

**Cost**

Construction: \$6,900,000  
MEP Const: \$2,360,000

**Owner**

Kirkwood Community College  
Cedar Rapids, Iowa  
Tom Kaldenberg  
Director of Facilities  
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**Team**

Principal in Charge:  
Dwight Schumm, PE, LEED AP BD+C

Project Manager:  
Marc A. Foster, PE, LC

Mechanical:  
Kelly Harrer, PE, LEED AP

Electrical:  
Marc A. Foster, PE, LC

Architect:  
OPN Architects  
Cedar Rapids, Iowa  
Steve Knierim, AIA



This 40,200 sf facility was built in 2007 on Kirkwood's main campus for the Agricultural Sciences Program. The building facilitates the study landscape maintenance, golf course and athletic turfgrass management, nursery management, parks and natural resources, and floral design. An 8,000 sf greenhouse is divided into 6 environments and is the cornerstone to this interactive facility. Other educational amenities include a large lecture hall, 30-station computer lab, floral design lab, and outdoor display gardens

HVAC for this building has several sources. The main classroom building is conditioned from water to air heat pumps connected to a vertical ground heat exchanger (GHE). The greenhouse is tempered with evaporative coolers, radiant floor, perimeter radiant finned tube, radiant gutter heaters, bench heaters, and hydronic unit heaters. The Radiant floor and perimeter finned tube are heated using heat pumps, and the remainder comes from high-efficiency gas boilers. Direct digital controls monitor ambient and soil temperatures to control the various heating and cooling systems.



The irrigation for the greenhouse comes from filtered roof drains and an on-site well. The DDC system monitors space humidity and soil humidity for irrigation schedules.

Lighting design and controls are tuned to their use. In the greenhouse, grow lights were installed on timers and standard lighting on occupancy sensors and switches. In the classrooms direct-indirect, dimming, fluorescent fixtures and teaching wall lighting are utilized with occupancy sensors and daylight harvesting in selected areas.