

## ARCH 548 L: Media for Landscape Architecture: 3D Design

University of Southern California, Department of Landscape Architecture

3 Units

Spring 2015

Friday 9-Noon

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Office hours are by appointment



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### SURFACE, PROCESS, + ANALOGUES

The landscape surface is richly complicated with notions of process, transformation, texture, and pattern.

Abstract smoothness is a fleeting moment in the landscape project. Once a surface becomes exposed to the parameters of inhabitation, vegetation, and environment, roughness overtakes. This course will explore the generation of form as it relates to the surfaces and processes of landscape. Moving between prescriptive and plastic methodologies, intuition and logic, students will develop a series of three-dimensional analogous terrains. Through these studies we will explore the representational boundaries and techniques of physical and digital space.

The course will explore various techniques using physical tools and digital aids to address methods for creating 3-d landscape models. Moving between process work and finished products, hand craft and digital tools, students will experiment with modes of graphic and physical representation. Students will become familiar with the 3d modeling environment of Rhino and use this in conjunction with other design media to investigate 3-dimensional surfaces, the representation of process and texture. These explorations will be processed into two-dimensional representations using the adobe suite, v-ray rendering techniques and animation. Additionally digital form will be processed into three-dimensional physical models, where students will combine physical and digital fabrication outputs.

The course will be structured as a series of workshops and pin ups, where each class session is an opportunity to learn new techniques and built on the work of the current assignment. Students will be encouraged to experiment with both material and formal concepts.

### Course Requirements

#### Reading:

There is required reading for each assignment, intended to enrich students understanding of the work and contextualize it within the discipline.

Stan Allen, "From the Biological to the Geological", *Landform Building*

Alex Wall, "Programming the Urban Surface", *Recovering Landscape*, 1999.

Bowring, Jacky and Simon Swaffield. "Diagrams in Landscape Architecture" in *AD Reader: The Diagrams of Architecture*, ed. Mark Garcia. Wiley, 2010.

Karen M'Closkey, "Synthetic Patterns: Fabricating Landscapes in the Age of 'Green'" *Journal of Landscape Architecture*, Spring 2013.

#### Required Software:

Rhino w/ Vray + Grasshopper

Adobe Suite: Illustrator, Photoshop, After Effects

#### Required Materials:

Basic Modeling tools – straight-edge, cutting mat, pins, exactos, rulers, dividers.

Basic Modeling materials- wood, various boards, plaster and fabric will be used throughout the semester, these do not need to be purchased in advance.

## Grading

All Assignments are due as detailed in the schedule, grades will be issued the following week.

Assignment 01	30%
Assignment 02	30%
Assignment 03	30%
Final Review	10%

## Schedule

(subject to change)

Week 01	01/16 Class Introduction SURFACE Lecture: Surface, Process, Analogue Tutorial 01: Rhino Fundamentals: Distribute: Assignment 01
Week 02	01/23 SURFACE <i>PIN UP Assignment 1.1: Models</i> Reading 01: Discussion Tutorial 02: Folding- Faceted Surfaces
Week 03	01/30 SURFACE Tutorial 03: Tailoring
Week 04	02/06 SURFACE Tutorial 04: Molding
Week 05	02/13 SURFACE <i>PIN UP Assignment 01</i> Lecture 02: Landscape Process Distribute: Assignment 02
Week 06	02/20 PROCESS <i>PIN UP Assignment 2.1</i> Tutorial 05: Visualizing Process 2D-3D
Week 07	02/27 PROCESS Tutorial 06: Vray and Texture Maps
Week 08	03/06 PROCESS Tutorial 07: Animating Process
Week 09	03/13 PROCESS Work Session: Assignment 02
Week 10	03/20 <b>SPRING BREAK</b>
Week 11	03/27 <b>Midterm Review Assignment 01 + 02</b> Distribute: Assignment 03

## Lecture Analogue

Week 12	04/03 ANALOGUE <b><i>PIN UP Assignment 3.1</i></b> Tutorial 08: Sectioning + Paneling Tools
Week 14	04/17 ANALOGUE Tutorial 10: Digital Fabrication File Preparation Work Session: Fabrication Lab Time: Desk Crits
Week 15	04/24 ANALOGUE Work Session: Fabrication Lab Time: Desk Crits
Week 16	05/01 ANALOGUE Work Session: Fabrication Lab Time: Desk Crits
Week 17	<b>Final Review Date TBD</b>

## Assignments

Assignment 01	Physical Models into Digital Space Physical Models into Digital Space This assignment asks students to translate various physical and material model conditions to Rhino as a way of developing processes for generating and refining design ideas. A series of models exploring the techniques of folding, molding, and tailoring in varied material associations, will be translated to three-dimensional topographies via Rhino. Each tutorial will build on the next and develop tools for translating each model: Reading: Stan Allen, "From the Biological to the Geological", <i>Landform Building</i> . Reading: Alex Wall, "Programming the Urban Surface", <i>Recovering Landscape</i> , 1999.
Assignment 02	Process + Flows Using the initial model series students will assign attendant processes and flows to their surfaces, these will be explored through digital representations. The final output will be a set of composite drawings addressing the challenges of representing dynamic landscapes and transformative terrains using digital models, animation, and line work. Bowring, Jacky and Simon Swaffield. "Diagrams in Landscape Architecture" in <i>AD Reader: The Diagrams of Architecture</i> , ed. Mark Garcia. Wiley, 2010.
Assignment 03	Final Analogues A final set of analogues or models will be constructed by translating the studies from Assignment 02 into a set of composite digitally fabricated and hand crafted models. Karen M'Closkey, "Synthetic Patterns: Fabricating Landscapes in the Age of 'Green'" <i>Journal of Landscape Architecture</i> , Spring 2013.

### Attendance Policy

The School of Architecture's general attendance policy is to allow a student to miss the equivalent of one week of class sessions (three classes if the course meets three times/week, etc.) without directly affecting the student's grade and ability to complete the course. If additional absences are required for a personal illness/family emergency, pre-approved academic reason/religious observance, the situation should be discussed and evaluated with the faculty member and appropriate Chair on a case-by-case basis. For each absence over that allowed number, the student's letter grade will be lowered 1/3 of a letter grade (e.g., A to A-).

Any student not in class within the first 10 minutes is considered tardy, and any student absent (in any form including sleep, technological distraction, or by leaving mid class for a long break) for more than 1/3 of the class time can be considered fully absent. If arriving late, a student must be respectful of a class in session and do everything possible to minimize the disruption caused by a late arrival. It is always the student's responsibility to seek means (if possible) to make up work missed due to absences, not the instructor's, although such recourse is not always an option due to the nature of the material covered.

Being absent on the day a project, quiz, paper or exam is due can lead to an "F" for that project, quiz, paper or exam or portfolio (unless the faculty concedes the reason is due to an excusable absence for personal illness/family emergency/religious observance). A mid term or final review is to be treated the same as a final exam as outlined and expected by the University.

See full attendance statement at: <http://arch.usc.edu/People/SchoolGovernanceDocuments>

### Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 A.M.–5:00 P.M., Monday through Friday. The phone number for DSP is (213) 740-0776.

### Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. SCampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>. The USC summary of how to avoid plagiarism: [http://www.usc.edu/student-affairs/student-conduct/ug\\_plag.htm](http://www.usc.edu/student-affairs/student-conduct/ug_plag.htm) and specific advice for grad students: [http://www.usc.edu/student-affairs/student-conduct/grad\\_ai.htm](http://www.usc.edu/student-affairs/student-conduct/grad_ai.htm) may also be useful.

### Accreditation

The Master of Landscape Architecture degree program includes three curricula. Curriculum +3 for students with no prior design education and Curriculum +2 for students admitted with advanced standing have full accreditation by the Landscape Architecture Accreditation Board. Curriculum +1.5 for students with advanced placement is a post-professional study and is not subject to accreditation. Information about landscape architecture education and accreditation in the United States may be found on-line at <http://www.asla.org/Education.aspx>.

### Religious Holidays

The University of Southern California recognizes the diversity of our community and the potential for conflicts involving academic activities and personal religious observation. The University provides a guide to such observances for reference and suggests that any concerns about lack of attendance or inability to participate fully in the course activity be fully aired at the start of the term. As a general principle, students should be excused from class for these events if properly documented and if provisions can be made to accommodate the absence and make up the lost work. Constraints on participation that conflict with adequate participation in the course and cannot be resolved to the satisfaction of the faculty and the student need to be identified prior to the add/drop date for registration. After the add/drop date the University and the School of Architecture shall be the sole arbiter of what constitutes appropriate attendance and participation in a given course.