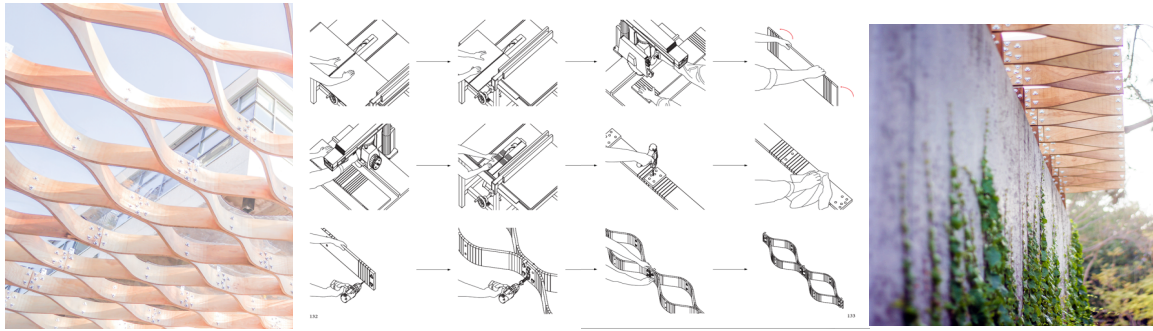# Introduction to Research for Design + Build
ARCH-599, Fall 2018

Units: Two
Semester: Fall 2018
Location: Watt B7 (Clipper Lab)
Day and Time: Friday 10:00 to 11:50 AM
Instructors: Associate Professor Charles Lagreco
Office Location: Watt 334
Office Hours: Wednesday 11-11:50 am.
Contact Info: Lagreco@usc.edu,

ARCH-599 Research for Design + Build - *What is Design Build and how to participate in the design and fabrication of useful architecture for real clients within an academic setting.*

Research for Design + Build is intended to be the introductory course provided by the School of Architecture to understand the history and precedents of successful Design + Build programs in academic settings, and the impact of institutional context on those programs. The course will provide an introduction to the traditions and current range of activities in this area of study at the USC School of Architecture and a theoretical context for design build activities, introducing both techniques and resources for fully participating curriculum opportunities consistent with the school's core values and intentions.

The Seminar is organized into three sections:

1. What is Design Build? The full range of Case study examples to identify the types of programs offered in academic settings and review the results and characteristics of these types for users, clients with an emphasis on the social and economic context of the program types and the critical participants necessary to provide successful sustainable support for these activities within the institution.

2. What design build activities are presently or potentially available at the USC School of Architecture? Guest lecturers will present and discuss course offerings, expectations, and the expertise and focus of our faculty in this curricular area.

3. Research and Programing assignments will focus on current opportunities within the school for student involvement in the RDB component of the SoA Curriculum.

In addition, as a parallel activity each student will be given individual "making" assignments to illustrate the relationship between design as a formal exercise and as a physical construct. This will also provide an introduction and facilitate familiarity with School of Architecture support facilities and procedures for full scale prototyping of physical design proposals.

Students that are interested in the materiality of architecture and its impact on the design process should take this seminar as an introduction to further elective and design studio involvement in the design + build component of the curriculum. Interested architectural student that can qualify for taking 499 / 599 electives are eligible for this Architecture 599 elective without any prerequisites.

Resources: Faculty RDB Expertise / Case Studies*: Faculty will present case studies of their academic work involving design + build activities using examples from seminars, course offerings and design studio work including individual thesis activity. Guest Lectures will be scheduled from the following pool of USC Faculty:*

Valery Augustin, Assistant Professor of Practice
Alvin Huang, Associate Professor
Wes Jones, Professor of Practice

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Kyle Konis, Assistant Professor
Chuck Lagreco, Associate Professor
Doug Noble, Associate Professor
Geoff von Oeyen, Associate Professor
Gary Paige, Associate Professor of Practice
Jose Sanchez, Assistant Professor
Doris Sung, Associate Professor

Resources: Technical Advisement: *USC School of Architecture Staff and Faculty will introduce the students to the resources and protocols available for assisting in the fabrication of physical models using our shop equipment with hands on Research Orientation (RO) Training Sessions available to qualify students for access and use of the shop equipment. This orientation will include safety and equipment training for specific equipment and demonstrating the range of techniques and materials that are available for use.*

Michael Arden: Senior Lecturer - Photography
Chris Beas: Workshop Coordinator
Scott Mitchell: Assistant Professor of Practice
Will Rollins: Digital Fabrication Manager
Ben White: Facilities Manager

Research and Programing Examples will be presented in lecture and reading assignment format in class and discussed. Each student will generate a research / programming assignment topic based on the range of types of RDB activity, the potentials of context and personal interest and present the results to the class.

Final documentation will be required at the end of the course and include both a digital version and a notebook containing the course materials and assignments and with complete documentation of the material assignments, case study notes, lecture notes, one-page reading summaries, as well as each students research / programing summary.

Course Schedule: A Weekly Breakdown

Week	Topics /Activities	Readings and Assignments
Week 1 8.24.2018	Lecture 1 Introduction to RDB	Reading Assignment 1 Academic Schedule and Degree Status Making Assignments Introduced
Week 2 8.31.2018	RDB Case Study #1 Resource #1	Reading Assignment 1 Making Assignment 1 Introduced Wood Shop Tour
Week 3 9.7.2018	RDB Case Study #2 Resource #2	Reading Assignment 2 3d Printing Tour
Week 4 9.14,2018	RDB Case Study #3 Resource #3	Reading Assignment 3 CDC Tour
Week 5 9.21.2018	RDB Case Study #4 Resource #4	Reading Assignment 4 Vacuum Forming Tour
Week 6 9.28.2018	RDB Case Study #5	Reading Assignment 5
Week 7 10.5.2108	Making Assignment 1 Due	Making Assignment 1 presented,
Week 8 10.12.2018	mid-term Lecture 2 Introduction to Research / Programing	Mid-term Evaluation Making Assignment 2 introduced
Week 9 10.19.2018	Lecture 3	Reading Assignment 6
Week 10 10.26.2018	Making Assignment 2 Prelim Discussions	Reading Assignment 7
Week 11 11.2.2018	Lecture 4	Reading Assignment 8

Week 12 11.9.2018	Research Assignment Issued	Reading Assignment 9
Week 13 11.16.2018	Research Assignment due	Reading Assignment 10 Making Assignment 2 – Due
Week 14 11.23.2018	Holiday	Thanksgiving Holiday break
Week 15 11.30.2018	Draft of documentation	Review
Stop Days 12.1-4.2018		Preparation for Final Exams
Final Exam Week 12.5-12.2018	See Final Exam Schedule	Documentation Due Exhibit of RDB Work

Grading Breakdown
Participation / Discussion = 10 %
Reading Assignments = 10%
Making Assignments 1 & 2@ 25% each = 50 %
Final Exam / Documentation = 30 %%

Total Grade = 100 %

Readings and Supplementary Materials

http://www.solardecathlon.gov/

http://www.wbdg.org/design/dd_archprogramming.php

http://goodneighbors.usc.edu/apply/

http://www.acsa-arch.org/acsa-news/read/read-more/acsa-news/2012/02/10/a-house-divided-challenges-for-design-build-programs-in-architecture-schools

Ambasz. E., Formulation of a Design Discourse, (Perspecta 12, Yale University 1969)

Aquilino, Marie, ed., *Beyond Shelter: Architecture and Human Dignity*, (New York: Metropolis Books, 2011)

Aranda, Benjamin and Chris Lasch. *Pamphlet Architecture 27: Tooling.* (New York: Princeton Architectural Press, 2006).

Bell, Bryan and Katie Wakeford, eds., *Expanding Architecture Design as Activism*, (New York: Metropolis Books, 2008)

Beorkrem, Christopher. *Material Strategies in Digital Fabrication*. (London: Routledge, 2012)

Borden, Gail, Material Precedent: *The Typology of Modern Tectonics*, (Hoboken, N.J., John Wiley and Sons, 2010)

Borden, Gail Peter and Michael Meredith. *Matter: Material Processes in Architectural Production*. (London: Routledge, 2011).

Crawford, Matthew B., Shop Class As Soulcraft,, An inquiry into the Value of Work. New York, Penguin Books, 2009

Dean, Andrea Oppenheimer and Timothy Hursley, *Proceed and Be Bold: Rural Studio After Samuel Mockbee*, (New York: Princeton Architectural Press, 1998)

Dean, Andrea Oppenheimer and Timothy Hursley, *Rural Studio: Samuel Mockbee and an Architecture of Decency*, (New York: Princeton Architectural Press, 2002)

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De Kestelier, Xavier and Brady Peters. *Computation Works:* T*he Building of Algorithmic Thought (Architectural Design).* (New York: Wiley, 2013).

Dunn, Nick. *Digital Fabrications in Architecture*. (London: Laurence King Publ., 2012)
Iwamoto, Lisa. *Digital Fabrications: Architectural and Material Techniques*. (New York: Princeton Architectural Press, 2009)

Frampton, Kenneth, Studies in Tectonic Culture, (Cambridge. M.I.T. Press 1995)

Hailey, Charlie, Design Build with Jersey Devil, A handbook for Education and Practice, New York, Princeton University Press 2016

Kolarevic, Branko. *Manufacturing Material Effects: Rethinking Design and Making in Architecture*, (London: Routledge, 2008).

Menges, Achim. *Material Computation: Higher Integration in Morphogenetic Design (Architectural Design)*. (New York: Wiley, 2012).

Meredith, Michael. *From Control to Design: Parametric/Algorithmic Architecture*. (Barcelona: Actar, 2008).

SHoP. *Versioning: Evolutionary Techniques in Architecture (Architectural Design)*. (London: Academy Press, 2003).

Smith, Cynthia E., *Design for the Other 90%*, New York: Editions Assouline, 2007.

Stohr, Kate, et al.Architecture for Humanity, *Design Like You Give A Damn*, Washington, D.C.: US Green Building Council, 2006.

Stohr, Kate, et al., *Design Like You Give A Damn (2): Building Change from the Ground Up*, New York: Harry N. Abrams, 2012.

Stonorov, Tolya, ed., Design-Build Studio, Crafting Meaningful Work in Archtiectural Education, New York, Routledge, 2018

Assignment Submission Policy

All assignments will include criteria for grading and hand in procedures. Assignments are due in class at the date and time identified in the assignment criteria and late assignments can be penalized by a reduction in grade at the discretion of the instructor. All assignments must be completed regardless of the absence of the student involved and must be completed regardless of the reason for the absence.

Additional Policies

This class conforms to all standard School and university policies including definitions of and consequences of plagiarism, attendance, accommodation of special needs and observation of religious holidays. Students with pre-existing special circumstances must inform faculty of any issues at the start of the semester so that the appropriate steps can be taken to accommodate those needs within the context of the course. (See below for some of the critical policies.)

Attendance

Attendance is required for all classes and course-scheduled activities. Students are expected to be on time during the entire time class is in session. Any absence must have a written explanation, and all absences for illness or medical emergency should have a doctor's explanation. If you are ill, please go to your doctor or to Student Health Services. In case of illness, please call the School of Architecture office by 9:00 AM on the day of your class and leave a message for your instructor. You should also contact your instructor directly as soon as possible to explain in detail why you are not able to attend. If you miss a class, you are responsible for finding out about any assignment(s), obtaining lecture notes, etc. The maximum number of allowable absences is (1) after which more absences may impact on your grade.

Leaving class early, or excessive tardiness, will count as an absence. Unexcused absences result in a zero for the missed class work or discussion and cannot be made up. Work missed as the result of an excused absence may be made up.

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, http://policy.usc.edu/scientific-misconduct.

Support Systems:

Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

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

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC
Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.
Provides overall safety to USC community. dps.usc.edu