UCLA AUD TeenArch Studio 2021
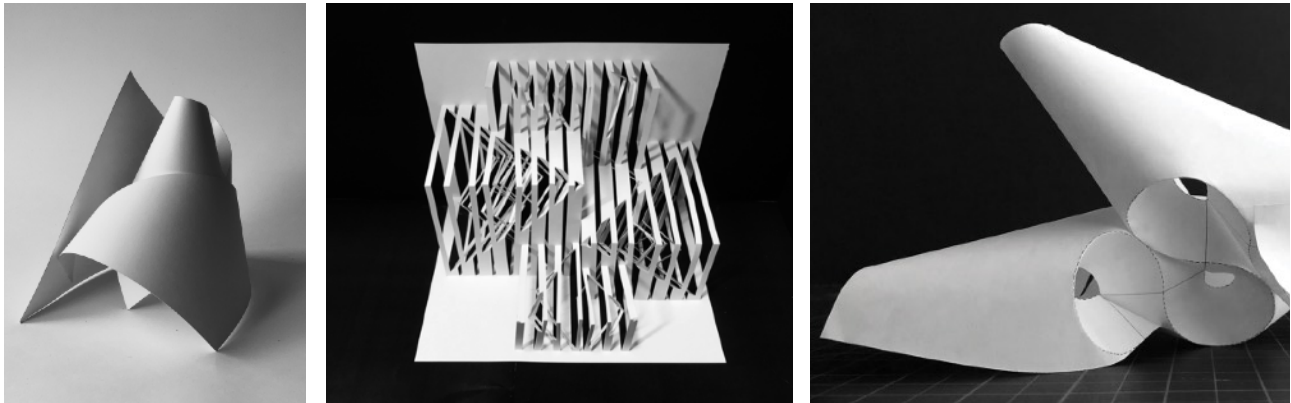Julia Koerner, Director

FOLD TO FORM
SYLLABUS

UCLA AUD 411 2020 MARCH Program, Paper Models, Student Work by Chris Rancourt, Muxi Yang, Frank Yang

OVERVIEW AND TOPIC:

From point to line to plane to volume - architecture takes shape - and it begins with a single sheet of paper. It has been said that there is nothing more terrifying for a designer than a blank piece of paper – because it is the embodiment of limitless possibilities. A single point could become a line in infinitely many directions, branching then again in infinitely more directions. But every design has a through line – a way to describe from beginning to end the process taken to arrive at the final product.

In the UCLA AUD TeenArch Studio students will begin by studying the ancient Japanese art form of origami. They will understand how form and volume take shape through a series of deliberate operations. Through diagrammatic drawing and modeling they will learn how to generate codified systems in order to abstract inspiration and figuration from a seemingly abstract form to create order in the form of a simple enclosure.

Students will develop a pavilion dedicated to the courtyard plaza in front of Perloff Hall, the building housing the architecture and urban design department. They will use their origami models and architectural drawings to inform their design taking into consideration feedback they have received over the course of the studio.

BACKGROUND:

Paper is one of the oldest materials architects work with, they use it for sketching, writing, drawings and model making. Paper is a thin non-woven material traditionally made from a combination of milled plant and textile fibers. The first paper making process was documented in China during (25–220 AD). During the 8th century, Chinese paper-making spread to the Islamic world, where pulp mills and paper mills were used. By the 11th century the paper production was brought to Europe. By the 13th century, the creation of paper was refined with paper mills utilizing waterwheels in Spain. Later European improvements to the process came in the 19th century with the invention of wood-based papers. The history of origami followed after the invention of paper and was a result of paper's use in society. Independent paper folding traditions exist in East Asia, and it is unclear whether they evolved separately or had a common source. The Japanese word "origami" itself is a compound of two smaller Japanese words: "ori" (root verb "oru"), meaning to fold, and "kami", meaning paper.

Several architects in history have taught the method of folding paper models. Josef Albers challenged his students at the Bauhaus to think deeply about the art of construction by using a single sheet of paper to create a 3D design. Currently the first year master students at UCLA AUD are researching paper folding techniques as part of the introductory design studio. The material lends itself to the creation of 3D geometry and volume and the study of structural performance, which is a great way to learn about form making at the beginning of your creative career.

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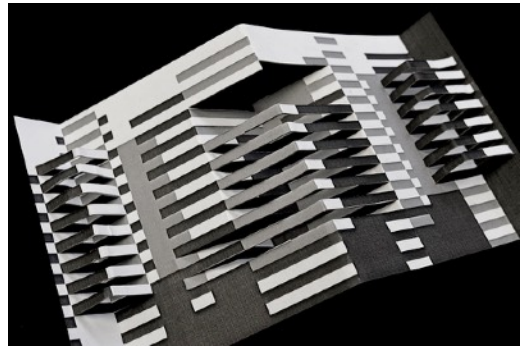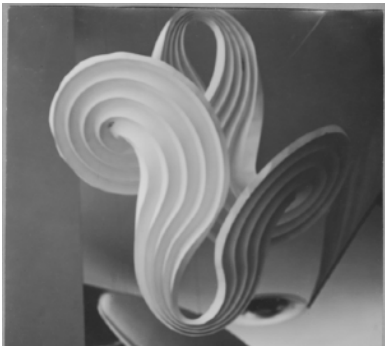
A paper Sculpture abstraction by Irene Shawinsky (1903-1990). Photo from the Museum of Modern Art.
This piece, over a yard wide, was made by cutting a "doughnut" from a very large sweet of white paper, scoring it in concentric lines, accordion-pleating it and hanging it from wires so that if would take these convolutions of its own weight.
Joseph Albers examining a folded paper construction with students at Black Mountain College 1946 Photo: Genevieve Naylor
Joseph Albers Paper Model Bauhaus

OBJECTIVES:

TeenArch is a summer design studio that introduces teenagers to conceptual and technical facilities essential to the study of architecture as a discipline. The course will inspire students to engage in idea-driven design.

Applicants attend the course for 3 weeks. The three weeks course is organized into 22 studio sessions, 6 studio pin ups and 3 group pin ups and a final review. All of the above will be organized via distant learning format, online. There will be no local housing accommodation provided.

ORGANISATION:

Students will be assigned an instructor and technical support instructor and online studio space. Studio time will be supported by several weekly lectures given by faculty and guest designers exploring many facets of idea-driven design. Software and fabrication tool tutorials will be provided each week as relevant to assignments.

The course is organized around design studio culture, which comprises a range of activities from desk critiques, to small group discussions, to studio-wide pin-ups, to final reviews with a panel of guest critics. Students' thoughtful production of design work in-between such activities is essential and should respond to the new materials and skills provided by instructors.

All of the above will be organized via distant learning format, online.

CREDIT HOURS:

Teen ArchStudio three-week program carries three quarter units of UC credit

POLICIES & PROCEDURES

Attendance

Attendance is mandatory during online class time, dialogs, lectures, reviews, pin-ups, tutorials, and workshops. If you do not present your work at reviews, you will not receive credit for the studio. Some tutorials and lectures will be recorded and offered asynchronous.

Work culture and Absences

Students are required to work from home. All technical equipment needed for the course such as a laptop, and drawing material will need to be acquired by the participants prior to the start of the course. A document outlining these requirements will be made available prior to the opening of the course registration.

All activities requiring absence from online studio meetings i.e. purchasing materials or running project-related errands) should be scheduled outside of studio hours. If you have to leave in the middle of, or prior to the end of regularly scheduled studio times, this should be discussed with your instructor.

Grading

Course grades are P/NP grade (Pass/No Pass). Any questions regarding grades or policies should be directed to your instructor or to the program director. A passing grade in the course requires dedicated completion of all projects.

Archiving

At the conclusion of the summer program you will be asked to archive your work. There will be time to do so the morning before your final review. Save all of your files to the 2021 Student Work Google Drive folder. Submit your individual photo or drawing files in 300 DPI JPGs with the following names:
TeenArch_2021_YourInstructorsLastName_YourLastName_01.jpg

Student Privacy

This program uses video recording or other personal information capture for the purpose of facilitating the course and/or test environment. Pursuant to the terms of the agreement with UCLA, the data is used solely for this purpose and any vendor is prohibited from disclosing this information. UCLA also does not use the data for any other purpose. Students may not distribute recordings or other instructional materials provided as part of remote learning by faculty, teaching assistants, or invited guests.
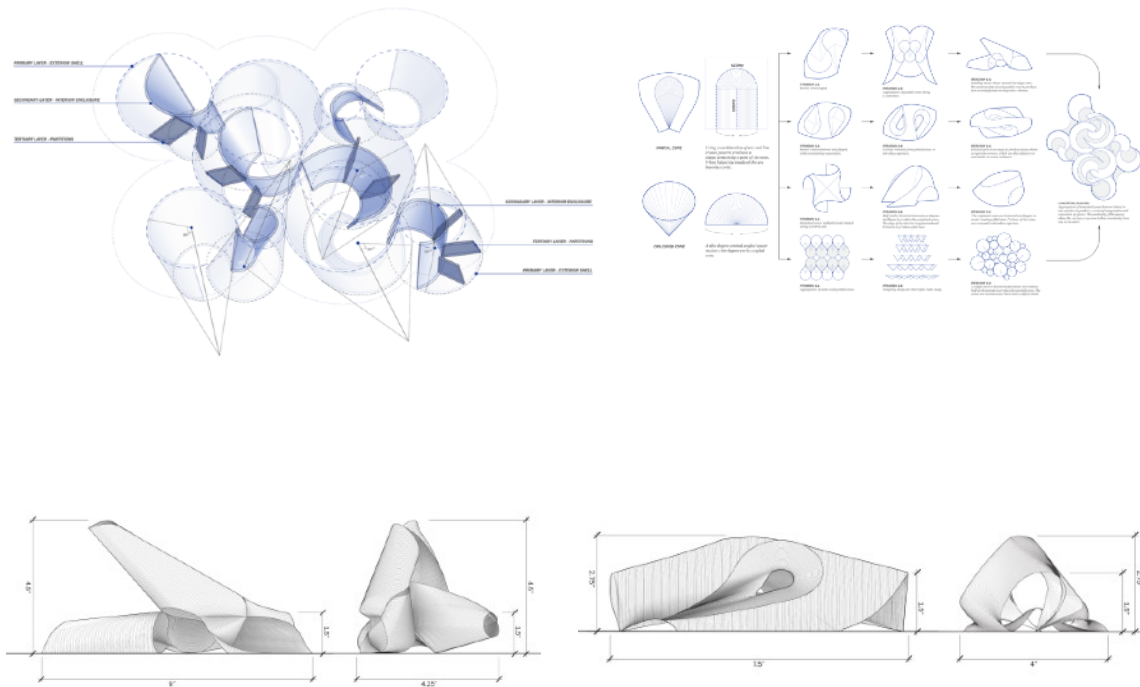
UCLA AUD 411 2020 MARCH Program, Paper Models, Student Work by Frank Yang

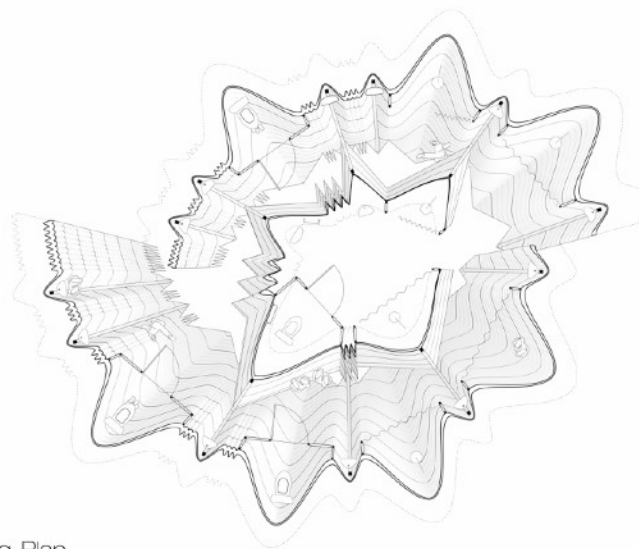**RESOURCES:**

Teen Arch Faculty

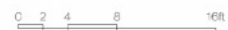Julia Koerner, Director   juliakoerner@ucla.edu

TBC

UCLA Summer Institutes

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Los Angeles, CA 90095
310-825-4101
institutes@summer.ucla.edu

Reflective Ceiling Plan
Scale: 3/16"=1'-0"

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SCHEDULE & Exercises

Week One

Considering their origami precedent, students will begin to explore the fundamentals of architectural and diagrammatic drawing and model making.

Tuesday
Select and construct your origami precedent. Draw your precedent in plan and elevation. Unfold your origami into a flat surface and diagrammatically explore ways to codify different folds through drawing. Develop several iterations. Develop a new coded system for line/fold typologies that begins to consider architectural applications.
(line type A = extrude/crease/delete/curve/duplicate/etc.)

Explore ways to combine two or more of your diagrams (overlap, intersect, pivot, reflect, etc.). Consider the implications if two different line types overlap or intersect (what happens if extrude intersects crease? If curve overlaps duplicate?)

Explore these possibilities both through diagrammatic drawing and paper models.

Wednesday
Continue your diagrammatic folding explorations both through drawing and material manipulation.
Refine your drawings and prepare to discuss them in a cohesive presentation.

Thursday
Workshop presentation in the morning.
Working with a partner, create an intersection of each of your best unfolded-sheet diagrams. Explore this new paradigm through sketching and paper model diagrams. You will work as a pair for the remainder of the studio.

Friday
Continue your diagrammatic folding explorations both through drawing and material manipulation.
Refine your diagrams and drawings and prepare to discuss them in a cohesive presentation.

UCLA AUD TEEN ARCH STUDIO | SUMMER 2021 | SCHEDULE |TBC

WEEK 1	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Date	7/5/2021	7/6/2021	7/7/2021	7/8/2021	7/9/2021
9:00-10:00	INDEPENDENCE DAY OBSERVED	CHECK IN	GROUP WORK SESSION	WORKSHOP	WORKSHOP
10:00-11:00		WELCOME AND STUDIO INTRODUCTION			
11:00-12:00					
12:00-13:00					
13:00-14:00					
14:00-15:00		STUDIO	STUDIO PIN UP	GROUP WORK SESSION	REVIEW
15:00-16:00			STUDIO		
16:00-17:00					

***Studio:** Online meeting with your instructor in the format of group discussions and individual desk-crits
***Studio Pin Up:** online presentations of work process, instructor gives feedback on progress
***Workshop:** Online instructed workshop session, technical skillset buildup, model making, presentation, software instruction etc.
***Group Work Session**: Online session, shared Zoom Room small breakout sessions, exchange of ideas
***Review:** Group Presentation across all studios

UCLA AUD TeenArch Studio 2021
Julia Koerner, Director

SCHEDULE & Exercises

Week Two

Working within the logic of folded planes, students will work in pairs to develop an architectural intervention.

Monday
Working with your partner develop a pavilion dedicated to the courtyard plaza in front of Perloff Hall, the building housing the architecture and urban design department. A plan outline will be provided in form of an image and digital drawing.

Use your intersected diagrammatic models and architectural drawings from the previous week's review to inform your design. Consider and incorporate feedback you have received.
Reference separate assignment sheet for site and program specifics.

Tuesday
Continue your explorations both through drawing and material manipulation.

Wednesday & Thursday

Consider your design in relation to real world materials and user/occupant applications. Refine your design and develop atmosphere through collage.
Develop plans, sections, elevations and a polished physical model of your design, and refine your diagrams.

Friday
Refine your designs and prepare to discuss them in a cohesive final presentation and exhibition for instructors and family for the Mid Review.

UCLA AUD TEEN ARCH STUDIO | SUMMER 2021 | SCHEDULE | TBC

WEEK 2	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Date	7/12/2021	7/13/2021	7/14/2021	7/15/2021	7/16/2021
9:00-10:00	VISITING LECTURE	WORKSHOP	GROUP WORK SESSION	WORKSHOP	GROUP WORK SESSION
10:00-11:00	INTRODUCTION ASSIGNMENT 2				
11:00-12:00					
12:00-13:00					
13:00-14:00					
14:00-15:00	STUDIO	GROUP WORK SESSION	STUDIO PIN UP	GROUP WORK SESSION	MID REVIEW
15:00-16:00			STUDIO		
16:00-17:00					

***Studio:** Online meeting with your instructor in the format of group discussions and individual desk-crits
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***Review:** Group Presentation across all studios

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SCHEDULE & Exercises

Week Three

Monday
Select two of your final model photographs (one from above, and one viewing straight-on) and convert them into digital line drawings using Adobe Illustrator. Pay careful attention to line-weights and perspective. From these drawings, infer a plan and a section and draw these digitally.

Develop a coded diagram in which different shading/hatching suggests variations in the design (i.e. different materials, depths, surface orientations, etc.)

Tuesday
Continue your digital drawing and diagrammatic explorations and prepare to discuss them in a cohesive presentation.

Wednesday
Refine your designs given consideration of feedback.
Develop renderings for your design using Adobe Photoshop. Incorporate entourage, location context, and atmospheric conditions.

Thursday
Continue to refine your designs through digital drawing and rendering. Place your designs into a cohesive presentational layout (dimensions to be provided).

Friday
Finalize your designs and presentation boards, print, and prepare to discuss them in a cohesive final presentation and exhibition for instructors and family.

UCLA AUD TEEN ARCH STUDIO | SUMMER 2021 | SCHEDULE | TBC

WEEK 3	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
Date	7/19/2021	7/20/2021	7/21/2021	7/22/2021	7/23/2021
9:00-10:00	VISITING LECTURE	WORKSHOP	GROUP WORK SESSION	WORKSHOP	GROUP WORK SESSION
10:00-11:00	INTRODUCTION ASSIGNMENT 3				
11:00-12:00					
12:00-13:00					
13:00-14:00					
14:00-15:00	STUDIO	GROUP WORK SESSION	STUDIO PIN UP	GROUP WORK SESSION	FINAL REVIEW
15:00-16:00			STUDIO		
16:00-17:00					

***Studio:** Online meeting with your instructor in the format of group discussions and individual desk-crits
***Studio Pin Up:** online presentations of work process, instructor gives feedback on progress
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DELIVERABLES

Pin Up
Thursday July 7
-     Plan Drawing
-     Elevation Drawing
-     5 Unfolded Diagrams
-     Material Manipulation Studies

Review
Friday July 9
-     All relevant Items from Jul 7 Pin-Up
-     Intersection Plan Drawing
-     Intersection Elevation Drawing
-     Iterative Intersection Diagrams
-     Material Manipulation Studies

Pin Up
Wednesday July 14
-     All relevant team Items from Jul 9 Pin-Up
-     Sketches, drawings and diagrams of proposed intervention
-     Material Manipulation Studies

Mid Review
Friday July 16
-     A comprehensive diagram demonstrating your iterative process and the operations used to transform the project
-     An unfolded diagram of your final model
-     An intersection diagram demonstrating the combining of two projects into one
-     A complete set of architectural drawings including
-     Plan
-     Elevation
-     Section
-     A brief text, between 100-300 words, describing the process.
-     Several relevant study models from weeks 1 & 2
-     A final physical model of your project
-     2 collages

Pin Up
Wednesday July 21
-     Your final model from week 2
-     Your final architectural drawings from week 2
-     Your comprehensive iterative process diagram from week 2
-     All new digital drawings including
-     Line/photograph overlays
-     Plan
-     Section
-     Shading/Hatch Diagrams

Final Review
Friday July 23
-     Your final model from week 2
-     Your comprehensive iterative process diagram from week 2
-     Revised digital drawings incorporating critic feedback including
-     Line/photograph overlays
-     Plan/ Section
-     Shading/Hatch Diagrams
-     3-5 Rendered views of your final design
-     A brief text, between 100-300 words, describing the process.