendering Image sequences	**Assign 13: Final Project Progress (Part II)** **DUE** Assign 12: Lip Sync Animation
15	Review: Final Project Progress • Camera Animation • Work on Final project • Final Critiques in Class	**FINAL PROJECT** **DUE** Assign 13: Final Project Progress (Part II)
16	**FINAL PROJECTS DUE** **Thursday, April 21** **Final movie file and project folder must be submitted by Due**	**DUE (04/21):** FINAL PROJECT

COURSE PROJECTS- WEEKLY

Project	Name	Due
1	**Primitives in 3D**	01/12
2	**Primitive Landscape**	01/21
3	**Modeling with image plane**	01/28
4	**Texturing and UV Part I**	02/04
5	**Texturing and UV Part II**	02/11
6	**Lighting and Rendering**	02/18
7	**Solar System**	02/25
8	**Bouncing Ball in 3D**	03/10
9	**Character Walk Cycle Part I**	03/17
10	**Character Walk Cycle Part II**	03/24
11	**Final Project Progress I**	03/31
12	**Lip Sync Animation**	04/07
	Final Project Progress II	04/14
	FINAL PROJECT	04/21 (30mins before class)

GRADING BREAKDOWN:

Assignment	Percentage
Class Attendance and Participation – Students are expected to actively participate in class discussions, both in class as well as in class online forum. Each student will be required to post a weekly critique of their classmates' work on CANVAS. (**Peer Reviews will be included here**)	10%
Weekly Assignments and Group Projects – 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.	55%
Final Project – Final Project is the final 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.	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

COURSE POLICIES:

ATTENDANCE POLICY:
a. At the sole discretion of the instructor, documented Emergencies or medical situations may be the only acceptable reasons for an excused absence. At the very least, students must contact the Instructor 24 hours before class time if they wish to be considered for an excused absence.
b. Unexcused absences will accrue to the detriment of the portion of the final grade given for class participation.
c. Three unexcused absences will result in the drop of one letter grade (i.e. the student will now only be able to obtain a maximum grade of 'B' for the course).

MAKE-UP POLICY:
a. At the sole discretion of the instructor, Exams may or may not be taken late. Documented Emergencies or medical situations may be the only accepted reasons for an excused absence on the day of an exam.
b. Any assignment turned in past the due date may lose up to 10% of the total point value of the assignment for each class day it is late.

ASSIGNMENT POLICY:
a. At the sole discretion of the instructor, late work may be penalized according to the late policy.
b. Any assignment turned in past the due date may lose up to 10% of the total point value of the assignment for each class day it is late.

CELL PHONE POLICY: There will be no cell phone use in this class. Keep your cell phones off please.

COURSE TECHNOLOGY: The students will be required to have access, and use a personal computer with the access to the Internet. The required software and hardware are expected to be installed and tested prior to class sessions/assignments.

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (http://www.dso.ufl.edu/drc/). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the

instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at http://www.dso.ufl.edu/students.php.

Plagiarism is claiming the work someone else did, as work you did. Please DO NOT DO IT. (Every assets/materials used in Weekly/Final project must be original unless the instructor addresses any exception for particular section. Please read each assignment guideline carefully.)

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/docs/NetiquetteGuideforOnlineCourses.pdf
ONLINE COURSE EVALUATIONS: Students are expected to provide feedback on the quality of instruction in this course based on ten criteria. These evaluations are conducted online at https://evaluations.ufl.edu. 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 http://evaluaations.ufl.edu.

GETTING HELP

For issues with technical difficulties for E-learning in CANVAS, please contact the UF Help Desk at: Learning-support@ufl.edu, (352) 392-HELP - select option 2, https://lss.at.ufl.edu/help.shtml.
Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.
Other resources are available at http://www.distance.ufl.edu/getting-help for:
- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

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.