News Release

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University of West Florida's New School of Science and Engineering Building Adheres to PKAL Principles

Interdisciplinary collaboration, science on display, sustainable design and flexible laboratories are design drivers

PENSACOLA, Fla., April 26, 2010 – Some 1,000 undergraduates began taking science, technology, engineering and mathematics (STEM) classes this Spring semester at the University of West Florida's new School of Science and Engineering. The $30.6 million state-funded building embodies the principles of Project Kaleidoscope (PKAL), an advocate in the United States for building and sustaining strong undergraduate STEM programs by transforming the learning environment.

Designed by architecture firm Lord, Aeck & Sargent, the four-story, 94,719-square-foot building is an energy- and water-efficient structure that is targeting LEED silver certification from the U.S. Green Building Council.

"We chose Lord, Aeck & Sargent as our architect because of the firm's experience in designing buildings with a PKAL mindset," said Leo ter Haar, director of the School of Science and Engineering.

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That mindset, ter Haar noted, comprises an approach that provides multiple opportunities for STEM faculty and students to collaborate across disciplines. It also places science on display and features sustainable design strategies as well as flexible laboratory and teaching spaces that can easily adapt to inevitable changes in educational programs. These principles became design drivers for the building.

"What I like best about the building is the way it's designed more around people and what they do than it is around the technologies," ter Haar said. "We're proud of the way the spaces make it easier for people to work together, since historically our STEM disciplines were in individual buildings where it just wasn't easy for people to interact across disciplines. The new building makes it really possible for faculty to share their turf and their toys, and it helps us put that PKAL vision and theory of collaboration into practice."

Glass atrium joins wings, features science on display

The building is configured in two masonry wings – one drum-shaped and the other bar-shaped – joined by a four-story atrium of glass supported by steel trusses. The atrium is entered from the north on grade, where concrete patios used for outdoor gatherings connect the building to a campus green space to the north. Because the building is sited on a hill, the atrium is entered from the south via a bridge leading to the second floor. The bridge spans an informal, shaded outdoor teaching space wired for AV use.

Addressing the charge to put science on display, the atrium's floating switchback staircase offers views into various classrooms and labs on all four floors. These include, among others, the math tutoring room, the robotics lab, a multi-platform computer lab, a problem-based learning lab and a workshop physics teaching lab.

Other examples of placing science on display include a glass-enclosed server room for computer science students to see what they're studying in action, and a floor pattern that enables solar-charged robots created by engineering students to take visitors on building tours.

The atrium, which provides plenty of comfortable seating and a café to foster student interaction, also helps fulfill a charge for creating a building with simple, direct wayfinding.

"Everything is connected by the atrium, and that makes it easy to find your way through the building," said Amy Leathers, the Lord, Aeck & Sargent architect who designed the School of Science and Engineering. "The SSE Building serves as both a campus destination and a passage from the core of campus to a new green space whose edge is defined by its south and west faces," she added.

Daylighting and other sustainable design strategies

Among the building's sustainable design strategies is the use of daylighting, promoted by PKAL because it enhances the work environment and lessens the total electrical load. Ter Haar described the building as "open, airy and with natural light reaching into every corner imaginable."

The use of so much glass combined with the siting of the building also allows for exciting views of the Escambia Bay estuary to the north and of UWF's 1,600-acre campus, which is a designated nature preserve. In fact, even the building's laser lab has windows with blackout curtains to allow for future programs, and the only occupied space without windows – by design – is a 90-seat auditorium.

Other sustainable design strategies and products employed are:

- Photovoltaic panels providing a total of 3 kilowatts of power mounted on horizontal sunshades to collect energy from the sun while shading the interior spaces. The power from the PV panels is 100 percent accessible by students for projects
- User-controlled sunshades and tinted glass to control glare

- Occupancy sensors, which automatically turn on lights when a room is occupied and off when a room is vacant
- Recycled content construction materials
- Diversion of construction waste from landfills
- Filtered stormwater detained in an on-site detention pond
- Dual-flush toilets and low-flow lavatory fixtures
- Low-VOC (volatile organic compound) finishes

The building program

The "drum" wing houses the auditorium, three conference rooms, most of the building's nine classrooms and its holodeck, a 963-square-foot, 17-foot-high, five-sided virtual reality classroom that fully immerses computer science, computer engineering, electrical engineering, software engineering, information technology and physics students into their coursework. The holodeck was designed, donated and installed by NavTech, a wholly owned subsidiary of Enterprise, Alabama-based Navigator Development Group Inc.

The "bar" wing houses 52 offices for STEM faculty and graduate students as well as two specialty computer classrooms and 14 computer science, engineering and physics laboratories, all featuring a flexible, plug and play infrastructure with furniture systems that can be reconfigured as the nature of teaching and research changes.

The Project Team

The UWF School of Science and Engineering project team included:

- Lord, Aeck & Sargent (Atlanta office), architect of record
- Caldwell Associates (Pensacola, Fla.), associate architect
- MEP Engineering Solutions (Pensacola, Fla.), mechanical and plumbing engineers
- Schmidt Dell Associates (Pensacola, Fla.), electrical engineers
- Kenneth Horne & Associates (Pensacola, Fla.), civil engineers
- Joe DeReuil Associates (Pensacola, Fla.), structural engineers
- Alan D. Holt, ASLA (Panama City, Fla.), landscape architect
- Waveguide Consulting (Atlanta), audio-visual
- Greenhut Construction Co. (Pensacola, Fla.), construction managers
- Working Buildings (Atlanta), commissioning agent

About Lord, Aeck & Sargent
Lord, Aeck & Sargent is an award-winning architectural firm serving clients in scientific, academic, historic preservation, arts and cultural, and multi-family housing and mixed-use markets. The firm's core values are responsive design, technological expertise and exceptional service. In 2003, The Construction Specifications Institute awarded Lord, Aeck & Sargent its Environmental Sensitivity Award for showing exceptional devotion to the use of sustainable and environmentally friendly materials, and for striving to create functional, sensitive and healthy buildings for clients. In 2007, Lord, Aeck & Sargent was one of the first architecture firms to adopt The 2030 Challenge, an initiative whose ultimate goal is the design of carbon-neutral buildings, or buildings that use no fossil-fuel greenhouse gas-emitting energy to operate, by the year 2030. Lord, Aeck & Sargent has offices in Ann Arbor, Michigan; Atlanta, Georgia; and Chapel Hill, North Carolina. For more information, visit the firm at www.lordaecksargent.com.

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