ATEC 3384 -Design II Syllabus

Course Information

Semester: Fall 2016
Course: ATEC3384.501.16F Design II
Monday: 7:00pm-9:45pm
Room: ATC 3.910
Starts: August 22, 2016
Ends: December 15, 2016

Professor Contact Information

Dr. Jillian D. Round
Email: jdr046000@utdallas.edu
Office Phone: 972-883-4369
Office Location: ATC 3.609
Office Hours: Mondays 10-12:00 p.m. and Fridays 10-12:00 p.m.

Course Pre-requisites, Co-requisites, and/or Other Restrictions

Pre-requisite: ATEC 2384

Course Description

(3 semester credit hours) Continuing exploration of design principles and practices, with an emphasis on three-dimensional design, time and motion, human perception, and critique.

Broad Purpose

This course will involve students in the conceptualization and construction of forms through both physical and digital applications. Students will further their knowledge of design process and theory, by building on the importance of aesthetic and structural principles through individualized three-dimensional design, time and motion, human perception, and critique.

Student Learning Objectives/Outcomes

Upon successful completion of this course, students will be expected to:

- Appreciate how design projects relate to areas of focus in ATEC: such as game, animation, design, and sound.
- Illustrate personal aesthetic concepts through class assignments, critiques, problem solving exercises and class discussions related to design projects.
- Build an increased awareness and appreciation of artists and designers who work with three dimensional concepts and materials.
- Think critically and to tolerate diverse views expressed through art/ design practice.
- Identify and apply three-dimensional formal concepts in your work such as, but not limited to: LOW AND HIGH RELIEF, FIGURE/GROUND, SPACE (positive and negative), PLACE, SCALE, PROFILE, TEXTURE, MASS, VOLUME, PATTERN, PLANE, LINE, BALANCE, RHYTHM, REPETITION, LIGHT, COLOR, TIME…
- Categorize movement through literal and compositional means.
- Negotiate variable constraints during the design process.

Required Textbooks

Design Basics: 2D and 3D 8th Edition, Stephen Pentak et al. ISBN-13: 978-0495909972
The Visual Story: Creating the Visual Structure of Film, TV and Digital Media 2nd Edition, Bruce Block ISBN-13: 978-0240807799

Suggested Textbooks

Design Basics Index, Jim Krause ISBN-13: 978-1581805017

Universal Principles of Design, William Lidwell et al. ISBN-13: 978-1592530076
Launching the Imagination: A Guide to Three-Dimensional Design, Mary Stewart ISBN 0-07-287063-X

Course Resources

"Spaghetti & Marshmallow Exercise." K12 Lab Wiki. N.p., n.d. Web. 29 June 2016. <https://dschool.stanford.edu/groups/k12/wiki/c6410/Spaghetti__Marshmallow_Exercise.html>.

Course Materials

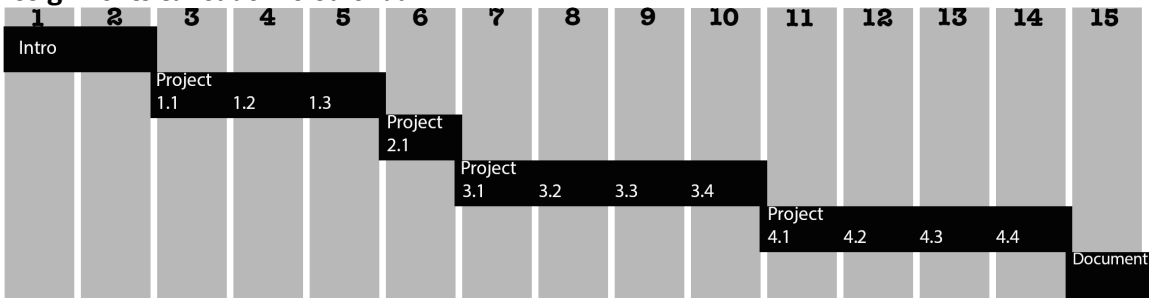
In addition to an open mind, you will need:

- Access to a computer
- 1 sketchbook (without lines) 8x10 to 8.5 x11 (11x14 is acceptable)
- Safety Glasses (3M Clear Frame with Clear Scratch Resistant Lenses Indoor Safety Eyewear or equivalent can be found at Home Depot or Lowes)
- Hot Glue Gun
- A sharpie
- 4 #2 pencils
- Pencil sharpener
- 1 X-acto knife
- 1 pair of needle nose pliers
- 1 pair of split leather work gloves (Home Depot, Lowes)
- 1 Stainless Steel Metal Ruler
- 2 rolls of masking tape
- Digital Camera (Cell Phone camera will do)

Software

- Wix.com Account
- TinkerCAD
- Garage Band, IMovie and Windows Movie Maker

Assignments & Academic Calendar



August 22nd Week 1 – Introduction/ Concepts and Critical Thinking

- Student Introductions
- Course Introduction
- Review on Design
- Inspire Creativity
- Developing Problem Seeking and Solving Skills
- Critical Process

Establish Wix.com Account

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 15
Buxton: *10 Plus 10: Descending the Design Funnel* Buxton: *Sketches Are Not Prototypes* (PDF)
Buxton: *Why Should I Sketch* (online)
Buxton: *The Sketchbook: Your Basic Resource for Recording, Developing, Showing and Archiving Ideas* (online)

Design Challenge: dschool Spaghetti & Marshmallow Exercise

August 29th Week 2 –Three Dimensional Design Introduction

Elements of Three-Dimensional Design Overview

- Form and Function
- Line
- Plane
- Volume
- Mass
- Space
- Texture
- Light
- Color
- Time/ Motion
- Orthographic Projection

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 16

Cardboard Artist Bartek Elsner | Euromax
https://www.youtube.com/watch?v=sb2w54JawrU

September 12th Week 3 – Three Dimensional Design Introduction cont.

Principles of Three-Dimensional Design Overview

- Unity and Variety
- Balance
- Symmetry/ Asymmetry
- Harmony/ Proximity
- Scale
- Proportion
- Emphasis
- Repetition/ Rhythm
- Pattern

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 17

Project 1.1: Cardboard Wearable with Sound

- How does this apply in animation, gaming, sound and design?
- Application examples:

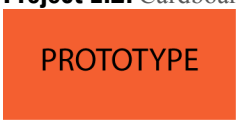
Problem Solving/ Brainstorming Wearables/ Form Follows Function/ Design Process Worksheet.

Cardboard Sculpture Part 1 by Eric Scott: https://www.youtube.com/watch?v=Xk6CJTfq8VA
Cardboard Sculpture Part 2 by Eric Scott:
https://www.youtube.com/watch?v=vwoEie62LEw

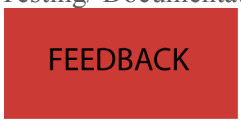
September 19th Week 4 – Materials and Methods

- Choice of Materials
- Connections
- Transitions
- Traditional Materials/ Contemporary Applications
- Student Materials

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 18
Project 1.2: Cardboard Wearable with Sound



September 26th Week 5 – Project 1.3: Cardboard Wearable with Sound
Testing/ Documentation/ Iteration



E-learning Quiz 1/ Questionnaire (will be conducted outside of class)

October 3rd Week 6 – Structure/ Physical

- Constructed Thought
- Physical Forces
- Efficient Form
- Tension and Compression

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 19 and 21
Project 2.1: Asymmetrical Wire Character Design

Problem Solving/ Brainstorming Structure/ Form Follows Function/ Design Process Worksheet/
Testing/ Documentation

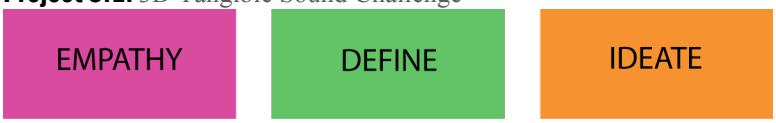
3-D Wire Sculpture with a single line of Wire by Suzanne Moulton
https://www.youtube.com/watch?v=d1S7GGV1Xfg
15+ Of The Most Beautifully Twisted Wire Sculptures | how to make wire sculptures by Rithy Love
https://www.youtube.com/watch?v=VWTCbihw3n4

E-learning Quiz 2/ Questionnaire (will be conducted outside of class)

October 10th Week 7– Function

- Joinery
- Transformers
- TinkerCAD-Tutorial 1

Project 3.1: 3D Tangible Sound Challenge



Problem Solving/ Brainstorming Structure/ Form Follows Function/ Design Process Worksheet.

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 20

October 17th Week 8 – Project 3.2: 3D Tangible Sound Challenge

- TinkerCAD-Tutorial 2

Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 22

October 24th Week 9 – Project 3.3: 3D Tangible Sound Challenge

Testing/ Documentation/ Iteration/ Printing Process

E-learning Quiz 3/ Questionnaire (will be conducted outside of class)
Readings: *Design Basics: 2D and 3D* by Stephen Pentak et al. Chapter 22

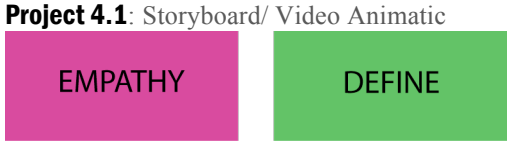
October 31st Week 10– Project 3.4: 3D Tangible Sound Challenge

Printing Process

November 7th Week 11 – Time and Motion

- Sculpture as Time
- Sound and Time
- Visual Components/ Structure
- Storyboard Tutorial

Project 4.1: Storyboard/ Video Animatic



Problem Solving/ Brainstorming Structure/ Form Follows Function/ Design Process Worksheet

Readings: *The Visual Story: Creating the Visual Structure of Film, TV and Digital Media 2nd Edition*, Bruce Block Pg. 1-12, 62-86

FLUIDIC - Sculpture in Motion - (kinetic sculpture) full documentation 2014
by WHITEvoid Design https://www.youtube.com/watch?v=yQ3vqfdIToo
The Purpose of Storyboarding by picassosson *https://www.youtube.com/watch?v=BSOJiSUI0z8*
Storyboarding! by Film Riot https://www.youtube.com/watch?v=4uhaJhT25hU

November 14th Week 12 – Perception

Project 4.2: Storyboard/ Video Animatic

- How sound enhances narrative.
- Designing cohesive communication in film/ animation/ gaming.
- Animatic construction.

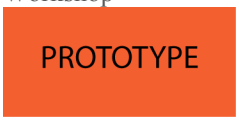
Workshop

Readings: *The Visual Story: Creating the Visual Structure of Film, TV and Digital Media 2nd Edition*, Bruce Block Pg. 167-220

*****Fall break/ Thanksgiving: Mon. November 21st –Sat. November 26th**

November 28th Week 13 – Project 4.3: Storyboard/ Video Animatic

Workshop



Readings: *The Visual Story: Creating the Visual Structure of Film, TV and Digital Media 2nd Edition*, Bruce Block Pg. 221-252

December 5th Week 14 – Project 4.4: Storyboard/ Video Animatic

Screening/ Critique

E-learning Quiz 4/ Questionnaire (will be conducted outside of class)

*****(Class date and time TBA) Week 15 – Documentation/ Final*****

- Wix.com Documentation/ Critique/ Portfolio Development Evaluation

Grading Policy

A list of assigned readings and materials is attached. Supplemental materials may be provided or posted electronically. Advance preparation and enthusiastic participation is an important part of the learning experience and critical to in-class discussions.

10% Attendance
10% Quizzes
5% dschool Design Challenge
5% Sketchpad
15% Project 1: Cardboard Wearable with Sound
15% Project 2: Asymmetrical Wire Character Design
15% Project 3: 3D Tangible Sound Challenge
15% Project 4: Storyboard/ Video Animatic
10% Wix.com Documentation/ Portfolio final

Grading Scale

Grade	Percentage	GPA
A+	97-100	4.00
A	93-96	4.00
A-	90-92	3.70
B+	87-89	3.30
B	83-86	3.00
B-	80-83	2.70
C+	77-79	2.30
C	73-76	2.00
C-	70-72	1.70
D+	67-69	1.30
D	63-66	1.00
D-	60-62	0.70

Course & Instructor Policies

Late Work

Late work is not accepted. The key to success in this course is communication. It is the student's responsibility to correspond via UT Dallas email any absences and issues that might occur. Private Email accounts outside of UT Dallas Email accounts cannot be used for course communication, due to FERPA regulation.

Attendance

Points are assessed every class and will add up to your total attendance grade at the end of the semester. For instance, 15 classes equal 6.66 points per class credit (100 cumulative total divided by 15 class sessions). Each **unexcused** absence will be deducted 6.66 points from the cumulative total of 100 points. A tardy is 2.22 points from the cumulative total. Attendance is 10% of the cumulative grade for the semester. Attendance is necessary for the successful completion of this course.

Workshop Rules

1. Always listen carefully to the teacher and follow instructions.
2. Do not run in the workshop, you could 'bump' into another pupil and cause an accident.
3. Wear good strong shoes. training shoes are not suitable, wear gloves and protective eyewear when handling wire.
4. When attempting practical work all chairs need to be put away.
5. Bags should not be brought into a workshop as people can trip over them.
6. When learning how to use a machine, listen very carefully to all the instructions given by the teacher. Ask questions, especially if you do not fully understand.
8. Do not use a machine if you have not been shown how to operate it safely by the teacher.
9. Always be patient, never rush in the workshop.
10. Always use a guard when working on a machine.
11. Keep hands away from moving/rotating machinery.
12. Use hand tools carefully, keeping both hands behind the cutting edge.
13. Report any damage to machines/equipment as this could cause an accident.

Critique

You are required to attend every critique, as it is mandatory. You must participate, meaning you must talk and give your opinion. Respect is key during this process. Use constructive language to help emphasize the learning activity.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.