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LCC's new Downtown Campus seen as catalyst for development



A landmark project for education, business and the Eugene community that was four years in the making is now complete. The **Lane Community College Downtown Campus** features approximately 170,000 square feet of enclosed building space, including an academic building that has earned **Leadership in Energy and Environmental Design** Platinum certification and a student housing facility that is certified LEED Gold.

While the campus achieves the primary mission of housing and educating LCC students with minimal impact on the natural environment, it is more than another efficient dorm and set of classrooms. The LCC Downtown Campus provides students, contractors, designers, professionals and educators access to a heating, ventilation and air conditioning laboratory, along with a lighting laboratory with state-of-the-art demonstration equipment to observe in a live setting, helping to fuel sustainable design in the future.

"It's a beautiful building—a real rock star of a facility," said Roger Ebbage, director of LCC's Northwest Water & Energy Education Institute. "When we get it to perform as designed, it will be the most energy efficient academic building in the nation."

A project designed to teach

The project represents the interest and commitment of its owner, Lane Community College, to energy efficiency and more generally to environmentally responsible design. "It was designed as a teaching tool," Ebbage said. In addition to the aforementioned HVAC and lighting laboratories, the campus is accommodating growing community interest in energy efficiency and water conservation, and is now offering single energy management- and water conservation-related courses for non-LCC students. In the past, students were required to register for the entire program and could not take individual classes.

The campus serves as a demonstration laboratory of energy and water efficient equipment for LCC's energy management and water conservation students. For example, the academic building includes rooftop access, allowing students to view the HVAC features and solar water heating and photovoltaic arrays. EWEB Greenpower customers helped make the solar arrays possible when LCC won a \$100,000 **Greenpower grant** in 2011 for this part of the larger campus project.

A showplace of efficient use

Additional measures that will help contribute to greater efficient energy use and ensure the facility is on track to meet or exceed its projected energy performance include:

- Triple-pane glazed windows in the student housing building, resulting in superior insulation
- Air source heat pumps in the student housing building, allowing the units to deliver up to three times more heat energy than the electrical energy they consume
- Geo-thermal wells, allowing water to be heated underground and piped to heat exchangers to heat the academic building
- An automated building control system, containing low voltage electronic valves, pumps and sensors that control the air temperature, ventilation and lighting in rooms via preset programs
- A solar water heating array on the academic building, consisting of a series of water pipes enclosed in vacuum tubes. The water in the tubes is heated by the sun and is then piped to the student housing and academic buildings for use as potable hot water
- A high efficiency lighting system design with dimming and occupancy sensor controls beyond state code requirements
- A rainwater harvesting system that provides flush water for toilets and urinals in the academic building
- The use of ENERGY STAR® refrigerators in the institutional kitchen and all apartments
- Exterior shading and automatic interior shading on skylights, reducing cooling load

The estimated annual energy savings is 160,000 kilowatt-hours for the student housing building and 8,750 for the academic building, compared with a building just meeting the applicable codes and regulations. This reduction in energy use will cut the college's operating expenses by about \$13,500 each year.

"The college has a national reputation for sustainability," said Ebbage. "So it was a natural fit for the downtown campus to be designed and developed in this way."

Want more information?

Contact LCC to learn more about the facility and course offerings or to tour the downtown campus. To learn more about commercial rebates for energy efficiency improvements, visit **EWEB's website**.

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