COURSE SYLLABUS

4.554 FOR GRAPHIC PLAY ONLY
MINING AESTHETIC INTUITION BY PLAYFULLY UNCOVERING AFFORDANCES IN GRAPHIC SOFTWARE

SUMMER 2021
COURSE DESCRIPTION

This course is for those who want to self-indulge in making graphic work for no other reason than its ambivalence and aesthetic interest. The course intends to treat the ‘classroom’ as a collaborative space to uncover affordances in graphic software (Photoshop, After Effects, and Rhino/Vray) to push a program in order to learn what secrets it may be hiding. The course is structured via tutorials, pin-ups, and very casual reviews. The tutorials not only teach the basics of the software (for it takes an understanding of the basics to misuse it), but they are also a way to open rabbit holes for students to explore. The pin-ups act as a collective exploration to develop the tools to speak about aesthetic intuition in a critical way. The reviews are conversations and not presentations. They act as the time to reflect on a culmination of work and test if the ways we speak about our work as a class makes sense outside of the class setting. Thus, not only does this class teach software, but the coursework is a way for one to develop a portfolio to track, understand, cull, enjoy, and hone the power of their aesthetic intuition.

The assignments and tutorials ask students to take strolls through the software. The students will do and make things without knowing what the outcome will look like. Though the first explorations might not look “interesting” or “good” to the student, the assignments will ask the students to iterate on their work using only aesthetic intuition as a metric to make choices. The goal here is that the final work will be “interesting” and “good” because the student has spent enough time with their aesthetic intuition to understand and trust it.

This is a 7-week course that is grounded in exploring how 2D material can become 3D graphic material- image to model. Everyone will begin their projects with the same high resolution photo; the image acts as a point of departure for the course to escape the anxieties of the blank page. First, the image will be heavily edited in Adobe Photoshop. Second, the image generated in Photoshop will be animated in After Effects. Third, the students will translate their 2D images and videos into 3D models in Rhino following MRI medical techniques, computational techniques, and/or geometric techniques. Fourth, and finally, the course will end with producing fully multi-colored powder 3D prints.
Contact Information

Course Instructor: Sahil Mohan
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Office Hours: appointment by email

Course Schedule

There are four units in the course: the Still Image (Photoshop), the Moving Image (After Effects), the Still Image of a 3D Thing (Rhino/VRay), and the 3D Image Object (3D printing). The course will be generally taught with an AB schedule where there are two weeks for each unit; the first week, A, is comprised of tutorials, and the second week, B, is comprised of pin-ups or reviews.

Week 1
Th 06/24 Course Introduction | Syllabus Review

Week 2 (A)
M 06/28 THE STILL IMAGE | Photoshop Tutorial
Th 07/01 Photoshop Tutorial

Week 3 (B)
M 07/05 ~MIT Holiday~
Th 07/08 Pin-Up

Week 4 (A)
M 06/12 THE MOVING IMAGE | After Effects Tutorial
Th 07/15 After Effects Tutorial

Week 5 (B)
M 06/19 Pin-up
Th 07/22 Very Casual Mid-Review

Week 6 (A)
M 07/26 THE STILL IMAGE OF A 3D THING | Rhino/VRay Tutorial
Th 07/29 Rhino/VRay Tutorial

Week 7 (B)
M 08/02 Pin-Up | 3D IMAGE-OBJECT | Begin to Consider 3D Print
Th 08/05 Pin-Up Render, 3D print Pin-Up, Midnight Print Submission
F 08/06 Shop printing (Sahil Only)

Week 8 (B)
M 08/09 Pin-Up
Th 08/12 Very Casual Final Review
Course Structure

This is a course for the Summer 2021 semester, it will be held from June 24 to August 12th, and it will be graded pass/fail. Registration, however, will be for Fall meaning that the student does not have to pay Summer tuition. This course is worth 4 credit units (16 classes -> a little over 7 weeks x 7 hr/wk = 4 credit units), and anyone that is a current MIT student, grad or undergrad, is welcome to register. There is no previous software experience required. The course tutorials will cover content for beginners, so people who are familiar with the course software might find the tutorials slow.

Glossary of Terms

Adobe After Effects: A program to generate motion graphics and video effects.

Adobe Photoshop: A raster (pixel) graphics editor.

Aesthetic Intuition: The immediate reaction and subsequent reflection on the visual appeal of something. One may dislike something, but they cannot avoid it until they know what it is. Intuition requires reflection and rejection to be powerful as a tool.

Be Critical: to provide oneself the terms by which one can judge something.

Color: Color feels taboo, doesn't it? Let's talk about it. (Color will be very important in this course)

Pin-up: This is a Zoom course, so this means laying work out on Miro and screensharing files.

Powder 3D Printing: The powder 3D printer used in this course is a binder jetting machine. A binder jetting machine uses inkjet heads, similar to paper printers, to bond powder, in our case gypsum, into a solid. This will build a 3D form in layers.

Rhino: A 3D computer graphics and computer-aided-design, or CAD, program.

Very Casual Review: Work will be laid out more formally in Miro, and guests who are not from the course, but are familiar with the course work, will join the conversations twice in the semester. These will be moments to not only reflect on work, but also test the language we develop in the course. The guest reviewers are very close friends of mine and understand that the review is not meant to be high-stakes or stressful by any means.
Learning Objectives

The Power of Iteration
A course that is conceptually abstract like this can easily fall off the tracks, but this course finds its value in its documentation of iteration. Iteration is treated as a means to an end to transform or manipulate something in this class. So, by documenting each iteration, the narrative of transformation is tracked, patterns of thought and choice become more apparent through post-rationalization, and one can therefore reflect on the narrative of transformation in a way that is critical.

The Still Image
The Still Image unit focuses on teaching Adobe Photoshop. The tutorials in this unit will teach the basics of Photoshop, but more importantly, where and how to find things. The homework for this unit will ask the student to transform an image using Photoshop using a specific number of “operations.” What are operations? While the tutorials will teach Photoshop basics, separate short tutorials of “operations” will be uploaded to the course Dropbox where an operation is understood as a “filter” in Photoshop. The homework will ask students to manipulate an image in Photoshop using these “operations” or by defining their own “operations.”

The Moving Image
The Moving Image unit focuses on teaching Adobe After Effects. After Effects is Photoshop for video. Therefore, this unit will focus on using the Photoshop file produced in the Still Image Unit as an outline for an animated version of the still work. Or, students can continue to transform their image, and use the Image produced in the Still Image Unit as the point of departure for the Moving Image unit.

The Still Image of a Three-Dimensional Thing
The Still Image of a Three-Dimensional Thing unit of the course focuses on the concept of image to model, or how does one take a 2D image and make it 3D. More specifically, this unit of the course will look at formal analysis, MRI mesh reconstruction, and Grasshopper/Rhino functions, such as render material reconstruction, as ways to generate form from 2D media. Following this, the class will investigate texture mapping, VRay, and rendering.

The Three-Dimensional Image Object
The Three-Dimensional Image Object unit of the course looks at how to take the digital models produced in the Still Image of a Three-Dimensional Thing unit and edit them to be 3D printed in the architecture fabrication shop. The prints will be fully multicolored 3D prints. Therefore, this unit will look at how to save a mesh in Rhino with its material (color) data, how to prepare the model specifically for multicolor powder 3D prints, and how to use MeshMixer to repair and proof a file for print.
Example Work

https://miro.com/app/board/o9J_lFI4-RA=/