

Reframing housing

Housing production over the past 70 years is largely responsible for many of our current problems - consumption of fossil fuels leading to climate change, land and resource consumption, housing unaffordability and inaccessibility, racial and class segregation that multiplies the inequality of our society, and a general breakdown in any sense of community or solidarity in our country. Any attempts to address these problems in the 21st century must engage issues specific to housing. We need to meet a broad set of goals - the triple bottom line of the environmental, economic and social spheres - but since housing occupies such an important place in people's lives, it should not just meet rational and quantifiable performance goals; housing design must also develop environments that will allow people to construct meaning in their lives.

There are specific crises we must engage immediately in housing design:

- **Post-pandemic** - how is this crisis changing our ideas about density, the functions our housing must support, and how can we dwell safely? If the reaction is that everyone should live in low-density suburbia, we will not be able to achieve any of the other goals.
- **Climate change** is not on pause because of a more acute crisis. At least 15 different disaster types are coming our way, and we must design housing and communities that are **resilient** at every scale. The climate is changing with greater speed and severity than we thought even a few years ago. As architects, our ability to change that trajectory is small, but our opportunity to shape how humans survive is tremendous.
- **Inequality and unaffordability** are growing. We must face up to a legacy of racial and class segregation that has limited opportunities for many of our citizens, and at its most extreme, produced unprecedented levels of homelessness.

But while we architects welcome innovation to meet these challenges, everyone else in the housing production process likes the status quo (even here in ecotopia). Most neighborhoods don't want new housing types or higher density. Government agencies take forever to change codes and regulations. Developers want to keep making money doing the same kinds of projects. If our proposals are ever to have an impact in the world outside academia, we must learn how to adapt our universal goals and types to meet local concerns and conditions, to reinforce the good aspects of existing places. Technological

solutions which ignore the reality of current constraints – market preferences and financial feasibility – will see limited implementation and have little effect.

The problems may be global, but there are also specifically local issues:

- **The "housing crisis"** affecting coastal cities is apparent even in the Eugene-Springfield metropolitan area, as housing is increasingly unaffordable, and inappropriate for different household types. Eugene has the highest homelessness rate in the country.
- We produce single-family, detached housing for nuclear families, and large multi-unit buildings for students.
- There is a whole range of housing in between that used to be produced, and could be again - this is now being called the **"missing middle"**. In 2019, the Oregon legislature passed HB 2001, which mandates that up to four dwelling units can be built on any residential lot; Oregon is the first state to attempt such a reform of land use regulations.

Premises and goals

- Architects can do little to mitigate the climate change that has already been locked in, but we can do a lot towards building **resilience** - the ability for humans and their societies to adapt to and thrive in changing conditions.
- This can only be achieved through changing the **typical** patterns of building and dwelling in the modern world, at all scales. Individual signature buildings will not do it.
- Housing and settlement pattern are critical places to focus, perhaps the most critical.
- While housing design must respond to particular parameters (site, market, program), it must also respond to **global parameters** (building technology, production system, economics, environmental goals).
- Responding intelligently to the global parameters will yield clear **housing types** (at all scales) and systems, which can then be adapted to address local and particular conditions.
- Projects should push the boundaries towards serious environmental response, integrating issues of resilience with programmatic demands and spatial design from the beginning.
- However, students must demonstrate where their projects fall in terms of technological, social and economic **feasibility**, according to current conditions.
- Architecture students should graduate with more than good intentions - we can use this time in

school to test new ideas and prototypes, seeing which ones could rebuild and reorient the housing production system.

Studio methodology

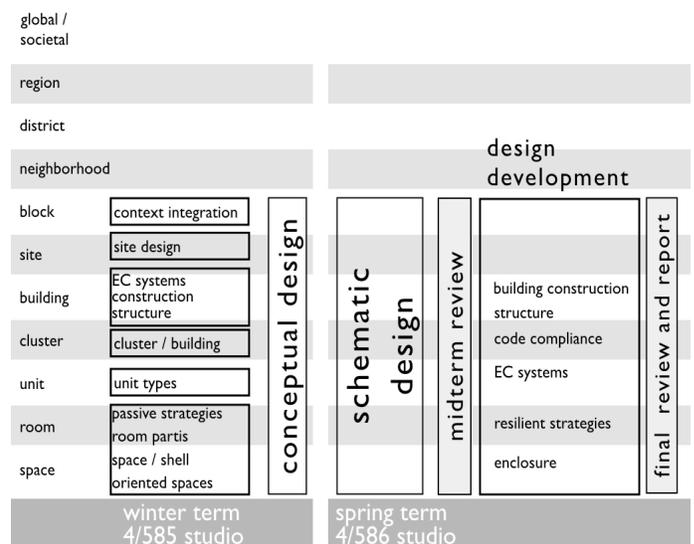
- **Typology:** Development of an integrated set of concepts and types for multi-family housing, from the scale of the room to that of the site.
- **Environmental and resilience strategies:** These will be developed from the beginning of winter term, in tandem with typological explorations, to ensure that building performance is one of the generators of conceptual design. Resilience strategies can be considered at regional, local and building scales.
- **Program:** Since a goal of this studio is to reduce extensive housing and societal segregation, each studio project must house a complete **cross-section of the local population**, classified according to both income level and household type. Students will be provided with a detailed demographic analysis that will allow them to determine the appropriate mix of unit types and sizes. Projects may be mixed-use, but should be overwhelmingly focussed upon housing components.
- **Sites:** The instructor will provide an extensive, detailed list of possible sites in the Eugene-Springfield area, based upon GIS analysis and site visits. There will be wide range of possible sites, from those appropriate for large multifamily buildings, to larger sites which can accommodate many separate building at medium to high density. Students will make a preliminary site selection during fall term, but can revisit this in the winter.
- **Missing middle housing:** Students may also opt to design scattered-site infill for an existing block or neighborhood, with the goal being to produce the same cross-section of household types and income level diversity. The provisions of Oregon HB 2001 can be used as a guideline, or students may work towards higher densities than which would be allowed under zoning ordinances.
- **Density:** Target minimum net densities in this studio will be in the 30 units or 75 residents per acre range. Higher densities are encouraged on appropriate sites.

Format and Process

- All students in this studio must enroll in Arch 410/510, **Housing Parameters**, in fall term. This course will cover current issues, technologies and processes in housing production.
- Comprehensive studio students in this course will lead teams comprising other enrolled students to complete a series of focussed

projects, which when assembled and integrated at the end of fall term will constitute a detailed project proposal and feasibility analysis. This exercise will form the basis for your site selection and program definition in the studio.

- **Winter term** will follow the diagram below, first addressing global parameters, to develop a conceptual / typological kit-of-parts. So inverting the usual studio order, some of **winter term will be for preliminary design development**. This conceptual kit-of-parts will then used to design particular buildings on real sites.
- **Spring term** will continue with schematic design, including unit, building and site design simultaneously. A second round of design development will follow, as students revisit the technology decisions made during winter term.
- Design decisions will be driven by clear criteria, some of them quantitative. Schematic economic and energy modelling will be used throughout the whole process.



Issues to be explored

- Unit designs that work for underserved household types and demographics
- building envelopes and edges that work technically and socially
- passive heating and cooling strategies (including ventilation), as enumerated in the LEED criteria, or the Green Studio Handbook
- open spaces that balance privacy and community
- development patterns which create pedestrian neighborhoods, or enhance existing neighborhoods
- futureproofing and adaptability for changing demands in the next century
- innovative building systems.