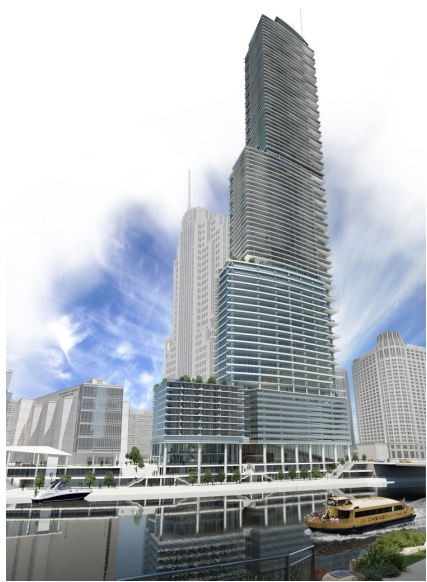


## Arch 573HH: High-Rise and Habitat Graduate Design Studio

Fall 2024

Instructor: Paul J. Armstrong

### NORTH CITYFRONT PLAZA: A VERTICAL CITY IN CHICAGO'S STREETERVILLE DISTRICT



Skyscrapers are important landmarks of the city and contribute to urban quality, density, sustainability, and livability. Mixed-use high-rises, that combine residential, hotel, and retail spaces, can make a positive contribution to Chicago's Loop (Central Business District) in terms of iconic significance, urban vitality, and urban infrastructure. The project is designed to explore the relationship of the skyscraper to a complex physical, social, and environmental context while engaging issues of detail and construction in expressing architectural ideas and concepts. Students who wish to integrate technical knowledge with design are encouraged.

**Site.** The site is located on the north bank of the Chicago River in the 200 block of **Chicago's Streeterville District**, immediately south of the NBC Tower. North Cityfront Plaza Drive on its western edge, North Water Street on its northern edge, and North Columbus Drive on its eastern edge define the site. Even in the current recession, this is an area of growing demand for housing and hotel accommodations.

**Project:** Comprehensive design of a **mixed-use tall building** with parking, lease spaces, amenity floors, sky lobbies, restaurant(s), amenities and other functions with emphasis on structure, vertical circulation, building systems integration, site development, and sustainability.

**Professional Advisors:** Students will have input from **architects and engineers** who are experienced in tall building design as **project advisors**. The design process will require multiple reviews (formal and informal) with expertise from related areas, such as structural engineering and mechanical systems. Special attention will be given to the **integration** of physical systems that has to occur at the very initial stages of the project. Advisors are **Mark Frisch, FAIA, LEED AP BD+C, Technical Design Principal** and **Mark Thompson, AIA, LEED, Associate Principal** of Solomon Cordwell Benz, and **James Pawlikowski SE, Director of Engineering**, of Rex Engineering Group.

**Challenges.** How can mixed-use skyscrapers contribute to vibrant and livable cities? This project challenges designers to consider tall buildings as icons in terms of how they meet the sky and how they function at the street level to create pedestrian scaled podiums, resolve complex circulation patterns for cars, service and people, and coherent streetscapes with adjacent buildings and spaces. Importantly, designers must consider the impact of state-of-art technology and the integration of complex building systems with a multi-functional program of occupancies. These challenges raise compelling issues that are not easy to resolve, but rigorously addressed can produce rewarding results.

**Team Projects.** Integration of complex building systems is required of all buildings but especially in skyscrapers. Consequently students will work in teams simulating the real world needs of collaboration.

**Reviews.** **Project critiques** will occur each class with models and drawings. There will be **two formal reviews**: a mid-term with schematic designs and a final review with design development. **Models and drawings** will be required for the mid-term and final reviews with presentations of the projects to the professional advisor team.

**Two Required Field Trip(s)** to Chicago: 1) Introduction at SCB and research the site and context, and 2) Midterm Review at SCB.

#### Recommended Texts.

1. Leonard R. Bachman, *Integrated Buildings: The Systems Basis of Architecture* (New York: John Wiley & Sons, 2003).
2. Johann Eisele and Ellen Kloft, *High-Rise Manual: Typology and Design, Construction and Technology* (Basel; Boston: Birkhauser-Publishers for Architecture, 2002).
3. Paul J. Armstrong, *Design Guidelines for Tall Buildings*, unpublished PDF, available in Arch 574 folder at Illinois Box (2018).