



Hudson House, Speranza Architecture + Urban Design, Rendering by Gillian Hevey

## ARCH 222, Design Communication II (Intro to Computing)

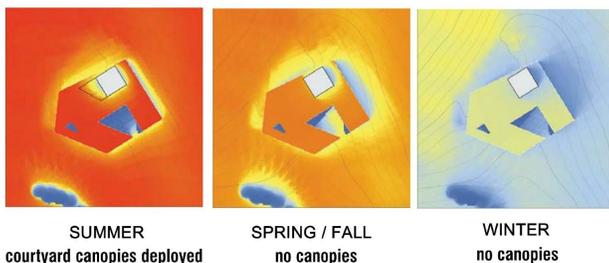
Instructor: Philip Speranza, [speranza@uoregon.edu](mailto:speranza@uoregon.edu)  
 Graduate Employees: Courtney Sigloh, [cysigloh5k@gmail.com](mailto:cysigloh5k@gmail.com) ; Katherine Marple, [kmarple@uoregon.edu](mailto:kmarple@uoregon.edu)  
 Location: Tues and Thurs, 8:00-9:50AM, REMOTE; Labs Tues & Wed, REMOTE

*"I'd like to think that we are now entering a third, more mature phase in our relationship to digital technology. Thanks in part to a new generation of architects who have been educated entirely within the digital regime, and on the other hand to the first generation of digitally trained architects who have continued to evolve their thinking, the computer is beginning to have a **practical** impact, beyond the formal or the metaphorical." - Stan Allen, *If...then... Architectural Speculations**

Design communication pervades the way design is used systematically to understand human experience from the bottom-up. This course will teach design communication methods for each student's design intent in three parts: I. Unit Diagrams; II. Analog Parametric Design; and III. Digital Parametric Design. Students will bridge analog and digital media to explore systematic approaches to measure existing and proposed environmental conditions. This method of systems thinking allows students to use digital media to understand human and natural conditions not as singularities but as a more powerful parametric approaches. The course will introduce ideas in a lecture format, meet for one hour in computer lab settings and provide opportunities for individual learning in the design studio setting.

**Course Software Required** (Please install Windows and other software before the spring term):  
 MS Windows & Adobe Creative Cloud (PC Preferable for ease of compatibility and workflow integration)  
 Rhino 7.0 for Windows, \$195 ( [https://www.rhino3d.com/en/sales/north-america/United\\_States/](https://www.rhino3d.com/en/sales/north-america/United_States/) )

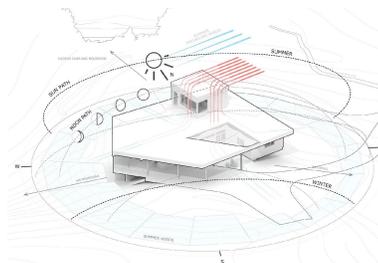
**Department of Architecture and Landscape Architecture Hardware and Software Requirements:**  
<https://blogs.uoregon.edu/designtech/home/computer-purchasing/student-computer-purchasing/#architecture> , PC/Mac  
 23" or larger external monitor, mouse, ethernet cable and a minimum 16+ GB RAM.  
 \*You must register for a one-hour lab section. Thank you. Email questions: [speranza@uoregon.edu](mailto:speranza@uoregon.edu)



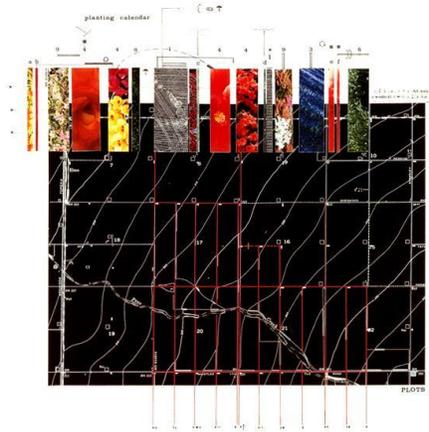
SUMMER  
courtyard canopies deployed

SPRING / FALL  
no canopies

WINTER  
no canopies



Hudson House, Speranza Architecture + Urban Design, Ladybug Analysis and 3D parti by Garrett Leaver + Daniel Matallana-Mejia



James Corner, Time, Material, Place Diagram



UO Urban Interactions Lab, UIxD

## Course Objectives

Students will use design communication to explore the following architecture objectives:

- I. **Diagramming:** Drawing relationships as a generative design tool
  - o Diagramming object/environment affect
  - o 3D to 2D workflow, modeling to drawing
  - o Single idea “d” diagrams: ink drawings and digital hard-lined
  - o Collage Diagrams: vectoral space, materials/textures, time
  - o Time-Based Diagrams
  - o 4<sup>th</sup> degree generative diagrams
  - o Simple volume surface modeling for use in diagramming precedents
  - o Abstracting plan and section from volumetric models
- II. **Analog Parametric Modeling:**
  - o History of tiling types as used in patterning
  - o Two-dimensional tiling exercises, including transformative step-by-step diagrams of operations
  - o Three-dimensional tiling exercises, considering volumetric implications and scale
  - o Lighting and mapping, consideration of affect and human interface
- III. **Digital Parametric Modeling:**
  - o Analysis of studio design intent, generative diagrams, and material affect to create a parametric wall system and optionally for a plan/section organizational system for the studio project
  - o Considering mapping data sets into the parametric system to inform a single operation such as a material assembly with consideration of affects to human experience
- \*. **Presentation Methods:**
  - o Studio board layout and other communication methods will be studied using case-study examples and diagrams to support the final studio presentation
  - o Design Communication II final as an exploratory digital fabrication connecting virtual and physical media tested in a 1:1 mockup of material affect.

## Student performance criteria addressed

- A.3, visual communication skills

## Course Goals:

- Teach new media emphasizing design process, strengthening skills to be used in a studio.
- Introduce integrated methods encompassing digital and non-digital media.
- Develop learning strategies for changing technology including systems and non-linear design.
- Design problems that will challenge students at all levels.

## Critical Design Issues

- Context
- Organizational systems
- Performative systems
- Documentation and Analysis
- Synthesis of systems
- Abstraction of systems
- Material Affect
- Non-Linear Parametric Design

## Course Method

This course is organized as one lecture group and smaller lab groups as coordinated with studio sections in which students engage in independent project-based learning. The course time will be split between lectures, discussion and workshops using the analog and digital media in the studio environment. The work will be shared in class to foster peer-to-peer learning. Class meetings include a variety of communication formats including lectures, tutorials, desk-critiques, pin-ups, reviews, in-class discussions and reading assignments.

**\*\*Students are required to digitally post work to the weblog WITH A FEATURE IMAGE unless stated otherwise: [last\\_first\\_222S21\\_1.1a.jpg at 2000x2000 pixels](#). UPLOAD JPGS, DO NOT UPLOAD PDFs.**

// Students should review lab notes as homework **BEFORE** lab sections.

## Evaluation, Assessment and Feedback

Performance will be graded as per the outline below. Student work will be evaluated for understanding of each week's lecture information, posted information and learning objective in each assigned exercise.

## Attendance Policy

Attendance is mandatory. Lateness will be counted 15 minutes after class has started. Absences will be counted 30 minutes after class has started. After 3 unexcused absences your grade will be lowered by a grade point for each additional absence if you do not have a written medical, school or religious excuse and should be reported to the instructor prior to the missed class if at all possible. All students are expected to participate in class discussions and develop projects beyond the minimum requirement. (accommodations made for spring 2020 term).

## General Guidelines for Remote Class Participation

Canvas: <https://canvas.uoregon.edu/courses/154347>

UO Blogs Wordpress: <https://blogs.uoregon.edu/222s20/>

Zoom: Lectures T+R 8-8:45am; Studio Sections T+R 8:45-9:40am; Virtual Computer Labs sections vary; see Canvas or Wordpress for links

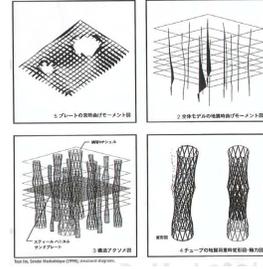
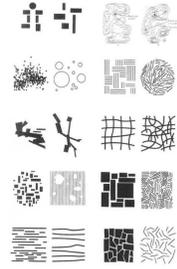
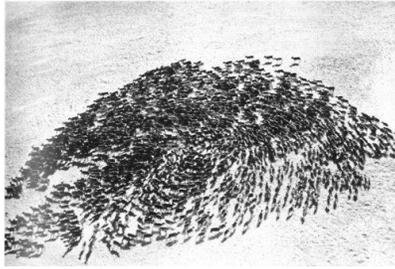
1. **Participate and Contribute:** Students are expected to participate by sharing ideas and contributing to the collective learning environment. This entails preparing, following instructions, and engaging respectfully and thoughtfully with others. More specific participation guidelines and criteria for contributions will be provided for each specific activity.
2. **Use Proper Netiquette:** Please use good “net etiquette”: identify yourself with your real name, write or speak in the first person, and use a subject line that clearly relates to your contribution. Good netiquette also means using humor or sarcasm carefully, remembering that non-verbal cues (such as facial expressions) are not always possible or clear in a remote context. In addition, your language should be free of profanity, appropriate for an academic context, and exhibit interest in and courtesy for others’ contributions. Certain breaches of netiquette can be considered disruptive behavior.
3. **Interact Professionally:** Our learning environment provides an opportunity to practice being professional and rigorous in our contributions. As much as possible, use correct spelling, grammar, and style for academic and professional work. Use discussions and activities as opportunities to practice the kind and quality of work expected for assignments. Moreover, seize the chance to learn from others and develop your interpersonal skills, such as mindful listening and awareness of one’s own tendencies (e.g. Do I contribute too much? Too little?).
4. **Expect and Respect Diversity:** All classes at the University of Oregon welcome and respect diverse experiences, perspectives, and approaches. What is not welcome are behaviors or contributions that undermine, demean, or marginalize others based on race, ethnicity, gender, sex, age, sexual orientation, religion, ability, or socioeconomic status. We will value differences and communicate disagreements with respect. We may establish more specific guidelines and protocols to ensure inclusion and equity for all members of our learning community.
5. **Help Everyone Learn:** Our goal is to learn together by learning from one another. As we move forward learning during this challenging time, it is important that we work together and build on our strengths. Not everyone is savvy in remote learning, including your instructor, and this means we need to be patient with each other, identify ways we can assist others, and be open-minded to receiving help and advice from others. No one should hesitate to contact me to ask for assistance or offer suggestions that might help us learn better.

### Specific guidelines for best practices using Canvas Discussion:

1. Use subject lines that clearly communicate the content of your post
2. Write clearly and concisely and be aware that humor or sarcasm often doesn’t always translate in an online environment.
3. Be supportive and considerate when replying to others’ posts. This means avoiding use of jargon or inappropriate language, and it means disagreeing with respect and providing clear rationale or evidence to support your different view.
4. Keep focused on the topic and reference readings and other class materials to support your points (as applicable).
5. Try to use correct spelling and grammar and proofread your submissions. After submitting, use the edit feature to make corrections and resubmit (don’t create a new or duplicate post that corrects your error).
6. Contribute and interact often!

**Specific guidelines for best practices using Zoom:**

1. Please test your video and audio prior to joining a live class session. You can learn more about testing your audio and video by visiting the Zoom Help Center at <https://support.zoom.us/hc/en-us>
2. Be on time when the meeting starts. It can be distracting to have participants join late.
3. Be mindful that others can see you and your surroundings if your video is on. Find a quiet setting without lots of noise or busy activities in the background. Please minimize distractions like eating or multitasking.
4. Use a microphone or speak closely to your computer microphone so that others can hear you. If you have video on, try to look at your camera, not the screen, when you are contributing.
5. Mute your audio when you are not actively contributing.
6. Use chat to pose questions or offer insights “on the side” while others are contributing or use the option to “raise your hand”.
7. If you prefer to use a static image instead of video, you can keep your video off.
8. For help and troubleshooting with Zoom, visit the Zoom Help Center at <https://support.zoom.us/hc/en-us>



Reindeer herd reacting to helicopter overhead; Field condition diagrams by Stan Allen, Toyo Ito diagrams

### Grading

- 10% PROJECT 1.1 /// Diagramming
- 10% PROJECT 1.2 /// Time-based diagrams
- 10% PROJECT 1.3 /// Generative Diagrams + Precedent
- 10% PROJECT 2.1 /// 2D Tiling
- 10% PROJECT 2.2 /// Lighting and Mapping
- 25% PROJECT 3.1 /// Parametric Material Experience
- 5% PROJECT 3.2 /// Final Studio Presentation
- 10% PROJECT 3.3 /// Final Project (Possible Paper Fabrication)
- 10% QUIZZES

Students will not receive a final grade until all work has been uploaded for digital submission.

### Projects

The projects for this course are designed to encourage exposure to various means of communicating your designs through a variety of tools including everything from hand sketching to digital modeling. Detailed descriptions and requirements will be given at each exercise.

### Schedule *(this schedule may change with notice)*

#### PART I. Diagramming

Week 1	T	03/30	Diagrams Introduction	Lecture/Workshop
	Th	04/01	Collage Diagrams	Workshop
Week 3	T	04/06	Time-Based System	Lecture/Workshop
	Th	04/08		Workshop
Week 2	T	04/13	Generative Diagram, 3DParti	Lecture/Workshop
	Th	04/15		Workshop

#### PART II. Analog Parametric Design

Week 4	T	04/20	2D Tiling Exercise	Lecture/Workshop
	Th	04/22		Workshop
Week 5	T	04/27	Lighting/Mapping	Lecture/Workshop
	Th	04/29		Workshop

#### PART III. Digital Parametric Design

Week 6	T	05/04	Grasshopper Principles	Lecture/Workshop
	Th	05/06		Workshop
Week 7	T	05/11	Grasshopper Operations	Lecture/Workshop
	Th	05/13		Workshop
Week 8	T	05/18	Grasshopper Analysis Input	Lecture/Workshop
	Th	05/20		Workshop
Week 9	T	06/25	Presentation Exercise	Lecture/Workshop
	Th	06/27		Workshop

Weeks 10-11      Studio Final Week, TBD  
 Final Exercise Due, TBD

### **Project Ownership, Publication, And Publicity**

Work created for credit and/or using the facilities of the College of Design belongs jointly to the school and the student. The CoD reserves the right to document and display all original work for the purpose of documenting student performance as mandated by the National Architecture Accrediting Board [NAAB]. Furthermore, the school reserves the non-exclusive right to use images or likenesses of the work for publicity and display in print and electronic media as well as to submit such work for competitively reviewed exhibitions or to various award programs, The School and its representatives [including faculty and teaching staff] have the non-exclusive right to use such work as illustrations in scholarly and/or technical publications and presentations.

### **Accommodations**

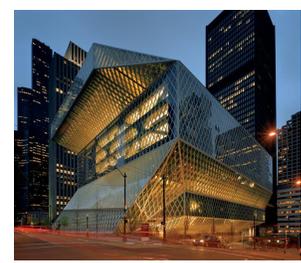
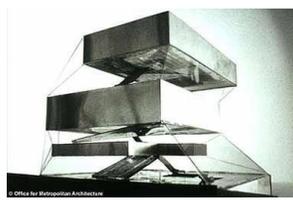
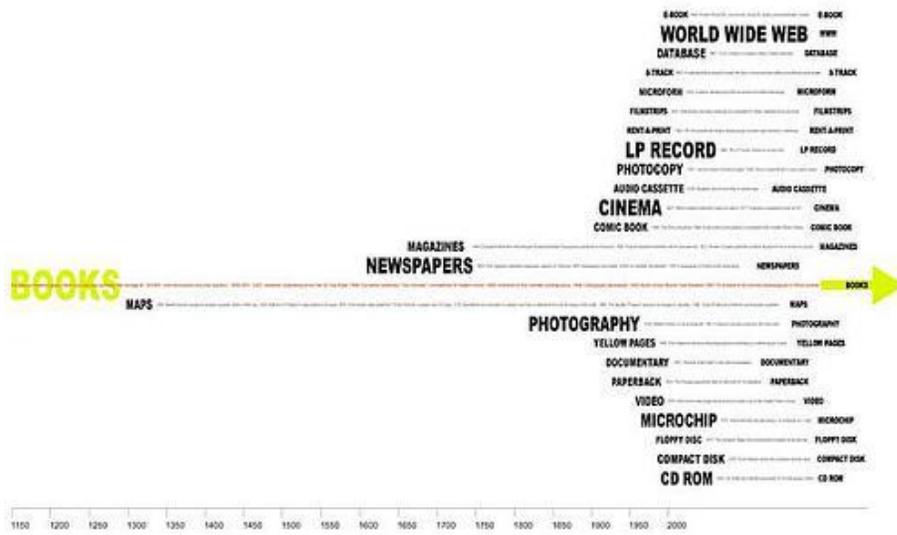
If you have a documented need for and anticipate accommodations in this course please communicate with the instructor as soon as possible. You may also request that the counselor for students send a letter verifying the need for accommodations. This is intended to support an accessible learning environment and is in way intended to inhibit privacy.

### **Graduate Employee Role:**

The Department of Architecture maintains a tradition of peer teaching that benefits both students and GEs. Graduate Employees will conduct both graduate and undergraduate labs under the direct supervision of the instructor. These sessions will be conducted according to protocols that have been approved by the instructors and that are common to all sections of the course. GEs will lead labs and may occasionally provide supplementary lessons on certain topics. However, the instructor will meet with the GEs on a weekly basis at least, to coordinate material and ensure that sections are being run consistently and according to the instructors' specifications. GEs will work under the direct supervision of the instructors, who will have ultimate responsibility for determining and entering grades. All grading will be done according to clear criteria that are used by the course instructors and all GEs assisting in the course. The course instructors will regularly monitor the grading activities of GEs with respect to accuracy and fairness. All graduate students have the option of having their work evaluated solely by the instructors.

### **Reading List**

Allen, S. (1999), "Field Conditions," *Points and Lines*, Princeton Architectural Press, New York, NY.  
Allen, S. (1998), "Diagrams Matter", in *ANY* 23, Dec. 1998  
Koolhaas, R. (1994), *Delirious*, Monacelli, New York, NY.  
de Landa, M. (2000), *A Thousand Years of Nonlinear History*, Zone Books, MIT Press, Cambridge, MA.  
Latour B. and Albeno Yaneva (2008), "Give Me a Gun and I Will Make All Buildings Move: An Ant's View of Architecture," in *Explorations in Architecture: Teaching, Design, Research*, edited by R. Geiser, Basel: Birkhäuser  
Schwartz, P. (1991), *The Art of the Long View*, Doubleday, New York, NY  
Zaera-Polo, Alejandro (2010) "Between Ideas and Matters: Icons, Indexes, Diagrams, Drawings and Graphs", *AD The Diagrams of Architecture*, Wiley, West Sussex, England  
Zaera-Polo A., Stan Allen, Jeffrey Kipnis, Sarah  
Whiting, Jesse Reiser, Daniel Lopez-Perez, Pep Aviles (2009) "Envelope, Faculty Conversation," *Pidgin* No. 7



OMA, Rem Koolhaas, Seattle Public Library