

News and Information Services

USI to cut ribbon on \$3.3 million Applied Engineering Center

Technology puts university on international map

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The University of Southern Indiana will cut the ribbon on its new state-of-the-art \$3.3 million Applied Engineering Center at 2 p.m., Friday, September 13. Students began using the recently completed facility at the start of the fall semester.

The Applied Engineering Center, which features equipment found nowhere else in the country, is a learning factory for students in USI's Engineering, Advanced Manufacturing and Industrial Supervision programs, as well as a valuable tool to help support the regional business community.

The 16,226-square foot facility, designed with input from USI's Industrial Advisory Board, representing a cross section of major manufacturers in the area, incorporates key features such as a 9,000-square foot open high bay with a 10-ton bridge crane and utility trenches that allow increased flexibility.

ARC Construction of Evansville served as general contractor for the project while Three I Design of Evansville was the architect and engineer.

"Through our Division of Outreach and Engagement, the Applied Engineering Center can be a resource and a catalyst for economic and workforce development in southern Indiana and the Tri-state region," said Daniela Vidal, director of USI's Center for Applied Research and Economic Development and former instructor and coordinator of advanced manufacturing and industrial supervision.

With more than \$3 million in high-tech manufacturing and engineering equipment, the center will have several unique features that set it apart from other facilities in the United States. Equipment totaling \$2.6 million was funded through three federal grants, while an additional \$400,000 was funded through University matching dollars and additional equipment purchases.

One of the showpieces of the Center is the MPS Transfer Factory Manufacturing System built by the German company Festo. Located in the center's automation lab, it features a complete assembly line, which can be reconfigured in different layouts to meet a variety of manufacturing needs. "This is the only equipment of its kind outside of Germany," said Vidal. "The other is located at Osnabruck Technical College, located in Evansville's sister city in Germany." Vidal, who learned about the concept during a visit to Germany in 2010, worked with Festo to have the equipment custom built for the USI facility.

Other areas of the center include material processing and fabrication, machining, plastics technology, circuit fabrication lab, automation lab, and a precision measuring lab/CAD lab. Key features include the latest technology in additive manufacturing, Wire EDM, a 5-Axis Waterjet, a welding robot, and a coordinate measuring machine.

The Applied Engineering Center will be used to teach students everything from the basics of manufacturing and equipment integration to more advanced industrial engineering concepts and production control "That's what makes this facility so special," said Vidal. "The capabilities, as far as I know, are unique to the United States."

"The new facility offers opportunity to partner with local industries that want to experiment with designing different production cells," said Vidal. "The goal is to use local industry to present problems that students can solve, but also use the building and its capabilities to offer training and certificate programs for employees of local companies."

USI has already hosted visits from the Naval Surface Warfare Center, Crane (NSWC Crane), Berry Plastics, Kimball International, and Flanders to look at ways to collaborate. In addition, the University has hosted a number of site selectors and economic developers at the facility.

Matching curriculum with capabilities

In 2012, a comprehensive curriculum review and update was conducted for Advanced Manufacturing and Industrial Supervision. This first update was done with input from USI's Industrial Advisory Board and with the purpose of eliminating redundancies in the program and updating course materials to best match industry needs. With the added capabilities now available through the Applied Engineering Center, it will be possible to significantly enhance the curriculum and open the door to new offerings in the future.

"We placed more emphasis on automated equipment, lean manufacturing business management strategy, and other modern manufacturing philosophies," said Vidal. "The program gives students an understanding of the challenges they'll face, as well as contact with industrial partners that can later translate into employment."

According to USI's Career Services and Internships, more than 70 percent of 2012 engineering graduates polled accepted employment in the Tri-state area with average salaries of nearly \$52,000.

