ARCH 540 L: Topics in Media for Landscape Architecture
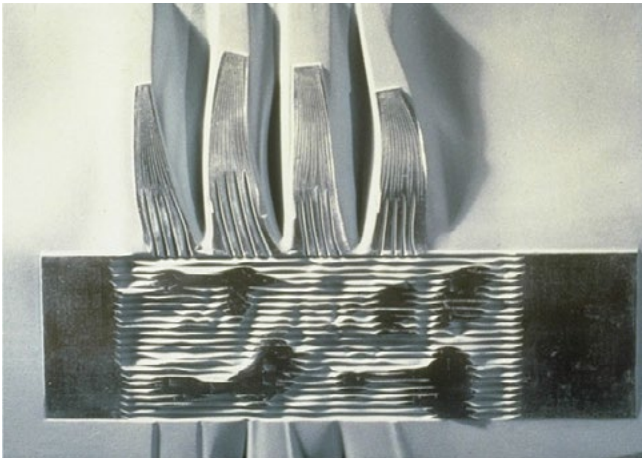University of Southern California, Department of Landscape Architecture
2 Units
Fall 2013
Friday 9-Noon
Kate Harvey   email: kharvey@tacklu.com
Office hours are by appointment

Reiser Umemoto, Watergarden for Jeff Kipnis

TOPO:CAMO:TECTONIC

This course will explore the generation of form as it relates to the process of design in landscape architecture. Landform and morphology are essential characters in the production of the landscape project. Digital tools have given landscape architects new ways to explore and expand the language of topographical representation. Students will explore the full range of this potential moving from prescriptive to plastic methodologies. Students will also be asked to look beyond pure form to camouflage and tectonics as ways of respectively materializing and rationalizing form.

This course will delve into digital media as a tool for enhancing design processes and production. Moving between process work and finished products students will gain facility in digital representation techniques, the generation and tectonic refinement of form.

Students will become familiar with the 3d modeling environment of Rhino and use this in conjunction with other design inputs to explore 3-dimensional form, pattern, and tectonics. These explorations will be processed into two-dimensional representations using the adobe suite and v-ray rendering techniques. Additionally digital form will be processed into three-dimensional physical models, where students will explore various digital fabrication outputs.

Initial sketch models will be translated into the three-dimensional digital Rhino environment. Various digital modeling techniques will be explored through a series of exercises to gain familiarity with Rhino as a tool. The introduction of textural variation through photo investigations will be overlaid on these models and allow students to explore texture and pattern in relationship to morphology. The final output will be a series of physical models, where students will explore methods for dissecting and rationalizing form and constructing physical models.

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
Lisa Iwamoto Digital Fabrication
Karen M'Closkey, "Synthetic Patterns: Fabricating Landscapes in the Age of 'Green'" in the Journal of Landscape Architecture

Required Software:
Rhino w/ Vray
Adobe Suite: Illustrator, Photoshop

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 08/30   Class Introduction
                 TOPO
                 Lecture: Topography + Digital Form
                 Tutorial: Rhino Fundamentals:
                 Distribute: Assignment 01

Week 02 09/6   TOPO
                 Review Assignment 01a: Sketch Models
                 Generating Form 01b: points, lines, + surfaces

Week 03 09/13   TOPO
                 Generating Form 01c: Complex Surfaces

Week 04 09/20   TOPO
                 Generating Form 01d: Surface Manipulation and analytical output

Week 05 09/27   Review Assignment 01
                 Tutorial: Texture Maps, Rhino to Photoshop
                 Distribute: Assignment 02

Week 06 10/04   CAMO
                 Lecture: Camouflage
                 Tutorial: Vray
                 Work Session: Assignment 02

Week 07 10/11   CAMO
                 Work Session: Assignment 02

Week 08 TBD   Class will be rescheduled this week from
                 Friday to Tuesday 10/15 or 10/22
                 Progress Review: Assignments 01/02 PRINTED

Week 09 10/25   Midterm Review Assignments 01/02

Week 10 11/01   TECTONIC
                 Lecture: Tectonics
                 Tutorial: Sectioning
                 Distribute: Assignment 03

Week 11 11/08   TECTONIC
                 Tutorial: Tiling + Carving

Week 12 11/15   TECTONIC
                 Review: Assignment 03a
                 Tutorial: Digital Fabrication

Week 13 11/22   TECTONIC
                 Digital Fabrication Lab Time

Week 14 11/29   Thanksgiving Break

Week 15 12/6   TECTONIC
                Digital Fabrication Lab Time

Week 16 12/13   Final Review TBD
                Assignments 01-03

Assignments

Assignment 01   TOPO: Generating Form
                       This assignment introduces the students to Rhino as a tool to both generate and refine design ideas. 01a) A
                       series of sketch models exploring folding, molding, and will be translated to three-dimensional topographies
                       via Rhino. Digital Modeling Workshops: 01b) points, curves and surfaces 01c) complex surfaces 01d) sur-
                       face manipulation + analysis. Students will complete the assignment with three iterations of their morphol-
                       ogy to take to Assignment 02.
                       Reading: Stan Allen, "From the Biological to the Geological", Landform Building.

Assignment 02   CAMO: Disguising and Adorning Form
                       This assignment will explore how materiality meets form, through methods for outputting 3d digital models:
                       rendering with Vray and enhancing in Photoshop. Textures, pattern, and surface materiality will come in to
                       play. A textural rendering of each morphology will address variations and disturbance in pure form akin to
                       seasonality and climate.
                       Reading: Karen M'Closkey, "Synthetic Patterns: Fabricating Landscapes in the Age of 'Green'" Journal of
                       Landscape Architecture

Assignment 03   TECTONIC: Rationalizing Form
                       This assignment will explore how form is rationalized through technical drawings and digital fabrication.
                       Various approaches and techniques will be explored from sectioning, tiling, to carving. Each morphology
                       will be given its own technique for analysis, aspects of the camouflage will be incorporated and output into
                       a series of physical models.
                       Reading: Lisa Iwamoto, Digital Fabrication

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, technolog-
ical 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, al-
though 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 (un-
less 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 deliv-
ered 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 and specific advice for grad students: 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.