ARCH 4/584 Fall 2022

Masonry in Oregon: Phenomena, Net-Zero and BIM

Monday Wednesday Friday 1:00-4:50am

Instructor: Philip Speranza, Associate Professor, speranza@uoregon.edu

“What do you want, brick - in Oregon?” - Louis Kahn

Site - students choose from list (Eugene, Portland, Tigard, Astoria, Oakridge, Bend, Yachats, Bandon, etc)
Program - students choose from list (single family, House Bill 2001 multifam, housing, work, gallery, etc)

Part 1: Research and Data-Driven Site Design
- Masonry in Oregon: Types of masonry in the USA and worldwide key locals respect to climate, synergies with wood
- Social context of Oregon: affordability, Oregon house bill 2001, inclusion
- Global climate emergency: Net-zero, climate analysis, climate zone in Oregon
- Urban / ex-urban design analysis: walkability, proximate social interaction, site analysis
- Carbon footprint of masonry: sequestration metrics and how to improve, local employment impact

Part 2: systems development as design process
- Role of masonry primarily as facade: measurement, interaction with timber, possible Weyerhauser tour.
- Net zero / passive Haus: Custom seasonal analysis of sun path, wind rose, radiance, temp and humidity
- Program flexibility over time (family flex)
- Building systems integration: structure, enclosure, daylighting, heating and cooling, plumbing and electrical
- Revit BIM, Rhino_inside_Revit workflow (through Mural tutorials and some in-class sessions, working drawings feedback)

Part 3: Design Development
- Communication: What is your design strategy and what one drawing or model explains that process
- Model production: massing models, facade system study model
- Professional review input: Some remote reviews and or workshops from Facade and or BIM experts internationally.
- Professional Trade Interaction: International Masonry Institute in Portland and Washington, DC.