



## Ephemeral Facades: The Matter of Resilience

ARCH 5110: ARCHITECTURE AS CATALYST

MARCH 9 - MARCH 13, 2014

### INSTRUCTORS

Guest Instructor: Leah Buechley • designer | engineer | artist | educator

Faculty Instructor: Diane Willow • artist | catalyst | associate professor • experimental media

### BLOG

<https://ephemeralfacadescatalyst.wordpress.com>

### COURSE DESCRIPTION

We invite you to imagine resilience as a temporary modality and façades as elements that transform, leaving only traces of their existence. This matter of resilience might ignite when charged with electricity, melt upon the accumulation of solar energy, deflate when pressures abide, shift surfaces through dynamic changes in transparency, texture and color, or rattle and fragment in response to low rumbles or high pitches.

While exploring environmental and social conditions that shape ephemeral facades we encounter as well the ones that preclude or conclude their material existence. A life cycle perspective in this context does not anticipate how best to sustain an enduring façade, rather it attunes us to ways that a façade might emerge and then become immaterial. What does this intentional transformation offer and how might it influence our experience of architectural façades? Inspirations for this matter of resilience include cultural traditions that involve fire, wind, and water, strategies for adaptation among plants and animals, and the capacity for response, reaction and interaction that is present when materials, computation, and electricity unite.

### COURSE Process:

This collaboratively led Catalyst draws upon the interests and expertise of two hybrid artists: the designer, engineer, artist, and educator Leah Buechley and the multi-modal artist and creative catalyst Diane Willow. They each gather inspiration and matter informed by the concepts and processes of nature, science, and technology. Together they propose to create the conditions to experiment with architectural scale facades that appear and then disappear; ephemeral not only in the period of their presence, but in their finite and possibly dramatic transformations. Through a series of introductions to transformable materials and technologies, investigations of possible

campus installation sites, the fabrication of large-scale façade prototypes, and diverse in-process critiques, we will materialize and de-materialize facades as matters of resilience.

## TEACHING FORMAT

Participatory morning sessions introduce techniques and processes for exploring fire, water and air, combined with material transformations activated by electricity and the arduino. Afternoon sessions are focused on open studio explorations and proposed relationships between resilience, matter, and ephemerality. Evening open studio times allow for the time-based nature of some of the modalities that we will explore and the open explorations that will personalize your investigations of ephemeral facades

## COURSE OBJECTIVES

1. Learn basic principles and techniques of working with materials, electricity, and time
2. Experiment with principles and techniques for making materials appear, disappear, and re-appear
3. Explore temporal relationships that involve electricity as a catalyst for material transformation
4. Develop strategies for architectural thinking that prioritize the ephemeral
5. Create a series of prototypes that embodied the potential of the ephemeral as a strategy for resilience

## COURSE TOPICS AND STRUCTURE

*Ephemeral Facades: The Matter of Resilience* poses a dynamic relationship between the ephemeral and the resilient. This proposition frames a series of material explorations catalyzed with electricity. The workshop experience will include presentations, demos, discussions, studio sessions, reflections and active documentation.

## ASSIGNMENTS

Students will complete and document daily material sketches that explore and iterate upon basic techniques for ephemeral transformations. Each evening students will post photos, video, audio recordings, and reflections of these daily processes to the class blog. Presented as a progression of material sketches, concepts, and prototypes each student will also write a short statement that reveals their propositions for ephemeral facades as material strategies for resilience.

## DOCUMENTATION

Complete documentation of daily processes, prototypes, reflections and propositions for ephemeral facades is essential. This documentation includes a short statement of propositions for the ephemeral as a strategy for resistance that will contextualize these material sketches.

All final files must be uploaded to the class Dropbox folder by 11:59 pm on Monday, March 23rd, within the file structure shown. Minimum requirements:

- Summary of work according to provided template
- Media that fully documents your Catalyst Final Exhibition (including a min. 10 images)
- Media that documents the workshop and your daily process (min. 10 images daily)
- Scanned images of work done in your sketchbook (min. 15 images)
- Working files used to create your project (Photoshop, Illustrator, InDesign, Rhino, Word, etc)
- Research, readings, and supplemental files

*Note: Save images as 72 dpi jpeg, min. 3600 pixels in one dimension, maximum quality 10 or above*

## MATERIALS

• Each student is required to bring the following:

Laptop with the arduino software installed. [we will provide the red board arduino clone]

Mobile phone or other device to record video, photos, and audio.

Electronic of physical sketchbook.  
Physical materials that you need as you develop your work.

• The workshop will provide the following:

Electronic components and equipment to use during catalyst.  
Materials conducive to exploring the ephemeral

Ephemeral Facades: The Matter of Resilience | Syllabus

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## SCHEDULE

<b>03.09 M</b>	8:30 am 9:00 am 9:30 am morning  12 noon 1-2 pm afternoon 5:00pm 6:00pm evening	Bagels & Coffee, Rapson Courtyard [89 Church St. S.E.] All Catalyst participants meet in Rapson Courtyard Introduction & Discussion modality: FIRE introducing electricity Noon Lecture: Jentry Sayers, Rapson Hall 54 lunch studio time + in-situ explorations conclude until evening open studio time Evening Lecture: Omar Gandhi, Bell Museum Auditorium open studio time
<b>03.10 Tu</b>	9:00am morning  12 noon 1-2 pm afternoon 5:00 pm 6:00 pm evening	reflection & critique modality: WATER introducing the arduino Noon Lecture: Ian Harris (Bell) lunch studio time + in-situ explorations conclude until evening open studio time Evening Lecture: Doris Kim Sung, Rapson Hall 54 open studio time
<b>03.11 W</b>	9:00am morning 12 noon 1-2 pm afternoon 5:00 pm 6:00 pm evening	reflection & critique modality: + AIR Noon Lecture: Diane Willow, Rapson Hall 54 lunch studio time + in-situ explorations conclude until evening open studio time Evening Lecture: Leah Buechley, Bell Museum Auditorium open studio time
<b>03.12 Th</b>	9:00 am morning 12 noon 1-2 pm afternoon 5:00 pm 6:00 pm evening	reflection & critique FIRE, WATER, AIR + The Matter of Resilience Noon Lecture: Hideyuki Nakayama, Rapson Hall 54 lunch studio time + in-situ explorations conclude until evening open studio time Keynote Lecture: John McMorrough, Rapson Hall 100 open studio time   exhibition preparations

**03.13 F** 9:00am final reflection & critique | complete exhibition  
 preparations  
 1-2 pm lunch  
 2-4 pm Catalyst Final Exhibition + Presentations, Rapson Hall Courtyard

**03.23 M** 11:59 pm Project Documentation Due

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## **POLICIES**

### **ATTENDANCE**

Attendance is required M-TH from 9:00am–7:00pm, and Friday from 9:00am–4:00pm. Students must work in the studio/workshop and present their work as scheduled. An absence must be discussed with the instructors ahead of time, and will be grounds for grade reduction or failure at the discretion of the instructors.

### **GRADING**

The nature of studio work is highly dependent on evaluations that can only be done when the work is complete. The final grade will be based on the following:

Participation & Blog (20%)

Project (60%)

Project Documentation (20%)

Final grades will be based on the following University Grading Policy:

Grade	Points	Level of Work
A	90-100	outstanding work
B	80-89	more than required
C	70-79	meets requirements
D	60-69	less than required
F	60 or below	failed, insufficient work

### **LATE WORK**

No late work will be accepted.

### **INCOMPLETE WORK**

Incomplete work will not be accepted without instructor's prior approval and written agreement as to revised due dates and grading policy. The grade of incomplete can only be given if the work is substantially complete and the student has documentation of illness or extreme circumstances.

### **SUBJECT TO CHANGE**

With the exception of the grade and attendance policies, parts of this syllabus are subject to change with advance notice, as deemed appropriate by the instructor.

### **STUDENTS WITH DISABILITIES**

This syllabus can be made available in alternative formats upon request. Contact the School of Architecture 612.624.7866. Students with Disabilities that affect their ability to participate fully in class or meet all course requirements are encouraged to bring this to the attention of the instructor so that appropriate accommodations can be arranged. Reasonable effort will be made to accommodate students with disabilities. Please contact your instructor to initiate a discussion on how we can best support you to succeed in the course. Further information is available from Disability Services (16 Johnson Hall)

### **SCHOLASTIC CONDUCT**

All students are responsible for conduct in conformance with the University of Minnesota Student Conduct Code which, among other provisions, broadly defines scholastic misconduct as “any act that violates the rights of another student in academic work or that involves misrepresentation of your own work.”

### **INTELLECTUAL PROPERTY**

The College of Architecture and Landscape Architecture has the right to retain any student project whether it be for display, accreditation, archive, documentation or any other educational or legal purpose. In addition, the College reserves the right to reproduce and publish images of any such student work in collegiate publications, printed or electronic, for the purposes of research, scholarship, teaching, publicity and outreach, giving publication credit to the creator/student.

### **WORKLOAD**

For graduate courses, one credit is defined as equivalent *more than* an average of three hours of learning effort per week (over a full semester) necessary for an average student to achieve an average grade in the course.

### **ACADEMIC POLICIES**

Academic policies for this course (including but not limited to: accommodations for students with disabilities, statements on classroom conduct, and statements regarding sexual harassment, and academic integrity) can be found in the University’s website at <http://www.oscai.umn.edu/index.html>. Classroom misconduct, violation of academic integrity, sexual harassment and issues concerning students with disabilities should be reported to the Director of College of Design Student Services and to the Department Head.

