The Board of Governors approved the Millersville University (MU) bachelor of science in automation and intelligent robotics engineering technology (AIRET) degree program last month. The program will be implemented in the spring of 2016. Previously, MU offered a concentration in robotics and control systems technology, as part of the applied engineering and technology management bachelor’s degree.

“This new major will integrate meaningful learning experiences in applied engineering, science and computing to provide a practical education that will prepare career-ready graduates for success in a range of high-demand STEM fields,” said Dr. Jeffrey Adams, associate provost. “Graduates will be prepared for opportunities that exist locally, regionally, nationally and internationally. And, because the program is grounded in Millersville University’s liberal arts tradition, graduates will have the broadly developed critical thinking, writing and oral communication skills that will support their advancement throughout their entire careers.”

The study of robotics involves the design, modeling, optimization, documentation and automation of advanced control problems. The curriculum of the new robotics program includes in-depth technical content of electronics, control systems, mechanical systems and computer programming and applications to prepare professionals equipped to design, improve, maintain and manage robotic and automated process and control systems.

Combining coursework from the applied engineering, safety and technology, and computer science departments, the robotics engineering technology program is designed to produce graduates with the ability to work with multiple types of technology to create and implement projects that have advanced programming needs.

“This new automation and intelligent robotics engineering technology degree will help companies in the region and beyond remain competitive in today’s global market,” said John Wright, AIRET program coordinator.

One upcoming regional opportunity is with the Foxconn Technology Group, manufacturers of Apple Inc.’s iPhone. It is investing $30 million to build an electronic manufacturing site in Dauphin County that will create 500 jobs over the next two years, many in the fields of robotics and advanced manufacturing.

“While the industrial robot has been around for quite some time, the market penetration for robotic solutions in industry has yet to be fully realized. Modern industrial robots are applicable to an enormous amount of industrial applications,” said Wright. “According to the Robot Industry Association (RIA), only 10-15 percent of applications that could be robotized are actually automated with robots. The issue is that we do not produce enough engineering talent with the right skills to be able to evaluate, justify, program and integrate this technology in order to improve an industrial process. Despite this shortage of talent, RIA reports record sales of robots on a regular basis. With the right educational programs in place, we can impact our region and local economy.”

MU has a student chapter of the Association of Technology, Management and Applied Engineering (ATMAE), also known as the Robotics Team. The Robotics Team was formed in 2001 and has earned 31 awards in national or international robotics competitions.

-The Exchange, Millersville University