

LUC Mundelein Center Historical Building Redevelopment

FIRST PLACE

ASHRAE Excellence in Engineering Award
Chapter Level

Project Highlights and Results

- Design solution to convert the building to classroom and office spaces addressed the following significant challenges:
 - Building holds National Landmark Status
 - Building listed on National Registrar of Historic Places
 - Poor comfort and indoor air quality
 - No central cooling
 - No central system to introduce outside air
 - Poorly controlled steam heating system
 - No horizontal ductwork at all in the building.
 - City of Chicago ventilation standards would have required exhaust risers and ductwork too large to fit within building spaces.
- Completed the 8-year phased redevelopment project while building was occupied.

Project Background

Owner:	Loyola University Chicago (LUC)
Location:	Chicago, IL (Lake Shore Campus)
Team/Team Lead:	Don McLauchlan, Jay Parikh, Adam Sanders
Elara Role:	MEPPFIT Engineering Design
Type:	Phased Historic Building Redevelopment
Construction Cost:	\$66,700,000

Project Overview

Building Type:	Higher Education
Building Attributes:	15 Stories; 210,000 SF; Classrooms, Assembly Room, Offices, Auditorium, Theater, Greenhouse
Initial Construction:	1931
MEPPFIT Systems:	DCV, Heat Recovery, FCUs, Radiant Floors, DDC Displacement Ventilation, Natural Ventilation

Innovation

- Utilized campus' main chilled water plant and hot water plant to provide heating and cooling.
- Natural ventilation along with a dedicated outdoor AHU equipped with enthalpy wheel and heat recovery to exceed code requirements.
- Fan coil units used to heat and cool individual spaces to drastically decrease the size of ventilation ductwork needed due to space constraints.
- Design approach facilitated floor build-outs take place in any order, based on occupational needs.
- Redevelopment included a rooftop glass event space ("The Crystal Palace") with radiant heating/cooling, motorized windows with shading, and a 254-seat theater with 4-foot rake seating and displacement ventilation system.

