

AET 373 Senior Design Project

DFA 4.106

Tuesday and Thursday 2:00-3:30

Instructor: Yuliya Lanina

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Office Hour: Tuesday, 3:30-4: 30 pm, DFA

Prerequisites: Completion of all core AET coursework. That includes AET 101, 102, 103, 304, 310 and three lower division courses.

Course Objectives and Outcomes

This experience is meant to build on your acquired knowledge and skills and facilitate creation of a collaborative team project that would serve as a calling card to future employers or graduate schools.

Course Overview

Students will work on a project in teams of 3-4 people, bringing to it the skills they have acquired in previous years. Each team proposes their project in writing. Once the project is approved, the team is responsible for the concept, technical drawings/prototypes, design, testing, implementation and presentation of their project. In addition, each team will create an online presentation of their project showcasing their research, development, documentation and outcomes of their project. Some projects will be sponsored by industry professionals and represent current areas of concern to the sponsors. Occasionally, faculty members may propose an idea for the project.

Objectives and Assessment Instruments

By the end of the course, students should be able to:

- Utilize your experience and knowledge in creation of original work or working on industry project
- Gain experience in the design process from start to finish
- Demonstrate effective collaboration and effective communication with team members
- Conduct independent research
- Present your completed projects in a professional manner
- Start preparing for job market

Course Structure

1. We will be meeting twice a week. Class time will be spent mostly on in-class presentation of your work in progress, class lectures and group project work. For each contact hour you are required to spend 3 hours working on your projects outside of the class.

2. We will have four visits from industry people who will be looking at your presentations and your projects and providing feedback. Your faculty advisors and others will be invited to provide additional feedback on presentations, projects, and progress.

3. Before the first class, I will send you a questionnaire which will provide the opportunity to tell me about yourself and your preferences and help determine which group you will be in. Make sure you fill it out before our first meeting. The groups will be formed before our first meeting.

3. Each team is required to have a **Faculty Advisor** who will mentor the project throughout the semester. You must choose and contact the Faculty Advisor prior to our third meeting. In case of industry sponsored project your advisor will be an industry sponsor.

Your group is required to meet **at least three times** with your advisor over the semester.

First time to approve your project.

Second time before mid-semester review.

Third time two weeks before final project presentation/showcase.

Each time you must **report** your advisor's feedback on your project.

PROJECT

Each group, once formed, must decide collectively the project during the first week.

Project must be original. It should not replicate any existing ideas or products. You will have one week to decide on the project. During your second week you will present your proposal to the instructor and to your faculty adviser. **Both**, the instructor and advisor must approve your idea before you move on to the next step. Your project must be locked in by the third week (unless you were granted the extension). Your final draft of your proposal must be dated and signed by all of your team members, faculty adviser and instructor, and serve as an official contract.

By our third meeting each group must submit proposal which includes:

1. Project summary (100 words or less). Briefly and concisely describe your proposed project and its key components
2. Project description (500 words or less) Provide extended summary of your work.
3. Context (inspiration, problem, space, big idea)
4. If creating a game, generate and prototype 3 ideas (Consider team resources, time, and technological constraints.
5. Project Goals (500 words or less)
6. Assigned roles
7. Target audience. Identify the audience(s) for which this project is intended.
8. Location and equipment
9. Reason for choosing a particular advisor.
10. Outcomes. Your outcomes should reflect on what the expected results of your project are.

Once both instructor and advisor approve your project idea, you will need to submit a **final written draft of your proposal** to your instructor and advisor.

It should include

- 1) Project title
- 2) Project description
- 3) Project goals
- 2) A clear production plan, which would include detailed timeline with weekly deliverables for each team member. (Ask for your advisor's assistance when creating the plan)
- 3) Assigned roles and outcomes
- 4) Advisor's feedback and your meeting schedule
- 5) Prototype/ 3d representation of the environment/Virtual representation for interactive experience/Pre-visualization (Hog4 PC and Lightconverse software)/System Diagram/Ground Plan
- 6) Original concept art examples (2-3)
- 7) Original concept music composition
Discuss planned instrumentation, approximate length, possible stylistic characteristics, etc., and write a 2-3 minute snippet of musical material to accompany/clarify your description
- 8) Specific location for your project presentation
- 9) Budget. Provide the total cost for the entire project with the break down for specific needs.
- 10) A clear plan of attack and strategy on how, when and where you are going to test the individual elements that make up your project
- 11) Together with your advisor create a list of deliverables for Mid Semester review

Teams

Each group must have

- 1-Creative lead
- 1-Project manager/producer
- 1-2 production artist/content creator
- 1-technical lead/engineer
- 1- documentation photographer/videographer
- 1-publishing producer

Each group member is required to have more than one role

Research and Production

Your project should show a significant amount of research related to the concept and execution of your project. You must document all of your research and include it in your final report.

Throughout the semester each team needs to show understanding on the elements that make the whole project, and be able to show the tests and prototypes of the main elements thoroughly enough to justify being able to complete your project.

Each team member needs to keep a notebook, physical or electronic, in which they record sketches, research, design notes, progress, meeting notes and other related material. I will be checking the notebook periodically. This is to ensure an equitable distribution of workload among team members.

Deadlines for the required reports and oral presentations will be posted on Canvas. Your grade will be lowered if your work is received after the deadline. No extensions!

Mid-semester review

Mid-semester review will take a form of group presentations of the project to which your advisers, faculty and industry people will be invited. You must show a significant project development during this presentation. Deliverables should include:

1. Updated title/concept of your project
2. Advisor's feedback on the current state of your project. You whole group must meet with your advisor for the second time prior to the presentation.
3. Updated development of your project, which would include:
 - A working prototype on the device you are using
 - Half of the musical work scored in a DAW
 - Half of visual material you will use in your project
 - Each, or most of the elements tested to a prototype stage
 - For interactivity, or interaction, the concept tested on a miniature or iterative scale.
 - Half of anything else that is going to be a part of your project.(This would be determined together with your advisor during in the first 3 weeks of this class).
4. Updated timeline
5. Explanation of the future application of your project

Each group will have 15 minutes to present their progress. Each member of the group will present their contribution to the project separately. 2-3 minutes each. Your team needs to show a clear understanding of what they need to implement the final product and show awareness on how your product has had to alter/change given what testing/prototyping showed.

Final Report / Project Website

As a part of this class, you are required to create an online presentation of your project.

Your online report must include

1. Name of your project
2. Project summary
3. Project description
4. Info about your team members and their role
5. Documentation of the process and progress with images and descriptions
6. Demo of your final product
7. Explanation of the future application of your project
8. Your faculty advisor will help you determine additional sites where you must publish your project

Reflection Paper

At the end of the semester you are required to write a **reflection paper** which should include your strategies for capitalizing on your strengths and overcoming your weaknesses in order to become a successful team member in the future and your reflection on your growth because of this class. In addition, you will discuss the results of your efforts regarding the quality of the project and/or your part of the project.

Presentations

Once a week we will have a 5-minute stand up per team during which each team member will have 1 minute each to update the class on what they've done over the week.

In addition, each team will periodically report on the project, culminating in a final exhibition and oral presentation, given in front of the sponsors, faculty, and AET students.

Final presentation and your project will be graded based on quality, state of completion, and effort. Sponsor and faculty advisor feedback will be used to determine final grades. Industry people will be invited to these presentation for additional feedback.

The final presentation and exhibition of your work will take the place of a final exam.

The final presentation will take place in Visualization Lab.

Each team is responsible for presenting their project physically and online.

Text: No text is required. If needed, the course materials will be posted on Canvas.

Grades

Team grades

Written Project Proposal 10%

Project Checklist 15%

(Overall grade for the project is based on points for concept, design, testing, teamwork, presentation, notebook, and online documentation)

Mid-Semester Presentation 15%

Final project presentation and showcase (Visual, Oral and Online) 30%

Faculty advisor feedback 20%

Individual grades

Reflection paper 10%

The following considerations may result in grade adjustments:

1. INDIVIDUAL STUDENT GRADES may be adjusted based on your individual performance within the team.
2. ABSENCES will result in modification of an individual student's final grade.

3. FAILURE TO WORK WITH YOUR FACULTY ADVISOR OR SPONSOR will result in a significant grade reduction.

4. Failure to complete assignments

Final grades will be determined on the basis of the following rubric. Please note: 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+.

A = 94-100

A- = 90-93

B+ = 87-89

B = 84-86

B- = 80-83

C+ = 77-79

C = 74-76

C- = 70-73

D+ = 67-69

D = 64-66

D- = 60-63

F = 0-60

Course materials

There is no required text or readings. Some days I will be posting material related to the topics we cover. You are encouraged to look deeper into the subjects that pertain to your interests.

Safety Training

In accordance with regulations from UT's Department of Environmental Health and Safety, all undergraduate students are required to receive training in order to use the equipment in the art and design labs. First, students must successfully pass the online training for general machine shop safety (Module OH500 at <http://ehs.utexas.edu/training/training-courses.php#oh500>); upon successful completion of this module, students will then receive hands-on training for specific equipment. Time will be allotted during the first week of classes to complete the online portion.

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>)

Use of Class Materials

The materials used in this class, including, but not limited to, exams, quizzes, and homework assignments are copyright protected works. Any unauthorized copying of the class materials is a violation of federal law and may result in disciplinary actions being taken against the student. Additionally, the sharing of class materials without the specific, express approval of the instructor may be a violation of the University's Student Honor Code and an act of academic dishonesty, which could result in further disciplinary action. This includes, among other things, uploading class materials to websites for the purpose of sharing those materials with other current or future students.

(from <https://wikis.utexas.edu/display/coursematerials/Sample+Use+Statement+for+Syllabus>)

Attendance

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.

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)

Classroom Etiquette

Please observe the following rules during class as a courtesy to fellow students and the instructor.

1) *Be on time at the beginning of class and after each break.* If you must come in late at the beginning of class, please enter the room and seat yourself as quietly and unobtrusively as

possible. And please don't hold up the entire class by failing to return promptly at the end of an announced break, since often the second part of the class period is when we will engage in group activities.

2) *Turn off your cell phone's notification sounds upon entering the classroom.* If you forget to do so, and your phone rings, chirps, or vibrates loudly during class, turn it off immediately and discreetly. I reserve the right to penalize repeat offenders by subtracting points from their day's assignment.

3) *Don't distract other students.* Everyone benefits from a classroom free of distracting sights, sounds, and smells. If you would like to update your Facebook page, talk to your friends, listen to loud music, polish your nails, doodle with Sharpies, etc., please do so outside the classroom during breaks.

4) *Consider bringing earphones and/or earplugs to class for work sessions.* If you like to listen to music while you work, you are welcome to do so, so long as no one else can hear it. And if you are easily distracted by noise/conversation, please bring earplugs to wear so that the conversation from desk critiques will not bother you.

Calendar

Please be aware that on occasion the order and timing of the course schedule may need to be altered to accommodate UT closures, instructor illness, student needs/interests, and design program workshop opportunities and lectures. Any significant alterations to the schedule will be announced in class, via email and/or on Canvas. You are responsible for keeping up with any changes in the syllabus.

When	Class	Homework/Assignments Due
Week 1 <i>January 22nd</i>	We meet in Visualization Lab Tour of the facility and equipment Matt Winters (CEO Austin Visuals) pitches industry project	Fill out questionnaire Research and analyze award winning student games and other projects.
<i>January 24</i>	Present a compelling projects that resonates strongly with your group Brainstorming ideas Design Thinking Production management	Pick Faculty Advisor

Week 2 January 29	1st draft of Project Proposal due	Meet with faculty advisor for approval and identify all required resources and create a clear production plan
January 31	Revisions of proposal	Finalize your project proposal/action plan/etc with your adviser. Instructor and adviser approves your project
Week 3 February 5	Final draft of Project Proposal due	Submit final project proposal draft signed by all team members and advisor
February 7	1st project presentation in the class Industry professional visits the class	Decide on the way your group will document the project and present the project online
Week 4 February 12	Production phase 1	
February 14	Production phase 1 I will be checking notebooks	
Week 5 February 19	Production phase 1 Industry professional (TBA) visits the class and works with groups individually	
February 21	Production phase 1	
Week 6 February 26	Production phase 1	
February 28	Production phase 1 I will be checking notebooks	

Week 7 <i>March 5</i>	Industry professional (TBA) visits the class and works with groups individually	2nd meeting with faculty advisor. Report on your meeting to the instructor
<i>March 7</i>	Production phase 1	
Week 8 <i>March 12</i>	No class	Instructor is away on the conference
<i>March 14</i>	Production phase 1	
March 18 -23	Spring break	
Week 9 <i>March 26</i>	Midterm review with faculty adviser and industry professionals	
<i>March 28</i>	Production phase 2	
Week 10 <i>April 2</i>	Industry professional (TBA) visits the class and works with groups individually	
<i>April 4</i>	Production phase 2 Notebooks	
Week 11 <i>April 9</i>	Production phase 2	
<i>April 11</i>	Industry professional (TBA) visits the class and works with groups individually	

Week 12 April 16	Production phase 2	
<i>April 18</i>	Publishing and presentation preparations.	3rd meeting with Faculty Advisor
Week 13 April 23	Publishing and presentation preparations.	
<i>April 25</i>	Final project in-class presentation (Vis Lab)	
Week 14 April 30	Final project in-class presentation (Vis Lab)	
<i>May 2</i>	All online material due	
<i>May 7</i>	Final presentation/ showcase Vis Lab	
Week 15 <i>May 9</i>	Recap Reflection paper due	

Guests:

David Kramer
 Starr Long
 Lisa Woods
 Bonnie Reese
 Gary Gattis
 Jennifer Heitler

University Policies:

Academic Integrity

The University's Honor Code states that “As a student of The University of Texas at Austin, I shall abide by the core values of the University and uphold academic integrity.” You are expected to maintain absolute integrity and a high standard of individual honor in scholastic work

undertaken at the University. At a minimum, you should complete any assignments, exams, and other scholastic endeavors with the utmost honesty, which requires you to:

- acknowledge the contributions of other sources to your scholastic efforts;
- complete your assignments independently unless expressly authorized to seek or obtain assistance in preparing them;
- follow instructions for assignments and exams, and observe the standards of your academic discipline; and
- avoid engaging in any form of academic dishonesty on behalf of yourself or another student.

(adapted from http://deanofstudents.utexas.edu/sjs/acint_student.php)

Academic Dishonesty

In promoting a high standard of academic integrity, the University broadly defines academic dishonesty as including *any act designed to give an unfair or undeserved academic advantage*, such as:

- Cheating
- Plagiarism
- Unauthorized Collaboration / Collusion
- Falsifying Academic Records
- Misrepresenting Facts (e.g., providing false information to postpone an exam, obtain an extended deadline for an assignment, or even gain an unearned financial benefit)
- Multiple submissions (submitting essentially the same written assignment for two courses without authorization to do so)
- Any other acts (or attempted acts) that violate the basic standard of academic integrity

(adapted from http://deanofstudents.utexas.edu/sjs/acadint_whatism.php)

Students who violate University rules on academic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. (from http://deanofstudents.utexas.edu/sjs/acint_faculty_syllabus.php)

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>

University Resources for Students

Your success in this class is important to me. We will all need accommodations because we all learn differently. If there are aspects of this course that prevent you from learning or exclude you, please let me know as soon as possible. Together we'll develop strategies to meet both your needs and the requirements of the course. There are also a range of resources on campus:

Services for Students with Disabilities

This class respects and welcomes students of all backgrounds, identities, and abilities. If there are circumstances that make our learning environment and activities difficult, if you have medical information that you need to share with me, or if you need specific arrangements in case the building needs to be evacuated, please let me know. I am committed to creating an effective learning environment for all students, but I can only do so if you discuss your needs with me as early as possible. I promise to maintain the confidentiality of these discussions. If appropriate, also contact

Services for Students with Disabilities, 512-471-6259 (voice) or 1-866-329- 3986 (video phone). <http://ddce.utexas.edu/disability/about/>

Student Support Services

There are numerous free and/or low-cost support services available to students at UT. They include (but are not limited to) the following:

Fine Arts Career Services (512-232-7333, utexas.edu/finearts/careers) provides a full range of services and resources to support students and alumni.

The Undergraduate Writing Center

(512-471-6222, uwc.utexas.edu) helps students with every phase of writing assignments for their courses.

The Sanger Learning Center (512-471-3614, utexas.edu/ugs/slc) provides study skills, time-management, and note-taking courses.

University Health Services (512-471-4955, healthyhorns.utexas.edu) provides medical and health promotion services for currently enrolled students and some non-students who are officially enrolled in certain University programs.

The Counseling and Mental Health Center (512-471-3515, cmhc.utexas.edu) helps students with their personal concerns so that they can meet the daily challenges of student life.

Emergency Procedures

Mass e-mails (in addition to sirens and fire alarms, when appropriate) will be used to provide students, faculty, and staff with information regarding potential threats to the safety and security of the campus community. E-mails will also be used as a way to notify students, faculty, and staff of emergency situations and keep them updated on the situation. Emergency officials also have the ability to disseminate important information via text message directly to the cell phones of users subscribed to the service. Please consider subscribing to this service at <https://utdirect.utexas.edu/apps/csas/text/main/>.

(adapted from <http://www.utexas.edu/safety/preparedness/plans/EmergencyManagementPlan2013a.pdf>)

Campus Carry

The concealed carry of handguns by permit holders is generally allowed in outdoor areas, as well as buildings and spaces that are accessible to the public. Permit holders are allowed to carry in classrooms.

It is the responsibility of concealed-carry license holders to carry their handguns on or about their person at all times while on campus. “About” the person means that a license holder may carry a holstered handgun in a backpack or handbag, but the backpack or handbag must be close enough that the license holder can grasp it without materially changing position. The holster must completely cover the trigger area and have enough tension to keep the gun in place if jostled. A license holder may not carry a partially or wholly visible handgun on campus premises or on any university driveway, street, sidewalk or walkway, parking lot, parking garage, or other parking area.

The open carry of handguns is not permitted on campus. Anyone who sees an openly carried gun on campus should immediately call 911. (from <https://campuscarry.utexas.edu/students>)