

# *Fundamentals of 3D Media Construction & Sculptural Fabrication*

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## COURSE DESCRIPTION

This course explores the basics of 3d fabrication using a variety of tools, techniques, and materials, including those for construction in: wood, metal, fabric, soft materials, plastics, found objects, mixed-media, and more. It introduces students to artistic processes and procedures that are rooted in technical skills, have practical applications, but are driven by concepts. Together, as a group, we will explore the relationships between concepts such as scale, the body, technology, the environment, material production and use, process, form and content, as well as performance, interactivity, collaboration, community, and audience participation. Conceptual dialogue will also be driven by student interests and work, a historical and cultural critical lens, current events, and possibly outside visitors. This course encourages a process for project development from research, planning, and modeling - all with computer assistance - to construction / fabrication, trial and error, installation, and critique. We will also cover basic techniques for installing, lighting, documenting, titling, and describing works. This course will not allow a student to focus on any one material or tool - instead it is a crash course in almost every method of 3d fabrication our school has to offer. The trial of both older tools and new technological processes - including 3d printing, laser cutting, and using the CNC router - is encouraged during experimental work time in this class, with an emphasis on the way an artists' processes should inform or be informed by their conceptual and formal choices.

## COURSE OUTLINE

### Weeks 1-2 - What you already know with what you already have

**Assignment 1:** What is sculpture? Bring in an object, video, film, or text that shows us or tells us something about you, or about a place, a space, or a thing. It should be something that other people don't define as 3d media art or art at all, but which informs your definition of sculpture in the expanded field.

**Project 1:** Use cardboard, paper, tape, recycled things, whatever materials you can find to recreate a sculpture you already know exists.

### Weeks 2-4 - The Woodshop

Woodshop training, basic wood construction - cutting, screwing / nailing, construction techniques, sanding, gluing

**Assignment 2:** Make a small model for your idea for project 2

**Project 2:** Make something with wood that holds the weight of your body (and why). Give it a title.

### Weeks 4-5 - Mixed media construction

Basic mixed media construction methods, paper mache, plaster, glues, chicken wire, expanding foam, plastics, being inventive and getting cRaZy

**Assignment 3:** Add something on to project 2 that changes or adds to its meaning by changing its appearance. Install it somewhere.

### Weeks 5-7 - The Metal shops

Metal shop training, basic cutting, welding, bending, basic small metals techniques, painting metal

**Assignment 4:** Make a model of or practice a technique you will use for project 3

**Project 3:** Make something out of metal (and *finish* it!) Use as inspiration an industrial object that is already made of metal (and why?), but twist it's meaning, function, scale, appearance or the way we interact with it. Give it a title and put it somewhere it does or doesn't belong.

#### Weeks 8-10 - Computer Assisted Fabrication & Multiples

Research methods; basics of CAD, vector drawings, and 3d modeling software and approaches; laser cutting, CNC routing & 3d printing pipelines; what are these tools really and when should I use them

**Assignment 5:** find something in the digital world worth bringing into the physical (and why)

**Project 4:** Use the CNC Router or the 3D printer to create a physical object that comes from a digital realm / virtual world. Show it to us somewhere where you want to see it.

**Part II (project 4):** Document this object in some way that changes its scale or function - then put it back in the digital world.

#### Week 10 - multiples continued - introductory mold-making

Intro to mold-making techniques, various methods and material choices, making a mold from your 3d printed object & making multiples

**Assignment 6:** Make a mold of your "digital object" from project 4 and make multiples.

#### Weeks 11-13 - Soft sculpture, sewing, and patterning

Intro to using the machine, basic sewing techniques, wearables, fabric patterning concepts, and 2d-to-3d thinking carried over from 3d modeling software - thinking of flat materials in 3 dimensional ways

**Assignment 7:** Practice a technique you will use in or make a model for project 5

**Project 5:** Make a soft sculpture using techniques we have learned and practiced. (Stumped? Don't want to just make a costume? Re-create a project you have already made from cardboard, wood, metal, or plastic, but make it out of fabric and stuffing. )  
Give it a title and install it.

#### Week 14 - Interaction, Performance, and Documentation

Introduction to concepts surrounding sculpture and performance and basics of audience interaction with sculpture and space. Intro to the basics of good documentation (both still and moving) - lighting, spacing, what to highlight, etc.

**Project 6:** Choose one of your previous projects (finish, fix, or change it if necessary) and create a performance with or around it or recreate it to prompt interaction. Document it well, title it, and write a brief description. We will do our crit on the documentation instead of the piece itself.

#### **RECOMMENDED THEORETICAL & HISTORICAL TEXTS - chronological order**

*Note: These books and articles are relevant as whole texts, but optional. Excerpts, shorter readings, and additional articles, will be provided for group readings and discussion and study in and out of class.*

- Tristan Tzara - Le Manifeste DaDa (1916)
- Aleksei Gan - Constructivism (1922)
- Walter Benjamin - Art in the Age of Mechanical Reproduction (1936)
- Martin Heidegger - The Question Concerning Technology (1949) & The Origin of the Work of Art (1950)
- Barbara Rose - ABC Art (1967)
- Barbara Rose - American Art Since 1900 (1967)
- Michael Fried - Art and Objecthood (1967)
- Alan Kaprow - Education of the Un-Artist (1971)
- Lucy Lippard - Six years: the dematerialization of the art object from 1966 to 1972... (1973)
- Rosalind Krauss - Sculpture in the Expanded Field (1979)
- Rosalind Krauss - The Optical Unconscious (1993)
- Lucy Lippard - The Lure of the Local: Sense of Place in a Multicentered Society (1997)

- Naomi Sawelson-Gorse - Women in Dada (1999)
- Claire Bishop - Installation Art: A Critical History (2005)
- Krauss, Bois, Foster, Buchloh - Art Since 1900... Vol 1: 1900-1944
- Krauss, Bois, Foster, Buchloh - Art Since 1900... Vol 2: 1945-2005
- Artie Vierkant - The Image Object Post-Internet (2010)