

GROWTH

PROSPERITY

SUCCESS

Advanced Automation Robotics

www.GOTopeka.com

Greater 
Topeka
CHAMBER & GO TOPEKA

TOPEKA, KANSAS USA

GO TOPEKA PILOTS THE NATION'S FIRST HIGH SCHOOL ADVANCED AUTOMATION ROBOTICS PROGRAM FOR YASKAWA MOTOMAN



THE PROGRAM

GO Topeka's Entrepreneurial and Minority Business Development (EMBD) program, Topeka Public Schools Unified School District No. 501 and the global firm

Yaskawa Motoman Robotics have partnered to offer Topeka/Shawnee County the nation's first secondary education course in industrial robotics. Upon completion of this course, students earn a basic industry-recognized certification to operate and program industrial robots.



Additional robotics training soon will be offered in a post-secondary format by Washburn Institute of Technology. The more-advanced post-secondary training will be available, not only to the students who have passed the basic course, but to all Topeka/Shawnee County citizens pursuing automation robotic skills.

Equipping the robotics classroom for Highland Park High School involved a total capital investment of \$250,000 invested by GO Topeka's EMBD Program and USD 501 Topeka Public Schools.

The course, currently taught at Highland Park High School, is available district-wide to students of junior or senior standing who have successfully completed geometry and basic science courses.

NOVEMBER 2011

WHY ROBOTICS?

At a time when businesses are cautious about hiring and capital investment, sales of industrial robots have soared. According to Robotic Industries Association's most recent statistics, 8,879 robots valued at \$557.6 million were ordered by North American companies in the first six months of 2011. The second quarter was particularly strong, with gains of 50% in units and 55% in dollars over the same period in 2010 (Robotic Industries Association, 2011). Although known during the past 30 years for their presence in the automotive industry, robots are increasingly used in food and beverage, pharmaceutical, health care and renewable energy industries.

Indeed, dozens of firms throughout Kansas are very much a part of this emerging trend. In Topeka/Shawnee County, robots are being used at Hallmark Cards to pack cards, Frito-Lay to stack pallets and at St. Francis Health Center to perform robotic assisted surgery in cardiology, gynecology and urology. As Topeka/Shawnee County continues to attract new companies and grow existing companies in the areas of health care, clean energy, food processing and distribution, the demand for a workforce with robotics skills also will increase.

The Mars Chocolate North America plant, which began construction in August 2011, will begin production in 2013 with the help of robots. The 350,000 square foot Topeka Mars plant, anticipated to create 200 new jobs during its first phase, will be the company's first new manufacturing facility built in the United States in more than 35 years (Mars, 2011). As evidenced by the Mars decision, robots could help keep manufacturing in the United States.

GO Topeka Economic Partnership's Entrepreneurial & Minority Business Development program had the foresight to start looking for ways to educate the future workforce at the earliest age possible to stay competitive.

WORLD CLASS CLASSROOM

The robotics classroom is equipped with Motoman Robotics' Simple Education System (SES-II), PC-based robot simulators that allow students to learn to operate and program robots. Loaded on the laptop is MotoSim EG (Motoman Simulator Enhanced Graphics), a comprehensive software package that provides accurate 3D simulation of robot cells. With this powerful simulation software, students can learn how to optimize robot and equipment placement, and how to perform collision detection, reach modeling and cycle calculations.

On the other side of the room there are two six-axis robots with the workstation simulators surrounding them. The classroom will have eight of these powerful simulator stations, enough to accommodate 24 students with a 2:1 ratio or a maximum of 36 students with a 3:1 ratio.

WORLD CLASS

CURRICULUM

The MERIT program was developed for colleges and universities vying to become the Motoman satellite training facility for their state. It is designed to bring the same quality of training as that delivered by the Motoman Technical Education Center (MTEC) at Motoman America's headquarters in Ohio. Currently Yaskawa Motoman Robotics is a global industry leader in robotics.

GO Topeka's EMBD efforts to bring the secondary certificate option to Topeka with the second phase to include further training in post-secondary efforts has also solidified Topeka, Kansas, as the sole Merit Certification site for the state.

All training courses and programs adhere to the American National Standards Institute/International Association of Continuing Education and Training (ANSI/IACET 1-2007) standard. This course covers robot operations, programming and technical skills. In addition to receiving a letter grade, students have to pass a set of Motoman exams at the end of the class. They need to understand all the concepts and answer all questions before they earn the certification to operate and program a Motoman robot.

CORPORATE PARTNERSHIPS

Not only do students see robots in the classroom, they also see robots doing real work, thanks to several area firms that have partnered with GO Topeka. The Motoman Robotics secondary curriculum includes visits to companies that use Motoman robots. Not your typical field trip, robotics engineers and technicians host these two-hour plant visits and demonstrate the intricacies of the work performed by their robots.

As the program grows, GO Topeka will continue to strengthen corporate partnerships with local public schools and create shadowing, on-the-job training and/or real time career exploration scenarios with existing businesses.

FOR MORE INFORMATION ON THIS PROGRAM CONTACT:

Greater Topeka Chamber /GO TOPEKA, Cyndi Hermocillo-Legg, Vice President of EMBD, P: 785.231.6000, Email: clegg@GOTOpeka.com.

NOVEMBER 2011