Fall – Autumn - 2018

AET345: Designing Virtual Worlds - Unique #: 21025

Michael McKellar

Office Hours: 9:30 – 11:30 PLAI LAB/DFA 4.132E (Or by appointment)

Tuesday & Thursday 02:00-03:30pm

PAC 3.204

OVERVIEW

This is a unique class offering lab-based exploration of the design, composition and creation of virtual environments. From snapshot 360 images to more dynamic and expansive interactive worlds this class will explore the fundamentals of designing for fully surrounding experience as well as giving students to explore design in some of the latest virtual reality technologies, with potential to create our own.

Discussion based learning in the forms of review, analysis and critique of common technologies, tools and examples of existing work will allow students to creatively engage and develop new expansive worlds.

COURSE DESCRIPTION

This lecture/lab course serves as the introduction to the design process for immersive digital environments. The approach to teaching allows students to actively participant in discussion, learning and review of important past and present work and practitioners.

Students will explore and develop skills in the common methodologies and technologies for the design, development and review of virtual worlds.

Over the semester these skills will be tested in the creation of different worlds/environments around a given theme, with a majority of the creative direction left at the student's discretion. – the expression of the correct narrative being the end goal.

Students who complete this course will leave with an understanding and the practical skills required in the workflow, methodology and considerations necessary to practically realize digital environments. It will also give students a chance to utilise industry leading software (Touchdesigner, unity etc) as well as cutting edge hardware (360º cameras, HMDs etc) in new ways. This is a completely dynamic class within the PLAI lab, giving access and potential to develop unique experiences as and when required.

LEARNING OUTCOMES

By the end of the semester, students will be able to:

- Critically analyse and discuss the qualities of immersive and virtual environments;
- Demonstrate practical ability in the planning, implementation and development of a compelling virtual narrative;
- Gain introductory-level experience to various advance industry techniques and methodologies;
- Design, create and implement immersive 360º worlds in a variety of professional settings.

COURSE REQUIREMENTS

- Participation (15%): Students should be prepared to raise ideas, critique designs and add to class discussions, this is expected weekly.
- Critical writing (15%): Critical reflection and review of a student chosen immersive or interactive virtual (360º) experience
- Project 1 (15%): Populating a world: Using class learned techniques to create a virtual world in either real-time graphics or 360º imagery against a given brief. This is given in week 3, due in week 5 (09/27/18).
- Project 2 (20%): Design of a virtual world: written proposal outlining creative direction and narrative for a student led virtual world design. This will be developed during designated lab time, using class learned themes. This project is given in week 5, due in week 8 (10/18/18).
- Project 3 (30%): Realising design: Using the design created in project 2, students will fulfil their vision using various skills learned in class. This may require some physical work to construct certain elements of the world, rather than virtual constructs. Given week 9, presented to class in week 15 (12/04/18 & 12/06/18).
- Attendance (5%): Attendance is taken during every class

There is no final exam for this class.

CLASS POLICIES

UT ELECTRONIC MAIL NOTIFICATION POLICY

Electronic mail (e-mail) is a mechanism for official University and instructor communication to students. Students are expected to check e-mail on a frequent and regular basis in order to stay current with University- and course-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.

It is the responsibility of every student to keep the University and instructor informed of changes in his or her official e-mail address (do so at https://utdirect.utexas.edu/utdirect/bio/address_change.WBX). Consequently, e-mail returned to the University with "User Unknown" is not an acceptable excuse for missed communication. Similarly, undeliverable messages returned because of a full inbox or use of a spam filter will be considered delivered without further action required of the University or instructor.
(see http://www.utexas.edu/cio/policies/university-electronic-mail-student-notification-policy)

ATTENDANCE

Attendance and punctuality are professional attributes. This class is designed to provide students skills for a more practical and professional future career.
You are allowed three absences for illness or personal reasons; however, you will likely miss points for in-class assignments or activities as a result, and these generally cannot be made up. However, if a serious medical or personal crisis (hospitalization, death in the family, etc.) impacts your attendance, please inform me as soon as possible. In addition, see the exception below for religious holy days.
Arriving more than ten minutes late at the beginning of class or after a break, leaving class without permission, and leaving class prior to dismissal for the day all count as being tardy. Three tardies equals an absence. Four absences will lower your course grade by one letter grade. Additional absences may result in failure of the course.

Learning, research and development within the class all build on knowledge gained from previous lessons, you are responsible for making up for work missed during any absence. It is your responsibly to obtain any notes or assignments from one of your classmates.

RELIGIOUS HOLIDAYS

Section 51.911 of the Texas Education Code states that a student shall be excused from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. University policy requires students to notify each of their instructors at least fourteen days prior to the date they will be absent from scheduled classes to observe a religious holy day.
(from http://www.utexas.edu/provost/policies/religious_holidays/1555_001.pdf)

SERVICES FOR STUDENTS WITH DISABILITIES (SSD)

The University of Texas at Austin provides upon request appropriate academic accommodations for qualified students with disabilities. For more information, contact Services for Students with Disabilities (512-471-6259, ssd@austin.utexas.edu, http://ddce.utexas.edu/disability/, or videophone 512-471-6644). Please provide documentation of your needs during the first week of class, if possible, so that I can make the necessary accommodations promptly.

CLASSROOM ETIQUETTE

1. Be on time at the start of class time and after any breaks
2. This class is a place for artistic discussion and critique, not texting on your phone – please turn them on silent
3. Discussion is good, distraction is bad – I reserve the right to reduce marks for that day's assigned work for repeat offenders
4. Consider bringing headphones/earphones for any periods of solo work, such as class work sessions

COURSE COMMUNITACTION

The syllabus and assignments will be posted on the course Canvas site. All communications outside class hours is via Canvas.
This class is designed around discussion and group learning, it will help everyone if you post questions in the discussion area wherever possible. I will post, comment and otherwise add to the discussion wherever relevant, or with topics to help steer general discussion in class.
I will attempt to respond to all private communications within 24 hours on weekdays.
I normally check emails twice per day, once in the afternoon, once in the evening.

- Always ask questions where there is doubt. Do not make assumptions.

ASSIGNMENTS

- All assignments will be given out and discussed during class time and available to view on Canvas.
- Technical assignments will be given out in class as we go through various software's and implementations, each will have a homework assignment for the following week to advance and develop on the work completed during class. Additional smaller assignments may be made throughout the semester as the need arises.
- You are responsible for making up for any class work missed – specifically technical challenges completed during class time as these, and the homework assignment contribute heavily to the final grade.
- It is your responsibility to ask and inquire if you are unclear about what is required or when.

ASSIGNMENTS DEADLINES

- It is vital that you do not get behind in this class as all work builds upon previous work.
- As a general rule all projects, reading, research and homework assignments must be completed begore the beginning of each class period. However, many class assignments have a due date and time in the evening before class. This allows time for review and feedback, as well as discussion based upon the submitted work during the next lesson. Any work not submitted on time will still receive feedback but will not benefit from peer review in class time.
- All work is due as specified in the assignment listed on canvas. Work not completed before the canvas deadline will be considered late.
- Any work turned in late, without prior consent and valid reason will result in a single grade drop from the deserved reward (an A submission will reward a B etc).
- Critical writing tasks are given in weeks 1 and 12, due the following Thursday.
- Project 1 is formally given during week 3 and due in week 5 (09/27/18)
- Project 2 is formally given during week 5 and due in week 8 (10/18/18)
- Project 3 is formally given during week 9 and due in week 15 in the form of a presentation to class (12/04/18 & 12/06/18)

CLASS SCHEDULE

Week	Days	Topics	Homework/assessments	
1				
	30-Aug	Class Intro Discussion - What is a virtual world? Lecture/Lab - Getting ready	Critical writing 1	
2	04-Sep	Discussion - Designing Experience Lecture/Lab - Looking at the hardware/software		
	06-Sep	Lab		Critical writing due
3	11-Sep	Discussion - The design process Lecture/Lab - Getting started in Touchdesigner	Project 1	
	13-Sep	Lab		
4	18-Sep	Discussion - The design process 2 Lecture/Lab - Planning an environment in TD		
	20-Sep	Lab		
5	25-Sep	Discussion - building a world Lecture/Lab - Controlling an environment in TD	Project 2	
	27-Sep	Lab		Project 1 due

6	02-Oct	Discussion - building a world 2 Lecture/Lab - Getting started in Unity		
	04-Oct	Lab		
7	09-Oct	Discussion - tbc Lecture/Lab - planning an environment in Unity		
	11-Oct	Lab		
8	16-Oct	Discussion - tbc Lecture/Lab - Controlling an environment in Unity		
	18-Oct	Lab		Project 2 due
9	23-Oct	Discussion - tbc Lecture/Lab - 360° capture	Project 3	
	25-Oct	Lab		
10	30-Oct	Discussion - tbc Lecture/Lab - 360° capture part 2		
	01-Nov	Lab		
11	06-Nov	Discussion - tbc Lecture/Lab - handling 360° content		
	08-Nov	Lab		
12	13-Nov	Discussion - tbc Lecture/Lab - Getting ready	Critical writing 2	
	15-Nov	Lab		
13	20-Nov	Discussion - tbc Lecture/Lab - Getting ready		
	22-Nov	Thanksgiving - no class		Critical writing 2
14	27-Nov	Lab - project support		
	29-Nov	Lab - project support		
15	04-Dec	Project 3 Presentations		Project 3 due
	06-Dec	Project 3 Presentations		Project 3 due
16	11-Dec	No Class		
	13-Dec	No Class		

EVAULATION & GRADING

Neatness, scholarship and presentation will all count towards your final grade:
Being able to visually communicate ideas is part of the process.

YOU WILL BE GRADED ON

- Reading, discussion, Participation (15%);
- Critical reflection (critical writing) (15%);
- Project 1 (15%);
- Project 2 (20%);
- Project 3 (30%);
- Attendance (5%)

This course does not have a final exam.

GRADING SCHEME

To ensure fairness, all numbers are absolute, and will not be rounded up or down at any stage. Thus a B- will be inclusive of all scores of 80.000 through 83.999... The University does not recognize the grade of A+. Thus, the conversion from percentage value to letter grade is as follows:

- A = 94+
- A- = 90 – 93.999…
- B+ = 87 – 89.999…
- B = 84 – 86.999…
- B- = 80 – 83.999…
- C+ = 77 – 79.999…
- C = 74 – 76.999…
- C- = 70 – 73.999…
- D+ = 67 – 69.999…
- D = 64 – 66.999…
- D- = 60 – 63.999…
- F = 0 – 59.999…

PRIVACY

This class is designed to be an open space for discussion, critique and learning. What is said about each other's work during this class should remain in the classroom. It will not be published in a blog or any other personal website, tweeted or posted on social networks.

MOBILE DEVICES

Mobile devices of any kind must be silenced and out of sight.
There may be times when using a mobile is appropriate, such as aiding in discussion – these times will be very obviously announced. Texting, talking or otherwise using a mobile device is never appropriate during class.

RESOURCES AND EQUIPMENT

This class will take part in the PLAI lab, with access to the software, hardware and computers required for the course.

Using your personal devices/laptops is permitted but would be expected to run everything to a satisfactory level.
This is normally a laptop or desktop with a discrete GPU installed.
This class will utilise a number of software that have various commercial, free to-use, or educational licenses.
Students using their own devices should use this list an example of potential requirements:

- Unity games engine (offers free educational access)
- Touchdesigner ($300 educational license – vast non-commercial usability)
- Adobe Creative suite (manipulating and controlling images and video captured in 360º)