

Success Story

Mechatronics Akademie

CHATTANOOGA, TN

Grades: Juniors and Seniors

Reach: 40 students

Model: Hands-on CTE

Impact: Career-ready students

Preparing Students for the Workforce

What happens when a college, manufacturer, and a high school team up? Everyone wins! Mechatronics Akademie in Tennessee is linking high school students with Volkswagen to give them a jump start on in-demand technical careers. A few years ago, Chattanooga State Community College's president, Hamilton County Schools' superintendent, and the head of human resources for Volkswagen discussed their available training facilities and the need for local workforce development.

This dialogue led to a team of people from each organization coming together to develop a unique program designed to provide students their last two years of high school education while also giving them the opportunity to earn up to 40 credit hours to apply toward an associate's degree in mechatronics. In the fall of 2016, this idea came to fruition as the new Mechatronics Akademie welcomed its first 24 juniors who began learning essential skills from the work-based learning they completed at the Volkswagen facilities. This partnership is changing students' lives and reinvigorating communities in Chattanooga by providing hands-on experience and preparing students for the workforce.

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AN ATYPICAL SCHOOL DAY

Students attend classes at the Volkswagen training center daily. Joined by college professors and two high school teachers, students receive instruction on all of their core subjects in several different ways. Math and English Language Arts instruction comes directly from Hamilton County Schools' teachers, mechatronics instruction comes from college



professors, and the rest is provided by [Edgenuity Courseware™](#). With this setup, students receive a diverse education complete with all of their graduation requirements and hands-on work experience.

STUDENT SUCCESS

After a decline from 1990 to 2009, CTE has seen recent resurgence as education, industry, and political leaders begin to see deficits in the workforce. In 2015 alone, 39 states (including TN) instituted laws relating to CTE, many of which increased state funding for such programs. In fact, President Trump's first major education policy bill strengthened the Career and Technical Education for the 21st Century Act, allowing states to set their own goals for CTE programs. It was on this wind of change that the leaders in Chattanooga saw a community need to start better preparing students for the workforce and an opportunity to fill it through Mechatronics Akademie.

Studies have shown that CTE can increase student attendance and engagement, therefore leading to improved core academic skills in addition to being well-suited for the workforce. Nowhere is this more evident than the program in Chattanooga. There is a direct line from the advanced manufacturing program at Chattanooga State that leads to employment at Volkswagen, and Mechatronics Akademie is structured to get high school students halfway through that program. And in 2017, 13 of the 24 graduates entered the post-high school program at Volkswagen and are now working toward an associate's degree in mechatronics from Chattanooga State while finishing the training program.

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John Maynard, the Career and Technical Education Director at Hamilton County Schools, points out that “these students are taking college-level courses and are held to a high level of accountability,” and they see some attrition as students realize this program is not for them. Maynard was a part of the original cohort that developed the program, and is still involved in district-wide CTE implementation, and while he celebrates the success of the program and the students who are taking part in it, he also emphasizes its rigor.

THE FUTURE OF CTE

Career and Technical Education must evolve to keep up with the current job market and provide students with the needed skill sets to succeed in career or college. To that end, Mechatronics Akademie is also evolving. “We are constantly looking at if we're doing what the industry needs us to do to prepare our students for a job,” says Maynard. But Hamilton County Schools continues to innovate new ways to start preparing students for the workforce. For example, they also have Polytech Academy, which offers four programs for high school students to choose from: IT, construction, mechatronics, and technical chemistry. Similar to Mechatronics Akademie, Polytech Academy works to prepare students for future careers while giving them the opportunity to earn college credit.

Leaders in the field of CTE improvement stress the importance of high-quality programs that don't trap students in dead-end jobs with little growth potential. Instead, schools and districts should be offering programs like Mechatronics Akademie that offer the option to earn postsecondary degrees or credentials and also prepare graduates for high-paying jobs in expanding industries. “The Volkswagen plant just added a new car line, and now they'll need workers doing things we aren't currently training for, so we're going to transition to fill that need,” says Maynard. And so it goes with CTE, a constant moving target, but with education, skills, and exposure to technology, Hamilton County Schools is preparing its students for a bright future.