Spring 2017
AET 317: Foundations of Interactive Software
Unique # 19710
Tuesday / Thursday, 9:00am – 10:30pm WIN 1.138

Instructor: Matthew R. Smith
Office Hours: M, W, F: 2:00pm – 3:00pm *and by appointment*
                    T, TH: 10:30am – 12:00pm, *and by appointment*
Office: WIN B 124
Email: matt.smith@austin.utexas.edu

COURSE DESCRIPTION:

This course is a lecture / lab course designed to introduce students to the basic concepts, methods, and systems utilized in the field of New Performance Technologies. The primary focus is to explore core technologies and illuminate how each area of work within NPT relates and is connected to others. Through a mixture of lectures and lab classes the students will be introduced to the tools and techniques prevalent in four specific applications of NPT: 3-D projection mapping, intelligent led lights & pixel mapping, interactive & generative imagery, and 3-D previsualization.
Topics include the historical landmarks of interactive performance, projection system design, media servers, common signal and data formats, imagery creation for live performance, and current trends in live event technology. Student activities include: programming lights, controlling media servers, and designing a projection system.

LEARNING OUTCOMES:

By the end of the semester, students should be able to:
• recognize and analyze a variety of system components;
• critically examine projection and lighting techniques;
• apply designs and configure networks utilized for live performance;
• effectively participate in a collaborative design process; and
• create and implement a variety of live performance systems

SUGGESTED TEXTS:

• Show Networks and Control Systems, by John Huntington
  ISBN: 978-0615655901

COURSE REQUIREMENTS:

• Participation (10%): Students should come to class each day prepared to contribute to the day's conversation.
• Project 1 (20%): Hog 4 Programming – Create a short performance (45 sec. – 60 sec.) either set to music or a narrative. This performance must utilize OSC protocol. This project will demonstrate the students understanding of the Hog 4 platform.
• Project 2 (20%): 3D Previsualization – Create a Project Pitch utilizing LightConverse to communicate your creative ideas. This project will consist of a design description, still images and video created by each student to generate excitement and interest over his or her design proposal.
• Critical Writing 1 (5%): Write a single page, double-spaced paper in which you describe a location visited or an event attended in which the lighting was memorable. This paper should serve as a critical examination of both the lighting experienced and your personal interpretation or reaction.

- Project 3 (20%): Interactive & Generative Imagery: Create a short performance (60 sec. – 90 sec.) that utilizes projected imagery that is directly manipulated by an individual or participant. This project will test the students understanding of TouchDesigner, gyrOSC, and a communication network.
- Project 4 (20%): Create custom content to be projected and mapped onto a 3D surface utilizing the d3 media server.
- Critical Writing 2 (5%): Write a single page, double-spaced paper in which you reflect on your experiences throughout this course. Examine content covered, projects assigned, and discussions held then write critically over the moments most notable to you.

ATTENDANCE

Attendance is critical in the professional world and in this class. Please do your best to come to class on time and ready to learn. You are allowed up to two absences during the entire semester. Beginning with your third absence, excused or unexcused, your final course grade will be reduced by 5%. Also, two late arrivals (more than 5 minutes late) are equal to one absence. I highly recommend that you attend *each and every class session*. Arrangements for assignments missed due to an absence must be *pre-arranged* with the instructor **prior** to the absence.

GRADING:

Participation	10%
Project 1	20%
Project 2	20%
Critical Writing 1	5%
Project 3	20%
Project 4	20%
Critical Writing 2	5%
	100%

<u>ALL</u> ASSIGNMENTS ARE DUE IN CLASS (except where noted).
THERE ARE <u>NO</u> EXTENSIONS OR INCOMPLETES.

All graded assignments will be returned within 7 days of due date.

CLASS CALENDAR
Instructor reserves the right to adjust the calendar to fit the needs of the class.

Week 1:

Tues: January 17th	Thurs: January 19th
-Class Introduction -Review Syllabus	-Lecture "Communication through Design" -Discussion & examples: "interactive"

Week 2:

Tues: January 24th	**Thurs: January 26th**
-Lecture "Lighting Design" -Lighting hardware show & tell	-Lighting Hardware show & tell continue -Discussion & examples: "lighting remembered" -Lecture: Hog4 hardware / software introduction

Week 3:

Tues: January 31st	**Thurs: February 2nd**
-Lecture: Hog4 patching, cueing & programming basics -Guest Hog4 programmer	-Lecture: Hog4 advanced cueing & programming -Guest Hog4 programmer

Week 4:

Tues: February 7th	**Thurs: February 9th**
-Lecture: OSC protocol into Hog4 -OSC Hardware show & tell	-Project 1 in-class work day

Week 5:

Tues: February 14th	**Thurs: February 16th**
-Project 1 in-class work day	-*Project 1 DUE* -Project 1 presentations

Week 6:

Tues: February 21st	**Thurs: February 23rd**
-Project 1 presentations (continued)	-Lecture: LightConverse objects and instruments overview

Week 7:

Tues: February 28th	**Thurs: March 2nd**
-Lecture: LightConverse patching and connectivity	-Project 2 in-class work day

Week 8:

Tues: March 7th	**Thurs: March 9th**
-*Project 2 DUE* -*Critical Writing 1 DUE* -Project 2 presentations	-Project 2 presentations (continued)

Week 9:

Tues: March 14th	**Thurs: March 16th**
-SPRING BREAK	-SPRING BREAK

Week 10:

Tues: March 21st	**Thurs: March 23rd**
-Lecture: "Projection Design" -Projection hardware show & tell -Discussion & examples: "projection events"	-Lecture: TouchDesigner hardware / software introduction

Week 11:

Tues: March 28th	Thurs: March 30th
-Lecture: TouchDesigner continuation & gyrOSC app -gyrOSC Hardware show & tell	-Project 3 in-class work day

Week 12:

Tues: April 4th	Thurs: April 6th
-Project 3 in-class work day	-*Project 3 DUE* -Project 3 presentations

Week 13:

Tues: April 11th	Thurs: April 13th
-Project 3 presentations (continued)	-Lecture: d3 hardware / software introduction -Projection system components show & tell

Week 14:

Tues: April 18th	Thurs: April 20th
-Lecture: d3 surfaces, cameras & projectors	-Lecture: d3 mapping options, timeline & feed map

Week 15:

Tues: April 25th	Thurs: April 27th
-Project 4 in-class work day	-Project 4 in-class work day

Week 16:

Tues: May 2nd	Thurs: May 4th
-*Project 4 DUE* -*Critical Writing 2 DUE* -Project 4 presentations	-Project 4 presentations (continued) -LAST CLASS DAY

POLICIES OF THIS COURSE AND THE UNIVERSITY OF TEXAS

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.

Q Drop Policy

If you want to drop a class after the 12th class day, you'll need to execute a Q drop before the Q-drop deadline, which typically occurs near the middle of the semester. Under Texas law, you are only

allowed six Q drops while you are in college at any public Texas institution. For more information, see: http://www.utexas.edu/ugs/csacc/academic/adddrop/qdrop

Student Accommodations

Students with a documented disability may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329-3986 (video phone). http://ddce.utexas.edu/disability/about/
- Please request a meeting as soon as possible to discuss any accommodations
- Please notify me as soon as possible if the material being presented in class is not accessible
- Please notify me if any of the physical space is difficult for you

Academic Integrity

Each student in the course is expected to abide by the University of Texas Honor Code:
> **"As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity."**

This means that work you produce on assignments, tests and exams is all your own work, unless it is assigned as group work. I will make it clear for each test, exam or assignment whether collaboration is encouraged or not.

Always cite your sources. If you use words or ideas that are not your own (or that you have used in previous class), you must make that clear otherwise you will be guilty of plagiarism and subject to academic disciplinary action, including failure of the course.

You are responsible for understanding UT's Academic Honesty Policy which can be found at the following web address: http://deanofstudents.utexas.edu/sjs/acint_student.php]

University Resources for Students

The university has numerous resources for students to provide assistance and support for your learning, use these to help you succeed in your classes.

The Sanger Learning Center

Did you know that more than one-third of UT undergraduate students use the Sanger Learning Center each year to improve their academic performance? All students are welcome to take advantage of Sanger Center's classes and workshops, private learning specialist appointments, peer academic coaching, and tutoring for more than 70 courses in 15 different subject areas. For more information, please visit http://www.utexas.edu/ugs/slc or call 512-471-3614 (JES A332).

The University Writing Center

The University Writing Center offers free, individualized, expert help with writing for any UT student, by appointment or on a drop-in basis. Consultants help students develop strategies to improve their writing. The assistance we provide is intended to foster students' resourcefulness and self-reliance. http://uwc.utexas.edu/

Counseling and Mental Health Center

The Counseling and Mental Health Center (CMHC) provides counseling, psychiatric, consultation, and prevention services that facilitate students' academic and life goals and enhance their personal growth and well-being. http://cmhc.utexas.edu/

Student Emergency Services

http://deanofstudents.utexas.edu/emergency/

ITS
Need help with technology? http://www.utexas.edu/its/

Libraries
Need help searching for information? http://www.lib.utexas.edu/

Canvas
Canvas help is available 24/7 at https://utexas.instructure.com/courses/633028/pages/student-tutorials

Important Safety Information

BCAL
If you have concerns about the safety or behavior of fellow students, TAs or Professors, call BCAL (the Behavior Concerns Advice Line): 512-232-5050. Your call can be anonymous. If something doesn't feel right – it probably isn't. Trust your instincts and share your concerns.

Evacuation Information
The following recommendations regarding emergency evacuation from the Office of Campus Safety and Security, 512-471-5767, http://www.utexas.edu/safety/

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when an alarm or alert is activated. Alarm activation or announcement requires exiting and assembling outside, unless told otherwise by an official representative.
- Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.
- Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.
- In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

Link to information regarding emergency evacuation routes and emergency procedures can be found at: www.utexas.edu/emergency