Digital Production Art 3-D
AET 326
20635

Designing in time for multiple dimensions.
Thinking in malleable units of measurement.

Spring 2019
DFA 4.126
MW 2:00 PM- 3:30 PM

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Office Hours: Mon and Tues: 11am-1215 pm in the Foundry, or by appointment

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I. Rationale:

This course simulates the production pipeline of a 3-D digital art studio; Manifesting creative ideas into tangible reality via 3D modeling, texturing, rigging, animation, lighting, rendering, and interactivity.

II. Course Aims and Objectives:

Aims

This course teaches students to manifest ideas from thought to tangible reality in a digital space. This course consists of projects focused on the creation of animated 3-D characters and objects, to virtual game environments. In this semester-long exploration of 3-D digital artistry, one will be able to try on all aspects of the production pipeline to see which best suits them. Digital production art 3D is an action packed and fun filled sampler of the exciting world of creating 3D graphics and the myriad potential therein.

Specific Learning Objectives:

By the end of this course, students will:

- Understand the similarities and differences between producing animation for a 3-D game versus film
- Conceptualize characters and environments in both form and function
- Create character and environment designs in the form of 3-D digital models
- Comprehend the process of rigging, or character setup
- Explore texture through multiple approaches to surfacing digital models
- Apply 3-D character animation for use in both rendered video as well as real time game environments
- Evaluate the relationship between art history and its relationship to the current state of 3-D digital art
- Create a most specific creative 3D project, utilizing the entire 3D production pipeline, for both maximum efficiency and maximum output possibilities.

Project(s) intended to prove a thorough understanding of 3D production process

in order to dissolve boundaries between

games, film, art, design,

to best prepare for a relevant future,
controlling production in the age of information.

III. Format and Procedures:

This course will meet twice a week. During the first meeting, there will be a lecture that will include demonstration along with discussion. During the second meeting of the week, there will be group learning project with discussion. The in-class projects will review and practice the material covered from the week's first class meeting. Active participation in weekly in-class group projects will be a major component of the professionalism and participation component of student grades for the course that will comprise 20% of the final grade.

***IV.* Tentative Course Schedule:** ***This syllabus represents my 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.*

Date	Main Topic(s)	Work to do at home to be completed before	Evaluation
1/23	Intro to class and intro to Maya interface. Discuss scope of class as well as goals and expectations. Sketch concept from in class Demonstration. build and export 3d model.	Download autodesk Maya, Create sketchfab.com account. Build 3D concept from in class collab. .ma = best maya file type .fbx= overall best 3D file type for export	
1/28, 1/30	Modeling and Texturing process: Transition work from week 01 to week 02 concept. Creating a card deck. including using reference going to 5th floor to find art history images for face cards. **Exporting animation** tests via playblast, Rendering and output	Create card deck with texture. Know difference between procedural and file textures. You may use either, but know their strengths and weaknesses in reference to your personal art production style. Create animation concept	
2/4,2/6	Build and texture table. Discuss modeling concerns for animation. Project process checkpoint: checkpoint #1	Create and texture table/ Environment Must be created with animation in mind.	
2/11, 2/13	model and texture coat, hat and pants	Create textured models for coat, hat, and pants. (w/ efficient file texturing, using only one map for 3 objects)	
2/18, 2/20	facial modeling: techniques	This should be a deconstructed face (know what that means and Why) created as "X" for multiple loops.	
2/25, 2/27	facial modeling (continued): texturing	UV Mapping. This should not be a mysterious thing at this point. If UV mapping is confusing at this point, let TA know asap.	
3/04, 3/06	model and texture: neck tie and low poly flower vase checkpoint #2:	Output necktie and flowers with vase.	
3/11, 3/13	Modeling and texturing hands	Model/ texture hands. (wristwatch optional)	
3/18,3/20	Spring Break		
3/25 3/27	Rigging using set driven keys	Practice at least 2 types of SDK in your project	
4/01 4/03	Char. Rigging for loop combos.	Understand SDK. Create sdk.	
4/08, 4/10	Animation using your rigged character and blend shape process	Rigging / animation output. (.FBX!) understand 12 PRINCIPLES of Animation.	

4/15, 4/17	Create Final animation loops. Designing loops for interactivity	Create Animation. Understand the graph editor. Create specific timing	
4/22, 4/24	Refine animation loops. export loops for interactivity	Refine animation loops. export loops for interactivity	
4/29, 5/01	Implement all animation loops to Unity 3d Create interactive output adding collision, sound, looping animation and triggers in unity 3d. exporting a build	Implement assets for output via UNITY3D.	
5/06, 5/08	Final Output and delivery of assets In Class Presentation.	Deliver Output via UNITY 3D, Maya, Sketchfab, 3d Print	

Feedback Statement (to encourage students to respond to your requests for their feedback)
During this course I will be asking you to give me feedback on your learning in informal as well as formal ways, including through anonymous surveys about how my teaching strategies are helping or hindering your learning. It's very important for me to know your reaction to what we're doing in class, so I encourage you to respond to these surveys, ensuring that together we can create an environment effective for teaching and learning.

V. My Assumptions

It is my belief that with hard work and a little bit of patience, anyone can be good at 3-D digital art. The learning curve is slower for some than others, but do not be discouraged and you will get to where you want to be. With the projects we create in this course, I advise students to make something that they can get really excited about. Think about making short-term goals for your progress, and try to learn a new skill each day. The 3-D digital art process is very iterative, in that projects build upon one another, and many steps are repeated ad infinitum. With a firm plan in place, it will be easy to create a road map for success.

VI. Course Requirements:

1. Class attendance and participation policy:

(a) Expected classroom behavior: take notes, ask many questions, and attend class for the entire duration. Make a solid effort on each project outside of class, so that you may have many questions to contribute to the discussion.

(b) Cell phone use, including texting, is unallowable. Keep cell phones stored during the duration of class

Religious Holy Days
By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, I will give you an opportunity to complete the missed work within a reasonable time after the absence.

2. Course Readings/Materials:

Recommended Textbooks:

(a) *Introducing Autodesk Maya 2018:* Autodesk Official Press, by Dariush Derakhshani. 1st Edition. ISBN: 9781119059639

(b) *Unity in Action: MultiplatformGame Development in C#,*
By Joseph Hocking. ISBN: 9781617292323

(c)*Cartoon Animation*, by Preston Blair. ISBN: 9781560100843

(b) Supplies needed: Laptop computer capable of running Autodesk Maya and Unity.
(c) Other supplies: Jump Drive for external storage and data backup. A mouse for your laptop, as the 3D software will be much slower to use without one.
(d) To download free student version of Maya and Unity:
http://www.autodesk.com/education/free-software/maya
http://unity3d.com/
(e) URL for course website: http://aet326.tumblr.com/
(f) Sketchfab.com → create an account for your class process blog

3. Assignments, Assessment, and Evaluation

(a) Finished Assignments should be posted to canvas in the requested format before 9:00 AM on the Due Date
(b) Late assignments will be lose 10 points for the first day late, 20 points if 2 days late, 40 points off if 3 days late, and so on, with point subtraction doubling for each day of lateness

(c) Preliminary information on papers or projects, with due dates, shall be posted to canvas on the date of assignment

(d) List of assignments that will impact the final grade: (projects include presentation component)

-Attendance
-Abstract animation
-Final project deliverable
-Environment A ssets (incl. textures)
-Character Model Assets (incl. textures)
-Character Prop Assets (incl. textures)
-Character Animation
-Sketchfab Presentation

(e) This course will consist of projects. Each of these projects in of itself represents at least one aspect of the 3D digital production ART pipeline, and builds upon the last, culminating in a finished multimedia work. (optimized for future output)

(f) Any changes in the syllabus, such as project due dates, will be announced in class as well as on canvas.

4. Use of *Canvas* in class

In this class I use *Canvas*—a Web-based course management system with password-protected access at http://canvas.utexas.edu —to distribute course materials, to communicate and collaborate online, to post grades, and to submit assignments. You can find support in using Canvas at the ITS Help Desk at 475-9400, Monday through Friday, 8 a.m. to 6 p.m., so plan accordingly.

VII. Grading Procedures: **Grades** will be based on:

The following are equally weighted components of your final grade:

-Attendance:
-Abstract animation:
-Final project deliverable:
-Environment Assets (incl. textures) :
-Character Model Assets (incl. textures) :
-Character Prop Assets (incl. textures) :
-Character Animation :
-Sketchfab Presentation:

Attendance, Professionalism and Participation (20%):-→
MISSING MORE THAN 3 CLASSES will result in an AUTOMATIC ZERO for this grade.

Letter Grade	Percentage	
A	93%-100%	
A-	90%-92%	

B+	87%-89%	
B	83%-86%	
B-	80%-82%	
C+	77%-79%	
C	73%-76%	
C-	70%-72%	
D+	67%-69%	
D	60%-66%	
F	0%-59%	

IX. Academic Integrity

University of Texas Honor Code
The core values of The University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the university is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

X. Other University Notices and Policies

Use of E-mail for Official Correspondence to Students

- All students should become familiar with the University's official e-mail student notification policy. It is the student's responsibility to keep the University informed as to changes in his or her e-mail address. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University-related communications, recognizing that certain communications may be time-critical. It is recommended that e-mail be checked daily, but at a minimum, twice per week. The complete text of this policy and instructions

for updating your e-mail address are available at **http://www.utexas.edu/its/help/utmail/1564** .

Documented Disability Statement

Any student with a documented disability who requires academic accommodations should contact Services for Students with Disabilities (SSD) at (512) 471-6259 (voice) or 1-866-329-3986 (video phone). Faculty are not required to provide accommodations without an official accommodation letter from SSD. *(Note to Faculty: Details of a student's disability are confidential. Faculty should not ask questions related to a student's condition or diagnosis when receiving an official accommodation letter.)*

- Please notify me as quickly as possible if the material being presented in class is not accessible (e.g., instructional videos need captioning, course packets are not readable for proper alternative text conversion, etc.).
- Please notify me as early in the semester as possible if disability-related accommodations for field trips are required. Advanced notice will permit the arrangement of accommodations on the given day (e.g., transportation, site accessibility, etc.).
- Contact Services for Students with Disabilities at 471-6259 (voice) or 1-866-329-3986 (video phone) or reference SSD's website for more disability-related information: http://www.utexas.edu/diversity/ddce/ssd/for_cstudents.php

Behavior Concerns Advice Line (BCAL)

If you are worried about someone who is acting differently, you may use the Behavior Concerns Advice Line to discuss by phone your concerns about another individual's behavior. This service is provided through a partnership among the Office of the Dean of Students, the Counseling and Mental Health Center (CMHC), the Employee Assistance Program (EAP), and The University of Texas Police Department (UTPD). Call 512-232-5050 or visit http://www.utexas.edu/safety/bcal.

Q drop Policy

The State of Texas has enacted a law that limits the number of course drops for academic reasons to six (6). As stated in Senate Bill 1231:

> "Beginning with the fall 2007 academic term, an institution of higher education may not permit an undergraduate student a total of more than six dropped courses, including any course a transfer student has dropped at another institution of higher education, unless the student shows good cause for dropping more than that number."

Emergency Evacuation Policy

Occupants of buildings on the UT Austin campus are required to evacuate and assemble outside when a fire alarm is activated or an announcement is made. Please be aware of the following policies regarding evacuation:

- Familiarize yourself with all exit doors of the classroom and the building. Remember that the nearest exit door may not be the one you used when you entered the building.
- If you require assistance to evacuate, inform me in writing during the first week of class.
- In the event of an evacuation, follow my instructions or those of class instructors.

Do not re-enter a building unless you're given instructions by the Austin Fire Department, the UT Austin Police Department, or the Fire Prevention Services office.