

Media for Landscape Architecture: Dynamics Systems

Landscape Architecture 639, 2 units, Fall 2020 Semester

Location Zoom / Miro / Slack @ University of Southern California

Time Thursdays, 10-11:50AM PST

Instructor Alexander Robinson, Associate Professor

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Office Hours Tuesdays, 4-5PM PST and by appointment

Course Introduction

In this course students will learn advanced digital workflows to conduct contemporary landscape architecture design research. A specific interest of the course is to address how these workflows address dynamic landscape systems, existing and proposed.

In recent years, the need for advanced design methodologies has become ever more pressing as landscape projects are asked to manage—or serve as—dynamic systems. Increasingly projects must perform dynamic environmental services and/or manage dynamic risks, while still providing quality open space. To effectively navigate the multifarious requirements of these projects, landscape architects must invent workflows, specific to the challenges of each project, where specialized analyses operate alongside typical design tools. For example, to design a flood control channel they might interface various advanced real-time evaluative tools (e.g. hydraulic modeling, habitat analysis, and economic evaluations) within an iterative community-inclusive design process.

The parametric software Grasshopper, integrated with other plugins and software, is a powerful platform to develop, or at least enhance, these workflows. Over the course of the semester, students will learn how to build an entire “apparatus,” within Grasshopper and associated tools; a set of advanced design controls, analytical tools, and communication instruments, that constitutes a workflow tailored to a specific design problem.

The course is divided into two halves. Each half focused on a fundamental formal landscape typology: (extruded) form and field. First, students will develop an apparatus for designing river form; a practice that should also be useful for more commonly designed linear forms (e.g. walls, paths, benches, etc.) Second, students will design landscape “fields”; grid conditions, such as urban fabrics, topographic meshes, and plantings. Students will explore tools that simulate and analyze field conditions (e.g. climate, movement, hydrology, etc.) and practice “field” design operations, such as parametric planting. In both halves’ students will produce apparatuses that result in an advanced representation.

Learning Objectives

- Learn how to assemble digital design apparatuses for landscape architecture design research problems. Digital design apparatuses include a design control system, landscape analysis and modeling, and communication practices.

- Gain basic fluency in advanced landscape architecture design and analysis software suites, primarily Grasshopper and its plugins
- Gain a personal understanding of how advanced digital practices operate for your design practice and interests
- Gain proficiency in digital practices related to landscape form and field subjects
- Learn how to create advanced digital drawings and visualizations

Prerequisites

This is an advanced landscape architecture media course. The prerequisite is Arch 548: Media for Landscape Architecture: 3D Design. That said, with some proficiency in Rhino and the Adobe Suite you are likely able to qualify for taking this course. Please feel free to contact the instructor.

Communication Tools: Zoom

Zoom is the primary platform by which we will conduct class. All meetings will be recorded and available on blackboard after class. All students are provided Zoom pro accounts. You are expected to attend synchronously (and attendance will be kept). If you are not in the PST time-zone you are expected to attend according to the following guideline:

From Provost letter 8.7.2020:

“Class Participation and Attendance in Synchronous Sessions

Remote learning, paired with the fact that USC students are spread across time zones, presents a number of challenges related to attendance and participation in synchronous class sessions.

In general, students should plan to attend every synchronous session for the classes in which they are enrolled, irrespective of when it occurs in their time zone.

*However, faculty should only maintain normal attendance, participation, and assessment expectations for students when the class time falls within reasonable learning hours in the student’s time zone, defined as **7:00am to 10:00pm** in the student’s time zone.”*

In other words, we will expect you to follow these guidelines for attendance. Accordingly, if you can attend some class and do not, you will be marked absence.

[Zoom information for students](#)

Synchronous Session Recording Notice

All synchronous Zoom sessions will be recorded and provided to all students as soon as possible. They will be posted on blackboard.

Zoom Etiquette

In general, questions of appropriate Zoom etiquette can be answered by considering what would be appropriate in a normal classroom setting.

For example, while attending studio on Zoom please keep your camera on time as much as you would normally be visible, were we meeting in person. Your camera on substitutes for your physical attendance. In other words it should always be on unless you need to “leave” the classroom for a bathroom break or similar excused absence. If you do not feel comfortable keeping your camera on, please discuss this with me prior to the class session.

From Provost letter 8.7.2020:

“Camera Policy

Acknowledging that class dynamics are substantially compromised without the ability to see the people in class, faculty

can set an expectation that students have their cameras on during synchronous online sessions. However, some students may be facing challenging situations, such as internet connectivity, illness, or home environments that make this difficult or impossible. To alleviate these concerns, faculty can encourage students to use virtual backgrounds, which will eliminate most privacy concerns, and earphones or headsets to improve audio quality. While faculty are at liberty to create a “camera-on” policy in their class, they should communicate that accommodations are available to students who contact them directly with reasonable requests.”

Zoom also offers some unique features not available in a typical classroom. Feel free to use these as you see appropriate. For example, the Zoom emoticons and chat board are acceptable ways to communicate.

Finally, when you are in studio and not in a group pin-up, lecture, etc., feel free to use all communication tools to converse with your fellow students.

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 (this also applies to the communication tools listed below).

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).

Communication Tools: Other

USC Blackboard will be the official repository of major announcements, the syllabus, assignment sheets, and readings.

[Blackboard help for students](#)

Miro will be used extensively as a digital pin up space. You will be invited to a board and this will make you a member. TIP: the standalone Miro application may be faster than the web application.

Slack is an important communication tool and the assigned class channel should be regularly checked. The platform will be used as a semi-formal group chat space. Official announcements, assignment clarifications, scheduling changes, relevant links, and more will be communicated via Slack. Some assignments will employ Slack specifically. You may directly message the instructor on Slack. You should be automatically added to the Slack channel dedicated to your class.

Software, Tools, and Resources

Students will be required to use the latest version of **Rhino on Windows**. Additional free software suites will be used, including Twinmotion, Processing (time allowing), various Grasshopper Plugins, the Adobe Creative Cloud Suite (Illustrator, Photoshop, & After Effects).

USC technology rental program

We realize that attending classes online and completing coursework remotely requires access to technology that not all students possess. 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 application](#). The Student Basic Needs team will contact all applicants in early August and distribute equipment to eligible applicants prior to the start of the fall semester.

[Software available to USC Campus](#)

Lynda Software Tutorial (USC provided)
<https://itservices.usc.edu/lynda/>

Assignments

6 Biweekly Assignments

There will be six assignments, each assigned and due bi-weekly. Each assignment will be described in more detail in assignment sheets posted on blackboard. All assignments must be submitted to Miro *and* blackboard. Generally, you are required to post assignment progress on Miro before the class after the assignment introduction.

Final Assignment: Application of class practices in studio

In lieu of a final assignment you will submit an example of how you integrated these tools in your studio, this semester. If you are not taking a studio, a final assignment will be provided. You will be asked to make a proposal describing this application, that must be approved for credit.

Class Methodology

Lectures & Demos

There will be regular lectures / demos to introduce topics and demo assignments.

Assignment Pin-Ups

You will be expected to pin up all your assignments on Miro on the day it is due before class starts!

Assignment Comments

You will be required to give *constructive* comments on a few other students work in Miro. The comments will be anonymous (technology allowing!) to the other students. You will identify your comments to the instructor. The comments must be useful.

Final Review

Outside reviewers will come to discuss and evaluate your body of work instead of a final exam. All students must be pinned up 30 minutes prior to the scheduled start time to participate in the review (and not be penalized).

The entire class must be present during the course of the review. Presentation durations will be specified. Time allowing, there will also be a mid-review.

Readings

There will be readings associated with some class assignments.

Schedule

(subject to change)

Week	Date	Day	Topics	Assignments (bi-weekly)
			PART I: FORM	
1	8.27.2020	Thursday	Class Introduction, Grasshopper Introduction, Vectors I	Form 1: Section Apparatus
2	9.3.2020	Thursday	Vectors II	
3	9.10.2020	Thursday	Planes I	Form 2: Sectional Morphogenesis
4	9.17.2020	Thursday	Numerical Analysis	
5	9.24.2020	Thursday	Planes II	Form 3: Morphological Visualizations

6	9.31.2020	Thursday	Visualization I	
PART II: FIELD				
7	10.8.2020	Thursday	Mesh	Field 1: Topographic Analysis
8	10.15.2020	Thursday	Topographic Analysis	
9	10.22.2020	Thursday	Grids, Suitability	Field 2: Parametric Planting
10	10.29.2020	Thursday	Visualization II	
11	11.5.2020	Thursday	Climate Plugins	Field 3: Climatic Design
12	11.12.2020	Thursday	Mesh II	
13	11.19.2020	Thursday	<i>Workday</i>	
	12.1.2020	Tuesday	Final, 8-10AM	Final Assignment Due

Bibliography

See assignment sheets.

Grading

Grading is made through a synthesis of the following: completion of assignments, instructor & outsider reviewers' assessment of work quality, effort, and participation in class.

6 Assignments (12% each)

Integration of tools in studio project (18%)

Participation (10%)

Assignment Grading Criteria

Basic (50%)

- Posted significant progress on Miro before 2nd class
- Met design requirements
- Met analysis requirements
- Met visualization requirements
- On time final submission

Design & Presentation (50%)

- Quality of Design Content (design choices and content)
- Originality & Identity (personal identify & investment / deviation from assignment demonstration; make the assignment your own!)
- Legibility & Communication (is it easy to “read” and comprehend the work?)
- Graphic Quality (overall quality/feel of visual graphic presentation & layout)
- Annotations & Text (formatting of text, quality of text, call outs, etc.)

Assignment Re-Submittal Policy

You may re-submit three assignments. They are due two weeks after their grade is submitted to blackboard, or by the date of the final, whatever time is shorter.

Participation Grade

- Participation grade will be determined based on the following criteria:
- Does the student volunteer to ask questions or give constructive comments synchronously in class or via Miro? When participating synchronously does the student appear to be present and attentive?
- Does the student give *constructive* comments on other students work (as required)?

Work Upload

Following reviews you will be required to upload all of your work. You will not receive your final grade until all your required work is uploaded. More instructions on this process will be distributed during the semester.

Absences & Late Attendance Policy

You may miss one week of class instruction (one class) unexcused without penalty to your grade. Each class following will be a reduction 1/3 of a letter grade (e.g. B+ to B). Late attendance (with considerations of time zone, as per the Provost guidelines, above) will be tracked and seriously impact your participation grade.

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.