

ARCH 484-584
Sensory Playscapes

Summer 2020 Design Studio

Instructor: Marziah Zad
marziahr@uoregon.edu

07.20 - 09.11 | MON - TH 08.00 - 11.50*

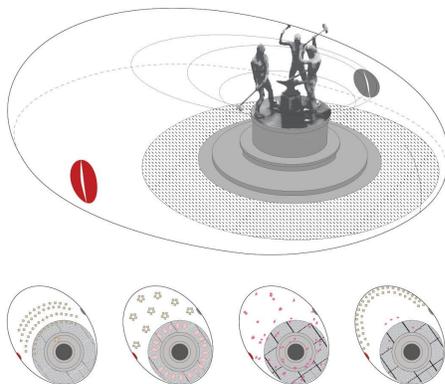
** As a result of the online format some work will be asynchronous*



Pavilion in London; Marziah Zad

Course Description

This studio focuses on inclusive architectural design using digital tools and generative design techniques. Students will have the opportunity to work within a scalar spectrum spanning from furniture to urban design while exploring how to encourage interaction and inclusion at each scale. We will design a small urban park or city square with the objective of engaging special-needs individuals with playful environments and with other individuals. The studio will explore how special needs and eccentricities in social interactions can enrich design, and how the design of natural and built environments can foster playful interaction and communication.



The Challenge

Individuals with Autism Spectrum Disorder might use touch as a basic nonverbal communication strategy during social interactions (Foss-Feig et al. 2012). For these individuals, unique environments with high sensory and tactile feedback could act as a medium to create greater opportunities for social interactions with their peers, and cultivate friendships and social bonds. Throughout the design process of this studio, students will explore and present opportunities for high sensory engagement at different design scales, including urban furniture and playscapes, interior and architectural spaces, landscape design and a playground.

< Pavilion by Plastique Fantastique

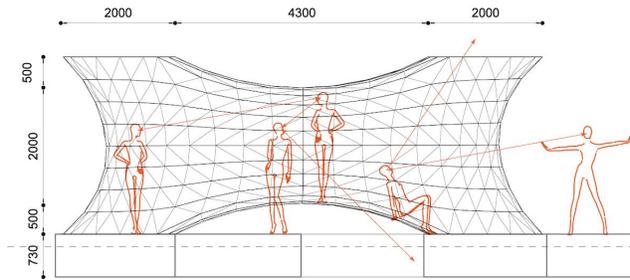
The Geometric Framework

This studio will use geometric patterning and the unique properties of lightweight structures¹ as a generative framework to synthesize and give direction to the design process. Lightweight structures such as the example shown on the left by Plastique Fantastique act at an interior and

¹ The term is used loosely here to reference doubly curved topological surfaces in lightweight structure systems. Students will become familiar with these geometries and learn strategies in their architectural application during the course.

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architectural scale, while geometry patterns act at an urban scale to facilitate connection and interaction. Due to their intrinsic properties, these geometry systems have the potential to move between scales, seamlessly connecting form with space and interior to exterior environments. Students will learn how to analyze, utilize and apply these geometry systems during the design process, creating a framework that can channel social inputs towards a formal and spatial design output.



Interactive lightweight pavilion with high sensory feedbacks resulting from materials and geometry; Marziah Zad

Design Process

Phase 01: We will study standards and requirements for special needs individuals while exploring innovative strategies to create engagement between them and others as well as the environment.

Phase 02: Students are introduced to formational geometry systems. We will use these as a digital prototyping playbook to investigate how designing form and space around the human body can create connection, interaction, comfort and playfulness. This phase will focus on the human scale.

Phase 03: Students use the results of their explorations from Phase 01 and 02 to design a small urban park which includes enclosed and semi enclosed structures to house community activities. These structures must illustrate environmentally conscious decisions in material choice and building footprint to integrate built and natural environments, but also emphasize innovative interior and exterior spaces that foster inclusive interaction and social discovery.



Design process images from Hearing Impaired Friendly Park in Tehran, Marziah Zad and Raha Ashrafi

Course Objectives, Requirements, Important Notes

- The intent is to use advanced digital tools and design strategies to the benefit of society and advocate human connection and inclusion in a small urban space incorporating human scale enclosures.
- Students will learn how to use digital prototyping techniques and feedback systems to design at various scales in response to user inputs and design criteria.

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- As a small parkspace, attention to building footprint, softscape vs hardscape ratio and building materials is expected.
- Physical models and material requirements: Basic physical prototyping to communicate design ideas using available tools as needed. No final physical model required, students instead will be coached to develop detailed renders and/or fly through animations to introduce the final project.
- *Students are encouraged to pair this design studio with Philip Speranza's 4/523 media course offered this summer. The media course covers Rhino, Grasshopper and GH plugins for urban mapping which complement the Sensory Playscapes studio format, enhancing digital design skills and overall learning experience.*
- Due to the remote studio format, some asynchronous sessions should be expected, these will all be clearly defined in the syllabus for your reference.