

Design Process Squiggle by Damien Newman Nike Air Jordan by Differantly Studios

2018 Design + Make | Summer

Workshop

Instructor: Jose Alcala (jose.m.alcala@njit.edu) Summer 2018 | Friday, July 15-20 | 9:00am-12:30pm and 1:30pm – 5:00pm Workshop Location: Weston Hall

WORKSHOP DESCRIPTION: Today's designers combine art, technology, and science to develop products that not only look good but also address 21st-century needs. Participants will experience how it feels to be a designer working on the forefront of these emerging practices and how they relate to challenges of our contemporary environment. The workshop will introduce the concept of *design thinking*, a process that will take you from brainstorming, to developing, to prototyping, to "pitching" your creations. Workshop participants will get an opportunity to learn about new trends in personal fabrication through the use of state-of-the-art additive and subtractive digital tools and equipment. The workshop will also provide participants with an opportunity to learn software that will be instrumental in the use of digital fabrication technologies.

Digital scanning techniques will be introduced as a means of bringing the physical world into the digital

world and laser cutting, 3D printing and CNC cutting as a way of bringing the digital world into the physical world.

PROJECTS: During this one week workshop you will be working on three projects, using various techniques and tools, both digital and analogue. The projects will be an important vehicle for you to learn about design thinking and workflow.

Subculture Artifact: Digging deep into a subculture of your choosing you will have the opportunity to design footwear that speaks to the needs, wants and desires of that subculture as well as the values and mythologies it communicates. You will be introduced to research methodologies, modes of communication, aesthetics and prototyping techniques.

Planar Construction 3D aesthetics and function will be explored through planar relationships and the interplay of material and light. The student will have access to laser cutting and thermoforming tools to create a unique functional and evocative light fixture.

Mass Customization In the final project you will be introduced to scanning techniques that allow you to turn various physical objects into digital objects. These objects will be manipulated in a 3D digital environment to create new playful and expressive objects of your own creation. The objects will be 3d printed, finished and assembled.

Fieldtrip: Cooper Hewitt Smithsonian Design Museum

Exhibition The workshop will culminate in a gallery exhibition of your creations. All participants will work together to curate and assemble a group exhibition for invited parents and guests. You will have the opportunity to display and demonstrate your work and gather feedback from guests.

Schedule:

Sunday Welcome Dinner

Monday *Footwear Project* Introduction

Video "Just For Kicks" Subculture Research 2D and 3D Ideation

Subculture Artifact

Prototyping Documentation of Work **Tuesday** *Laser Cut Light Fixture Project* Introduction Research and 3D Ideation

2D CAD Tutorial Laser cut templates

Planar Construction 2:30 Early Dismissal **Wednesday** Assembly of Laser Cut Light Fixture

Documentation of Work Field Trip and Dinner **Thursday** *Personal Fabrication Project* Introduction

3D Scanning and Model Manipulation

3D Printing Mass Customization **Friday** Further 3D Printing and Assembly

of 3D Objects

Gallery Setup General Viewing of Work and Demonstrations