

Case study

University of Central Oklahoma

Edmond, Oklahoma



Delivering a quality learning and living environment

The University of Central Oklahoma (UCO) was originally named for its unique role of serving the people of central Oklahoma. The school's goal is to become the university of choice in the state, which requires not only strong academic programs but an atmosphere that is friendly and caring in which students thrive. Johnson Controls, Inc. is helping the university reach that goal by creating a comfortable, appealing campus and overcoming financial constraints. As a result, UCO is delivering a quality learning environment while saving more than \$850,000 annually.

Founded in 1890, UCO is Oklahoma's oldest institution of higher learning and the third largest in the state. Approximately 425 full-time and 255 adjunct faculty teach more than 15,900 students. The campus is comprised of 45 buildings totaling more than 1.6 million square feet.

The relationship between UCO and Johnson Controls began in 1993 with the installation and service of a Metasys® building management system. Challenged with aging facilities, student and faculty complaints, serious deferred maintenance issues and lack of funds, UCO has since partnered with Johnson Controls to resolve these issues and meet the needs of its students and staff.

"In 2001, the year I joined UCO, we had two major air conditioning systems go down resulting in no cooling capacity for several dorm, classroom and administration buildings. In a situation like this, students, parents and faculty don't complain to the university, they call the media. We had a serious image problem," explains Steve Kreidler, executive vice president for the university. The university had purchased two 900 ton chillers to repair the air conditioning but did not have the financial means to get them installed.





Students relax on campus outside the Nigh University Center.

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ROBERT NALL
ASSISTANT VICE PRESIDENT
FOR FACILITIES
UNIVERSITY OF CENTRAL OKLAHOMA

"We had a product delivery problem; we were not delivering a quality working and learning environment for students and faculty. We needed to address all of these issues on a fixed budget. Any remaining capital funds for that year were aimed at other projects and we were not willing to sacrifice educational programs, notes Kreidler. "In addition, we had mechanical systems across campus that were barely functioning or not working at all," adds David Stapleton, university architect and director of architectural and engineering services for UCO.

An immediate solution

Johnson Controls worked closely with UCO and the State of Oklahoma to establish performance contracting as a means to address the needed facilities and equipment upgrades. While these efforts were successful, Johnson Controls was not the only bidder on the contract.

"Johnson Controls came out on top because they demonstrated their approach, proved the savings and took immediate action," states Dr. Don Powers, then director of quality assurance and environmental health and safety, who negotiated the contract. "With Johnson Controls leadership, we were able to get the two chillers installed, delivering on-time air conditioning. This was an unbelievable engineering, financing and customer service commitment," exclaims Kreidler.

The installation was completed in less than 100 days, a process that typically takes 180 days.

To prove possible savings, Johnson Controls lamped a classroom and asked the university to test the effects and observe the improvement. "The room was lit better and consumed less energy. Johnson Controls also found errors in our utility bills, which resulted in rebates of more than \$132,000. This would fund the initial audit," notes Dr. Powers. New rate structures were also negotiated to take advantage of the thermal storage plant and peak-shaving during summer months, which will save more than \$55,000 each year.

UCO entered a 20-year performance contract with Johnson Controls. The contract included campus-wide lighting retrofits, water conservation measures, central plant upgrades, a heating plant upgrade and building renovation, thermal storage upgrades, boiler and chiller replacements, and optimization of the Metasys system. Dehumidification and air handling problems were addressed and the central plant loop expanded to incorporate additional buildings. The contract guarantees savings of \$650,000 annually.

"The projects, timelines and scope of work under the contract stayed true, with minimal and acceptable changes," states Stapleton. "We were provided with better service, timelines, equipment, understanding of needs and overall results than we could have anticipated."

Ongoing service ensures comfort of students and faculty

Beyond delivering a quality learning environment, the university needed to address their multi-million dollar deferred maintenance backlog. "In order to meet our students' expectations of the campus, we needed top notch expertise to effectively maintain our equipment and operations," explains Robert Nall, assistant vice president for facilities at UCO. The university then entered a planned service agreement with Johnson Controls for HVAC services campus-wide.

Under the agreement, a team of six engineers and three on site technicians focus on improving operations at UCO. The team implements predictive and preventive maintenance strategies to ensure the savings guaranteed under the performance contract. As a result, operational costs will be reduced by \$200,000 annually under the service agreement.

"The university as a whole is pleased with the outcome because we receive the same or better level of service for less cost than keeping it in-house.

And, we can do additional projects, that are outside of the contract, with the savings," states Nall.

The Johnson Controls lead technician works closely with university staff. "He works well with the rest of my supervisors, knows the campus very well, and served as the corporate memory during the transition of our employees. The team didn't miss a beat," says Nall. "Early indications are that students and staff are more than happy with the transition. It was seamless and problems are negligible now," adds Kreidler.

"As a result of this partnership, we continue to improve customer satisfaction campus wide," concludes Nall. "The people in the buildings on campus are happier because the quality and reliability of their environment has improved. They can feel it and see it, and it makes a difference," exclaims Dr. Powers.

"In the face of enormous financial constraints, we've been able to address critical needs, and positively impact living and learning environments, without affecting other academic programs," concludes Kreidler.



University staff members Robert Nall, Steven Kreidler, Dr. Don Powers and David Stapleton stand inside the upgraded central plant.

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STEVE KREIDLER
EXECUTIVE VICE PRESIDENT
UNIVERSITY OF CENTRAL OKLAHOMA

UCO "Green Campus" awards

- EPA Green Power Partner award (for 100% wind power purchasing)
- National Association of Fleet Administrators (NAFA) Quality Idea Award for bio-diesel project
- SACUBO 2005 Grand Finalist for Performance Contracting best practice award
- NACUBO 2007 Innovation Award for sustainability program
- Keep Oklahoma Beautiful Vanguard Award 2007

