ARCH 318: Experimental Futures

Units: 3

Course Description
This seminar focuses on innovative technologies that have been developed and the interest of cultures to keep pursuing more. Lagging behind the vehicular and medical industries, the field of architecture is ready for new technologies that can be informed by biomimicry, smart materials, nano-technology, digital controls, artificial intelligence and more.

Students will learn about historic forms of experimental architecture and the impact these architectures had on the way we design and build today. Then students will get an overview of various types of experimental architectures occurring today — architectures looking to solve problems in our society, the way we build, or sustainability and architectures that make use of emerging technologies to invent new forms of architecture, new materials to build with, or new methods of construction — with the intent for these students to be critically positioned to inform new waves of experimental architecture which have the potential to change architecture for the better upon their graduation.

Learning Objectives
Students are encouraged to:

— Investigate experimental architecture, through a study of historic experimental architecture and analysis of current trends in experimental architecture, with the intent that they can then apply this knowledge to their work. Understanding will be assessed through a series of case studies where students are expected to think analytically about the experimental architectures they have learned about.

— Demonstrate understanding of the purpose of experimentation of architecture through their analytical case study assignments and in class discussions.
— Demonstrate understanding of the ability of experimental architecture to solve wicked problems facing the built environment through their case studies and final essay.

— Predict what the future of experimental architecture will be, using the background knowledge they have gained in their studies of the history of experimental architecture and the current experimental architecture scene. This will be assessed as part of their final essay.

Prerequisite(s):
None

Co-Requisite(s):
None

Concurrent Enrollment:
None

Recommended Preparation:
ARCH 228: Social Environments

Course Notes
[Course Notes include important information on the course that will not appear elsewhere in the syllabus. This may include the style of the course/teaching, such as flipped, case-based, project-based, etc.]

Communication
Students should contact their respective assigned CA with any questions regarding assignments, Blackboard, TurnItin via Blackboard, etc.

Technological Proficiency and Hardware/Software Required
Blackboard: Blackboard will be the main platform for turning in assignments and accessing resources.

USC Technology Rental Program
If you need resources to successfully participate in your classes, such as a laptop or internet hotspot, you may be eligible for the university’s equipment rental program. To apply, please submit an USC Technology Rental Program Application.

USC Technology Support Links
Blackboard help for students
Software available to USC Campus

Required Materials

Optional Materials

Description and Assessment of Assignments

1. Attendance and Participation: 15%
   Students are responsible for attending each lecture. Students will be expected to
participate in in-class discussions. Students should come to class prepared to discuss
the readings.

2. **Case Studies (6 required): 60%**
   Students will do a series of case studies on experimental architectures, analyzing them,
   tracking their influence, and positing ways that these experiments could be utilized today
to solve current issues facing the built environment.

3. **Final Paper: 25%**
   Students will be asked to write a final paper of 3000 words as a way to synthesize the
   results of their six case studies that they produced over the course of the semester.

**Participation**
Students will be required to participate in group discussions, critiques, and presentations.
Continual failure to participate will result in a deduction to participation grade.

**Grading Breakdown**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
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</thead>
<tbody>
<tr>
<td>Attendance/Participation</td>
<td>15%</td>
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<tr>
<td>Reading Responses</td>
<td>60%</td>
</tr>
<tr>
<td>Final Exam or Paper</td>
<td>25%</td>
</tr>
</tbody>
</table>

| Total                     | 100        |

**Grading Scale**
Course final grades will be determined using the following scale.

A  95-100
A-  90-94
B+  87-89
B   83-86
B-  80-82
C+  77-79
C   73-76
C-  70-72
D+  67-69
D   63-66
D-  60-62
F   59 and below
Course-specific Policies (Assignment Submission, Grading Timeline, Late work, and Technology)

Assignment Submission
Assignments will be submitted through Blackboard.

Late work
**Late Assignments:**
Late submission of assignments will result in a deduction of at least one letter grade. Unexcused absences on exam days can lead to a student receiving a “0” for that assignment.

Technology in the classroom

Academic integrity
Please see USC Statement on Academic Conduct and Support Systems

Attendance
The class is only as good as the thoughts discussed by the people there to discuss them. We are a small group. We should care about the experience of the other students each week as much as our own interests. Therefore, it is important that students come to every class on time and participate.

This class follows the School of Architecture Attendance Guideline, posted on Blackboard and at: [http://arch.usc.edu/sites/default/files/info/faculty/soa_attendance_guideline.pdf](http://arch.usc.edu/sites/default/files/info/faculty/soa_attendance_guideline.pdf).

Summary: One absence will not affect grade, but more than one absence or more than two tardies will begin to inform final grade for course.

Classroom norms

Establishing a safe space and a space of respect:

- This course, and its lectures and meetings, is a space of empathy and safety.

- This course, and its lectures and meetings, is also a space where diverse thoughts and feelings are valid and should be respected.

- This course, and its lectures and meetings, is a space to explore diverse texts, places, events, and ideas that might sometimes feel uncomfortable for us to discuss. We want this to be a supportive environment where we can explore difficult problems together.

- There is a limit to all of our knowledge (students, faculty, and CAs included). We’re all going to make mistakes, especially regarding cultures and ideas that are less familiar to us, and that’s okay; we’re all here to learn from each other.

- We should be willing to acknowledge that there are limits to our knowledge that may express unintended biases. We should endeavor to learn from others in an effort to
widen our knowledge and empathy.

- We should be respectful and patient with one another (and with ourselves) through this learning process.

Sharing of course materials outside of the learning environment
USC has a policy that prohibits sharing of any synchronous and asynchronous course content outside of the learning environment.
SCampus Section 11.12(B)
Distribution or use of notes or recordings based on university classes or lectures without the express permission of the instructor for purposes other than individual or group study is a violation of the USC Student Conduct Code. This includes, but is not limited to, providing materials for distribution by services publishing class notes. This restriction on unauthorized use also applies to all information, which had been distributed to students or in any way had been displayed for use in relationship to the class, whether obtained in class, via email, on the Internet or via any other media. (See Section C.1 Class Notes Policy).

Course evaluation
Course evaluations occur at the midterm point in the course and at the end of the course. It is important to fill out these course evaluations to give a review of the students’ experience in the class.

Table 2 Course schedule: weekly breakdown

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics/Daily Activities</th>
<th>Readings and Homework</th>
<th>Assignment Dates</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Lecture: Introduction to Course</td>
<td>Assigned readings from Blackboard</td>
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<tr>
<td>Aug. 23-27</td>
<td>History and Theory</td>
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<tr>
<td>Section 1:</td>
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<tr>
<td>Week 2</td>
<td>Lecture: Modernism and Its Precedents</td>
<td>Prepare for Case Study 1</td>
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<tr>
<td>Aug. 30-Sept. 3</td>
<td>Themes &amp; Content: Adolf Loos; Le Corbusier;</td>
<td>Assigned readings from Blackboard</td>
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<td>The Bauhaus; new materials – steel, concrete; CIAM; hygiene;</td>
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<td>modern ways of living; manifestos; R.M. Schindler; Richard</td>
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<td>Neutra; Antoni Gaudi</td>
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<tr>
<td>Week</td>
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<td><strong>Week 3</strong>  &lt;br&gt; Sept. 6-10</td>
<td>Lecture: The 1960’s &amp; 1970’s: The Age of Experimentation — Europe &amp; The Americas  &lt;br&gt; <strong>Themes &amp; Content:</strong> Archigram; Superstudio; Rebuilding Europe after the World Wars; megastructures; influence of the Space Race; Buckminster Fuller; Yona Friedman; Expo 67; Moshe Safdie; Case Study program; Pompidou Center; bowellism; Felix Candela; Jorn Utzon; Christopher Alexander</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 1 Due</td>
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<tr>
<td><strong>Week 4</strong>  &lt;br&gt; Sept. 13-17</td>
<td>Lecture: The 1960’s &amp; 1970’s: The Age of Experimentation — Japan &amp; The World  &lt;br&gt; <strong>Themes &amp; Content:</strong> Expo 70; megastructures; Metabolism; rebuilding after World War II;</td>
<td>Prepare for Case Study 2  &lt;br&gt; Assigned readings from Blackboard</td>
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<td><strong>Week 5</strong>  &lt;br&gt; Sept. 20-24</td>
<td>Lecture: Experimental Architecture of the 1980s &amp; 1990s – The Postmodern Era and Deconstructivism  &lt;br&gt; <strong>Themes &amp; Content:</strong> <em>Learning from Las Vegas</em>; Michael Graves; Charles Moore; Robert Venturi and Denise Scott Brown; historicism; Frank Gehry; Morphosis; Neil Denari; Zaha Hadid; rise of technological</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 2 Due</td>
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<tr>
<td>Week</td>
<td>Topics/Daily Activities</td>
<td>Readings and Homework</td>
<td>Assignment Dates</td>
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<td>architecture; OMA; Foreign Office Architects; Wes Jones</td>
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<tr>
<td><strong>Section 2:</strong></td>
<td>Culture and Community</td>
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<td><strong>Week 6</strong></td>
<td>Lecture: Protest Architecture</td>
<td>Prepare for Case Study 3</td>
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<td><strong>Sept. 27-Oct. 1</strong></td>
<td>Themes &amp; Content: Teddy Cruz + Fonna Forman, “Refusal of Space” by Huff + Gooden Architects, “We Outchea” by Sekou Cooke</td>
<td>Assigned readings from Blackboard</td>
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<td><strong>Week 7</strong></td>
<td>Lecture: Experimental New Forms of Living</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 3 Due</td>
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<td><strong>Oct. 4-8</strong></td>
<td>Themes &amp; Content: Share Houses, Tiny Houses, Elemental “Villa Verde”, etc.</td>
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<td><strong>Week 8</strong></td>
<td>Lecture: Fall Recess &amp; Social Justice Architecture</td>
<td>Prepare for Case Study 4</td>
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<td><strong>Oct. 11-15</strong></td>
<td>Themes &amp; Content: Walter J. Hood “Black Towers/Black Power”, Project Row Houses, etc.</td>
<td>Assigned readings from Blackboard</td>
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<td><strong>Week 9</strong></td>
<td>Lecture: Radical Sustainability</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 4 Due</td>
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<td><strong>Oct. 18-22</strong></td>
<td>Themes &amp; Content: Passivhaus, Net Zero, Samuel Mockbee and the Rural Studio, etc.</td>
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<td>Week 10</td>
<td>Lecture: Exhibition Architecture and Paper Architecture</td>
<td>Prepare for Case Study 5</td>
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<td>Oct. 25-29</td>
<td>Themes &amp; Content: Lebbeus Woods, Claude Parent, Venice Biennale, Chicago Biennial, etc.</td>
<td>Assigned readings from Blackboard</td>
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<td><strong>Section 3:</strong> Inventive Technologies</td>
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<td>Week 11</td>
<td>Lecture: New Forms/Methods of Building</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 5 Due</td>
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<tr>
<td>Nov. 1-5</td>
<td>Themes &amp; Content: Digital prefabrication, 3D printing, etc.</td>
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<td>Week 12</td>
<td>Lecture: Material Experimentations</td>
<td>Prepare for Case Study 6</td>
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<td>Nov. 8-12</td>
<td>Themes &amp; Content: FRP, Dosu Studios’ thermobimetal, bamboo, biophilic design, Neri Oxman, MIT Mediated Matter Group, etc.</td>
<td>Assigned readings from Blackboard</td>
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<tr>
<td>Week 13</td>
<td>Lecture: Robotics &amp; Mechanical Production Methods</td>
<td>Assigned readings from Blackboard</td>
<td>Case Study 6 Due</td>
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<td>Nov. 15-19</td>
<td>Themes &amp; Content: Robot Augmented Design (RAD) Lab, Fiberbots, Odico Formwork Robotics, etc.</td>
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<td>Week 14</td>
<td>Thanksgiving Break - No Class</td>
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<td>Nov. 22-26</td>
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<td>Week 15</td>
<td>Lecture: Digital Architecture &amp; Digital Aided Architecture</td>
<td>Assigned readings from Blackboard</td>
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<td>Nov. 29-Dec. 3</td>
<td>Themes &amp; Content: AR/VR, NFTs, GAN, Digital Twins, Fologram (and similar), “One Object at a Time” exhibition at A plus D, Mirrorworlds, Mars House, iheartblob, etc.</td>
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<tr>
<td>FINAL EXAM</td>
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<td>Final Paper</td>
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</tbody>
</table>

Sample Bibliography:


Buckley, Craig. Graphic Assembly: Montage, Media, and Experimental Architecture in the 1960s, Minneapolis: University of Minnesota Press, 2019.


https://www.archdaily.com/968905/architecting-the-metaverse

https://www.aplusd.oneobject.org/

Style GAN: https://www.gsd.harvard.edu/2021/04/shading-sunset-charles-waldheim-on-reimagining-the-streets-of-los-angeles-for-a-warmer-future/

Book Personal Connections in the Digital Age about Internet Space:
Fully updated to reflect new discussions about earlier communication technologies.

Game Roblox, The Sandbox and Decentraland about AR/VR:
https://www.roblox.com/
https://www.sandbox.game/en/?__cf_chl_jschl__=DaB1bppJqENQOUgRPF8WoL_BF2Xjq_nL6JaJ6cC5Gk-1642538179-0-gaNycGzNCJE
https://decentraland.org/

NFT Architecture:
https://www.archdaily.com/960946/what-is-nft-architecture-and-how-is-it-different-from-regular-3d-models

Virtual Architecture:
Statement on Academic Conduct and Support Systems

Academic Conduct:

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, “Behavior Violating University Standards” policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

Support Systems:

Counseling and Mental Health - (213) 740-9355 – 24/7 on call studenthealth.usc.edu/counseling
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call suicidepreventionlifeline.org
Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-9355(WELL), press “0” after hours – 24/7 on call studenthealth.usc.edu/sexual-assault
Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) - (213) 740-5086 | Title IX – (213) 821-8298 equity.usc.edu, titleix.usc.edu
Information about how to get help or help someone affected by harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants.

Reporting Incidents of Bias or Harassment - (213) 740-5086 or (213) 821-8298 usc-advocate.symplicity.com/care_report
Avenue to report incidents of bias, hate crimes, and microaggressions to the Office of Equity and Diversity |Title IX for appropriate investigation, supportive measures, and response.

The Office of Disability Services and Programs - (213) 740-0776 dsp.usc.edu
Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Campus Support and Intervention - (213) 821-4710 campussupport.usc.edu
Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.
Diversity at USC - (213) 740-2101
diversity.usc.edu
Information on events, programs and training, the Provost’s Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu
Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu
Non-emergency assistance or information.