



## CASE STUDY San Diego State University

**CLIENT**  
San Diego State University,  
San Diego, CA

**SCOPE**  
Mixed Use



## San Diego State University Takes First Step Toward LED Lighting



Architect Jeffrey Herr turned to Lithonia Lighting because of its advanced knowledge of LED lighting and its reputation for delivering on its promise.

“Based on Lithonia Lighting’s ability to understand our issues and quickly address all of them, we specified 100 percent Lithonia Lighting products,” said Herr.

San Diego State University is the oldest and largest higher education institution in the San Diego region. Founded in 1897, the university has grown to become a nationally ranked research university.

But growth has its price; in this case, the need for another lecture hall to accommodate the growing student population. The University decided to convert a 5,800-square-foot gymnasium into a 215-person lecture hall. The project was initiated in early 2010 with a necessary completion date of July 1, 2010.

“With such a short timeline, we raced into action,” said architect Jeffrey Herr, physical plant department, San Diego State University. “One of our top priorities was lighting, so I began conducting research with the goal of lighting the entire lecture hall with leading LED technology, including downlighting and ambient lighting.”

Herr had no apprehension leading San Diego State University into its first major LED lighting project. “LEDs are being used effectively in other industries and markets, and I was confident in the technology,” said Herr.

San Diego State University installed more than 80 Lithonia Lighting RTLEDs for the general ambient lighting and 30 DOM18 LEDs for downlighting. To support the LED lighting the University specified Acuity Brands Lighting controls as part of the system.

“The difference or variation required in light levels during classes and presentations is always a concern for our instructional technology staff,” said Herr.

## CASE STUDY

### San Diego State University

"So dimmer controls were essential. However, we were a little uncertain if the lighting controls were going to work effectively with the LED lighting. After some assistance from Lithonia Lighting and Acuity Brands Lighting, we were able to ensure the controls performed effectively."

#### Flipping the Switch

Though his expectations were high for the LED lighting, Herr admits he was impressed the first time the lecture hall was lit with the new lighting system. "We honestly didn't know what to expect. The first day we turned on the lights 100 percent, they were so bright it was astounding. We were all in awe."

The University will begin calculating the energy, maintenance and sustainability benefits of the LEDs immediately, though meaningful data will not be available for several months. Regardless, Herr sees LED lighting as a very long-term solution to energy, cost and sustainability goals set by the University. "We have everything to gain and every confidence that the LED lighting will deliver as promised... and that Lithonia will be there to support us."

#### LEDs Smart Choice for Learning Space Design

At San Diego State University Dr. James Frazee, director of Instructional Technology Services, is focused on supporting faculty in the design, selection, production and distribution of instructional media. He is directly involved in construction projects on campus to ensure the spaces help facilitate learning.

When the University decided to construct a new lecture hall, Dr. Frazee became an early proponent of installing LED lighting for two reasons.

"First, there was no natural light in the lecture hall," said Dr. Frazee. "We needed to recreate the feeling of natural light to help support problem based learning when students are working in small groups."

Secondly, it was important the lighting system was user-friendly for faculty.

Lithonia Lighting RTLEDs were able to solve Dr. Frazee's key challenges. "The LEDs were amazing and helped bring warmth to the space that had no natural light. The Acuity Brands controls simplified the complicated light systems that previously had up to 12 switches in some classrooms. The new lighting system only requires four switches. "And if the lights are on five days a week for eight hours a day, they will last 15 years, which frees up the maintenance staff to focus on more important jobs."

Dr. Frazee's interest in LEDs was only heightened by the recent installation. He plans to collaborate with a construction engineering professor to conduct research this fall on what extent lighting shapes teaching and learning practices and student learning outcomes.

The new lecture hall featuring the LED lighting and a similar lecture hall with traditional lighting will be used for the study. The results, which will include instructor interviews, student focus groups and classroom observations, are expected to be available in early 2011.