



ARCH 573 Graduate Studio

Century of Progress Center, Beverly Shores, Indiana

Comprehensive Design

This studio course meets the following NAAB Student Performance Criteria (SPC):

B.6: Comprehensive Design: Ability to produce a comprehensive architectural project that demonstrates each student's capacity to make design decisions across scales while integrating the following SPC:

A.2 Design Thinking Skills

B.2 Accessibility

A.4 Technical Documentation

B.3 Sustainability

A.5 Investigative Skills

B.4 Site Design

A.8 Ordering Systems

B.5 Life Safety

A.9 Historical Traditions and Global Culture

B.8 Environmental Building Systems, HVAC active and passive

B.9 Structural Systems and Enclosure Systems

PROJECT SUMMARY

1. New "Century of Progress Architecture Experience", Exhibition, visitor center and restaurant parking and landscape design as part of Indiana Dunes National Park, Beverly Dunes, Indiana.
2. Organization of visitor pedestrian traffic flow, car and bus parking;

PROGRAM

(Refer to Box folder ARCH 573 Fall 2021. All necessary documents related to the course can be found here. The Box folder is also the hub to reserve and coordinate all studio lectures and instructor consultations via individual Zoom links.)

A: Exhibition and Conference

1. **Flex-use exhibition space** 7,500 sf; storage 1,500 sf.
2. **Conference rooms (3)**, 700 sf; storage 500 sf;
3. **Office** area, 5 offices, storage, auxiliary 1000 sf;
4. **Security**, 400 sf.

B: Restaurant, Kitchen, Storage:

5. **Restaurant** 6,500 sf;
6. **Private Dining (2)**, 500 sf.
7. **Kitchen 500 sf.**, incl. Cold Storage, Vegetable, Glass Storage. Waste recycling.

C: Lobby and Reception 1,000 sf;

D: 1933 World Fair Model Room 1,000 sf.

E: Associates facilities: Employee lockers, showers, toilet (See "Occupancy");

F: Gift Shop and Storage 2,000 sf.

G: Parking, Cars: 50, Bus: 2, ADA: 5

H: HVAC MER, Electrical, Fire Suppression, Transformers, External facilities of building systems.

SEMESTER OBJECTIVES AND OUTCOME

This is a one semester-long, two-student team project.

It is organized into three parts and an introductory exercise:

- **Preface: Case Study "The Architecture of the 1933 Chicago World's Fair "Century of Progress"**
- **Part 1** of the project will consist of the development of a **Master Plan** (Items A-G, see above).
- **Part 2** will be the comprehensive design of **the center**. This phase of the project is considered **Schematic Design (SD)** with elements of **Design Development (DD)**, with consideration of local climate conditions using ClimateConsultant software. A digital topography model is required.
- **Part 3** of the semester project consists of research of the physical behavior of selected building enclosure systems developed in the schematic design phase using:
WUFI® thermal-hygric analysis with the focus on **potential below-grade wall , roof and exterior wall assembly and performance**
(Software available by request from Fraunhofer Institute of Building Physics, or at 314 Computer Lab, Architecture)
THERM Two-Dimensional Building Heat-Transfer Modeling
(Free software by Lawrence Berkeley National Laboratory).
- As one of the first steps of the project you are required to construct a **model of the site topography** which will be used as a base for your project development. USGS Topo Map <https://apps.nationalmap.gov/viewer/>

Note: On-person site visits at the park site are encouraged.

https://en.wikipedia.org/wiki/Century_of_Progress_Architectural_District