

2017

Excellence in Action Award

Oakland High School

Mechatronics

Manufacturing Career Cluster

OVERVIEW

Launched in 2013 and located in suburban Murfreesboro, Tennessee, the Mechatronics program prepares students for high-demand careers through hands-on experiences, rigorous academic coursework, nationally recognized certifications and dual enrollment opportunities. Beginning through a partnership with Oakland High School, Bridgestone and the Manufacturing Leadership Council, industry led the charge to build a talent pipeline of qualified employees in a highly in-demand sector.

Upon completion of this program, students are armed with credits and Siemens certifications and poised to enter postsecondary education and the workforce seamlessly.

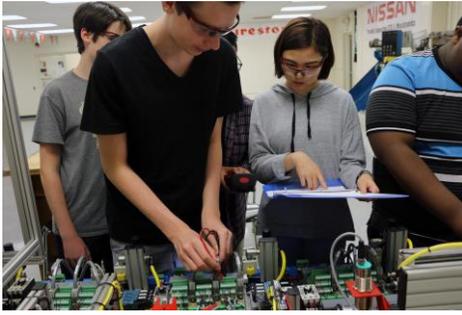
Secondary Students (90 students)	Percentage
Male	82%
Female	18%
Low-Income	31%
Minority	30%
Postsecondary Students (40 students)	Percentage
Male	80%
Female	20%
Low-Income	18%
Minority	20%

ALIGNMENT WITH BUSINESS AND INDUSTRY NEEDS

The Mechatronics program of study was truly developed for and by industry. A leadership council, spearheaded by Keith Hamilton at Bridgestone, Jimmy Davis of The Davis Groupe, and the Manufacturing Leadership Council, saw the need for a better trained future workforce and agreed that there simply weren't adequate programs in place to train the next generation of mechatronic engineers – so they decided to build one themselves. Siemens had set the industry standard for training and certification, so the leadership council joined forces with Rutherford County School District and area postsecondary institutions and resolved to build a rigorous and authentic program of study using the Siemens training model as a foundation. The goal: graduate highly skilled local students from high school, Motlow State Community College (MSCC) and

Middle Tennessee State University (MTSU) with cutting-edge industry credentials.

The district recognized an opportunity to leverage the support of business and industry to create a curriculum that would not only address the skill deficiencies the employers were experiencing, but also introduce students to a field they had not been exposed to previously. Working with industry, the district and postsecondary education partners developed a program very like on-the-job training at Siemens. They helped partner with industry leaders to create this unique program at the high school level. Strong partnerships and leadership from industry partners resulted in a program that prepares students for a high-demand career. Student interest continues to grow each year and the program seeks to expand to meet that interest.



CERTIFICATION ALLOWS ALUMI TO HIT THE GROUND RUNNING

A critical component to the program's success was convincing parents and students that their view of manufacturing was outdated, and that today's programs, like mechatronics, equip students with unique skills that will serve them in leading fields. Business and industry leaders took the initiative to meet with high school students and their parents to break down stereotypes and encourage them to enroll in the program. Students and parents were not only provided insight into what a career in mechatronics looked like, they were also provided information about the specific pathway and all the tangible benefits it offers to students.

For example, the program offers students the chance to graduate with a Siemens Level 1 certification, enabling them to work anywhere and continue their education, often paid for by their employing company. Students who continue on in the program of study can earn the Siemens Level 2 Certification at MSCC, and Level 3 Certification at MTSU.

LOOKING TO THE FUTURE

CTE Coordinator Tyra Pilgrim marvels at where the program is heading. "It just keeps growing and growing. It's already grown significantly and partnerships with the community college and industry have really made it a seamless pathway from high school to postsecondary."

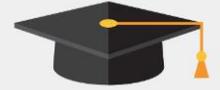
PATHWAY TO POSTSECONDARY

After completing Algebra I and digital electronics, all juniors and seniors are fully dual enrolled with MSCC and Oakland High School. These students will leave high school with at least 16 Dual Credit hours.

Knowing that students with a college transcript upon high school graduation are more likely to continue to postsecondary education, the program has made dual enrollment mandatory. Tennessee Promise, which provides funding for Tennessee high school graduates meeting certain requirements, has bolstered the district's and MSCC's ability to require so many dual courses at no or low cost. This support from the state and local community college system allows students to earn credits without accruing debt.

"You walk into the classroom and see diversity reflected there. Students who might never have considered a career in the STEM field before – young women, minorities – picking this up and running with it. It gives us great pride"
– John Marshall, Assistant Principal, Oakland High School

Success by the Numbers



100%

Graduated High School



94%

Enrolled in Postsecondary Education



94%

Earned an Industry-recognized Credential



100%

Juniors and Seniors Earned Postsecondary Credit