ARCH 573 Graduate Design Studio

DESIGNING FOR

QUALITATIVE BUILDING PERFORMANCE

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ARCH 573 Course Catalog Description
Design studio investigations of buildings and systems focusing on structure, enclosure, technology and performance. Integration of building materials, components and systems and their impact on the design, construction, and sustainability of buildings. 6 credit hours. Prerequisite: Graduate standing in Architecture.

Studio Premise
The term “building performance” is traditionally associated with quantitative assessments: energy performance, structural systems, and fabrication techniques. While this quantitative approach is essential to ensure that buildings operate in efficient and environmentally-responsive ways, we must also be concerned with the qualitative performance of buildings: that is, how architecture affects people’s daily lives, how buildings engage their users in sensory and spatial experiences. This studio will place equal emphasis on the qualities of the spaces created as well as the quantitative technical development of enclosure and structural systems that support and define those spaces. The broad scope of this approach is indicated by the range of texts that will be discussed, including The Storm of Creativity by Kyna Leski, on liberating the creative process, and The International Energy Conservation Code on optimizing window/wall ratios and materials for energy performance. Students will develop a design process that prioritizes the user’s experience (the daily experience of the office worker, the resident, the visitor) balanced with high-performance technical development.

Urban Focus
Given the rapid pace of urbanization happening globally, with more than two-thirds of the world’s population expected to be urban dwellers by 2050, it is incumbent upon us to envision a future city in which density can productively co-exist with climate-responsive performance and where occupants’ quality of life is not merely accommodated but enhanced and enriched by their daily architectural experiences. Such architecture must not only meet the quantifiable needs for space and performance in a dense city, including energy demands of heating/cooling and lighting, but also must prioritize engaging people’s sensory experience of space, light, and materials. This requires us to work simultaneously at the urban scale and the human scale, to think about material properties and unique spatial experiences. Working in an urban context invites us to engage certain critical relationships in architecture: between inside and outside, individual and collective, old and new. It is also important that we learn to engage the challenging site constraints that come with densely built-up city centers, most fully embodied by the infill site. As opposed to free-standing “object” buildings, which are atypical or even antithetical to urban density, the infill building, which shares a common wall with each of its neighbors, is arguably the prototypical site of the urban future. How can we re-think the urban infill site to achieve the goals stated above?

Studio Project
Following initial research on site and precedents, students will complete one semester-long design project: a new urban infill building, approx. 15 stories tall, located on a narrow but prominent site on South Michigan Avenue in Chicago. In order to enable a high level of depth and detail and to develop collaboration skills, students will work on this project in teams of two. Specific program components will be proposed by each team in consultation with the instructor. Throughout the process, students will work with a range of design tools, including physical and digital modeling at various scales and generative/analysis software including Sefaira, Grasshopper, and DIVA for Rhino.

More information will be provided at the Studio Topic presentations on January 17, 2018.

Image above: Michigan Avenue, Chicago, from Google Earth (modified).