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# Kresge Centennial Hall Green Building Guide

Welcome to the newly renovated Kresge Centennial Hall. Originally constructed in 1954, the building has been completely renovated to create a modern, comfortable, healthy, and green work and study environment for students, faculty and staff. This guide provides an overview of the sustainable features of the building and offers tips on how occupants can help minimize the environmental impact of this building and the campus as a whole.

As part of Northwestern's commitment to sustainable practices, Kresge was designed to meet high standards for energy efficiency, indoor air quality, use of sustainable materials, and other green building practices. Seven major Northwestern projects have previously received Gold or Silver LEED certification from the U.S. Green Building Council. This fall, Kresge Centennial Hall aims to exceed this by becoming the first LEED Platinum certified building on campus.

### **Green Building Highlights**

- Radiant ceiling panels use chilled water from the Central Utility Plant to reduce the amount of energy needed for air conditioning.
- Low-flow fixtures reduce water consumption by 35%.
- A 254-solar panel array on the roof is capable of generating 81 kilowatts of electricity, enough to power 5 percent of the building's electric fixtures.
- Low-emitting paints, flooring, and sealants minimize emissions of pollutants such as volatile organic compounds (VOCs), resulting in better indoor air quality.



### What is LEED Certification?

Leadership in Energy and Environmental Design (LEED) certification is a U.S. Green Building Council program that recognizes building designs that are resource efficient and cost effective while providing a healthier and greener lifestyle for building occupants. As the highest level of certification, achieving LEED Platinum will be an important step in achieving Northwestern's sustainability goals.



### **Green Building Features**

LEED certification is awarded based on a 110-point scale. For Platinum certification, a minimum of 80 points is required. The Kresge Centennial Hall project team anticipates that points will be awarded in the following categories, adding up to a total of 85 points.

### Sustainable sites

21 out of 26 possible points

The newly renovated Kresge building includes a white roof design, which will lower cooling costs for the building and combat the effects of the urban heat island.

Those who work and study in the building can easily access public transportation and Northwestern Shuttle stops, and the site offers eighty bike parking spaces. This feature encourages the use of alternative transportation to reduce carbon emissions from automobiles.

Showers are provided within the building, making bicycling a feasible commuting option.

### Water efficiency

5 out of 10 possible points

Kresge Centennial Hall was outfitted with lowflow plumbing fixtures, which conserve water. New urinals use an eighth of a gallon per flush and standard toilets use 1.28 gallons per flush, resulting in a 35 percent reduction in water consumption in the building. The landscaping design also reduces water use thanks to a highly efficient irrigation system and the use of native plants that require minimal watering.

### **Energy and atmosphere**

29 out of 35 possible points

The upgraded heating, ventilation, and air conditioning (HVAC) systems are designed to be highly energy efficiency. Radiant ceiling panels, or chilled sails, in all offices and classrooms use chilled water from the Central Utility Plant to reduce the amount of energy needed for air conditioning.

Classrooms were retrofitted with carbon dioxide sensors, which adjust the circulation of outside air based on room occupancy. This system cut costs associated with ventilating empty or nearly vacant rooms.





Low-flow plumbing fixtures conserve water.



Radiant ceiling panels chill rooms efficiently.

The building envelope (the outer shell of the building) was also upgraded for energy efficiency. The exterior wall insulation and new windows both have the highest available grade for insulating value. The total annual energy consumption is 34.2 percent lower than the baseline set by ASHRAE standards.

Upgrades to the electrical system include daylight sensors that automatically dim lights during the brighter times of the day. In addition, highly efficient and extremely durable LED lights were used throughout the building, and occupancy sensors are in place to shut off lights in empty rooms.

Renewable energy was also integrated into the building. A 254-solar panel array on the roof is capable of generating 81 kilowatts of electricity, enough to power 5 percent of the building's electric fixtures.

### **Materials and resources**

8 out of 14 possible points

To reduce the environmental impact of products used in this project, 41 percent of the total materials purchased were produced within 500 miles of the site. Also, 93 percent of all waste generated during construction was diverted from landfills through recycling or reuse.

### Indoor environmental quality

12 out of 15 possible points

The Kresge Centennial Hall project team used 100 percent low-emitting materials such as paints, flooring, composite wood adhesives, and sealants. This minimizes emissions of pollutants such as volatile organic compounds (VOCs), resulting in better indoor air quality.

### **Other credits**

10 points

This project is expected to receive all possible points in the innovation and design process category and regional priority category, contributing a total of 10 points to the final LEED certification score.





### What You Can Do

Everyone who works and studies in Kresge Centennial Hall can play a part in ensuring that the building operates as sustainably as possible. Here are some of the things you can do to reduce your environmental footprint in this building and overall.

### **Travel sustainably**

Those who choose to bike or walk to campus have access to four showers located in the building. Extensive bike parking is available outside, and two Divvy bike sharing stations are located nearby. Public transportation and Northwestern shuttles also offer convenient and environmentally friendly options for getting to the building.

#### **Reduce waste**

Instead of purchasing bottled water, bring your reusable bottle and fill up with filtered water at hydration stations within the building.

### Recycle

Use the recycling bins located throughout the building to recycle paper, cardboard, glass, cans, and plastic containers. For information about recycling other materials such as batteries, copier cartridges, and electronics, go to **www.northwestern.edu/recycle.** 

### Save energy

Turn off computers, televisions, and other electronics when not in use. Report any temperature issues to Facilities Management so that maintenance crews can ensure that equipment is working efficiently.

### Get Involved in the Green Office program.

Northwestern's Office of Sustainability offers a Green Office Certification program that helps faculty and staff adopt healthy and sustainable practices in the workplace. Get involved at **www.northwestern.edu/green-office.** 

### **For More Information**

#### Report maintenance issues to Facilities Management:

www.northwestern.edu/fm/services/service-requests 847.491.5201 facilities-management@northwestern.edu

#### Get involved in sustainability at Northwestern:

www.northwestern.edu/sustainability 847.467.4286 sustainability@northwestern.edu facebook.com/sustainNU twitter.com/sustainNU

#### Learn more about the Kresge Centennial Hall renovation:

www.northwestern.edu/fm/projects/our\_projects/evanston/kresge.html www.northwestern.edu/fm/projects/our\_projects/evanston/the-kresge-climb.html

**Learn about LEED certification:** www.usgbc.org/leed