

{ EDUCATION }

Mercer College Launches New Advanced Manufacturing Program

Ideas, not muscles, now power manufacturing activity

As part of Mercer County Community College's commitment to prepare students for the evolving workplace, the West Windsor-based educational institution recently took delivery of state-of-the-art equipment that will help students train for the high-tech world of modern manufacturing.

The new equipment includes vertical and horizontal mills; Computer Numerically Controlled (CNC) mills, lathes, drill presses, vertical and horizontal band saws; a surface grinder, and a power press. CNC machines in particular have major benefits, notes instructor Rich Vanderbilt. "They can repeatedly create complex parts accurately, no matter how large the quantity."

The initiative leverages MCCC's Advanced Manufacturing Laboratory, which will be ready to accept students for the fall semester. The \$1.2 million, 3,000-square-foot laboratory is the first major construction project on the West Windsor Campus since the Welcome Center was built in 2009. Funding for the project was made possible through the Building Our Future Bond Act, which was approved by New Jersey voters in 2012.

As part of the college's Associate in Applied Science degree program, students have the opportunity to earn a degree in Advanced Manufacturing Technology. A shorter-term certificate of proficiency is also offered, with credits that can be applied to the associate degree.

"This training will prepare students for the modern manufacturing environment," according to Dom DeFino, MCCC Professor of Electronics Engineering



MCCC instructors Harry Bittner and Rich Vanderbilt set up the Advanced Manufacturing Lab, which will accept students this fall

Technology. He calls this kind of training "a necessity as American manufacturers become increasingly reliant on the use of high-tech equipment that involves multiple, integrated systems."

The college notes that a United States Department of Labor survey of U.S. manufacturing employers found that 80 percent of respondents said they had a serious problem finding qualified candidates with the technical skills that modern manufacturing requires. "Manufacturing salaries and benefits average about \$65,000 a year, according to the DOL," notes an MCCC announcement.

Last year, MCCC set the stage for the program by breaking ground on the Advanced Manufacturing Laboratory. The goal is to integrate "cutting-edge technology with hands-on experience in a field that has grown exponentially in recent years," according to an

announcement by the college.

"When it comes to learning, nothing can replace the benefits students receive from a real-world experience," said MCCC President Dr. Jianping Wang at the groundbreaking. "Experiential learning is critical to successful employment of our graduates. Technology changes the way we teach and the way our students learn. This new facility will enable us to connect the two for our students."

Noting that MCCC has the only facility of its kind in Mercer County – the next closest is in Camden – DeFino says "it is crucial for

manufacturing companies to recruit and employ individuals who know how to operate, troubleshoot, and maintain this equipment."

Students enrolled in the program will develop skills for apprentice and entry-level positions in shops and manufacturing facilities in the local area and across the country, he adds.

Detailing the program, DeFino explains that students will first learn about fundamentals. "We will teach students to use the manual machines so they understand the machines' capabilities and have the skills to run them," he reports. "Then they will learn how to use CNC machines, which require students to write the computer programs that allow the machines to do the job," he says.

Industrial Measurements will be the first course offered in the program. Admission requires a high school diploma, or its equivalent, and one year of algebra or applied mathematics. ❄