

KCTCS GOOD NEWS REPORT

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AMTEC

Automotive Manufacturing Technical Education Collaborative

The Automotive Manufacturing Technical Education Collaborative (AMTEC) is a multi-college, multi-state collaborative of community and technical colleges, and automotive manufacturers and their suppliers (25 community colleges and 21 corporate automotive companies) across the United States working together to improve the initial and ongoing preparation of highly skilled technicians and manufacturing engineers for successful work in automobile manufacturing. AMTEC is funded through a grant from the National Science Foundation (NSF).

AMTEC originally began developing a national standardized curriculum for the automotive industry to be taught by participating college partners. The lead partner for the Collaborative is the Kentucky Community and Technical College System (KCTCS). Colleges from Kentucky, Michigan, Tennessee, Alabama, Ohio, Texas, and South Carolina are the core members of the Collaborative. Through needs assessments of the fundamental skills required within the industry, AMTEC is now designing a curriculum based on learning objectives that meet skills required by the industry partners.



AMTEC was created in August 2005 to improve and increase the capability and capacity of helping technicians and manufacturing engineers learn the skills and knowledge required by industry.

“AMTEC is a disseminator of high quality education information and career pathways for sustainable programs in tomorrow’s automotive manufacturing workforce as it faces a very unique and

challenging economic environment,” said Principal Investigator Annette Parker. “It is higher education and industry working together for an American auto industry that will continue to compete successfully



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in the future global marketplace.”

While the auto manufacturing industry is part of the broader manufacturing industry in America, there are many distinctive aspects of how it performs its work that substantiates the proposed focus on this sector. Currently distinctive aspects include:

- Flexible manufacturing lines that are able to produce multiple products with minimum time and cost required for changeover.
- The ability to profitably respond to fluctuating customer demand by being able to produce “lot size of one” runs while realizing the efficiencies and cost benefits of mass production.
- The green factory, reduced emissions and landfill, increased recycling, supported by specialized manufacturing and environmental technicians.
- The ever increasing use of electronics and computers in vehicles and the impact on the design and manufacture of parts and components from suppliers.

The rapid implementation of advanced computer based manufacturing technology

means that many tasks that used to be performed by unskilled labor are now performed by computer controlled automation. This change results in a growing need and opportunity for workers with the skills and knowledge to design, install, maintain, and program these automated systems.

The competitive market has created the need to customize production to provide a “lot size of one” capability with the efficiencies of “mass production.” This means that technicians and engineers in manufacturing are now involved in more research and development, as well as continuous process improvement, in addition to their role in assuring production and delivery of product.

These changes require that the education and training system that helps current and future workers learn the required skills and knowledge must also change and improve.

All current and future workers within the auto manufacturing industry are now expected to be “multi-functional” and must learn and apply a larger set of skills and knowledge. They are also expected to produce more output through the use of technology,

and accomplish a higher level of quality, with more frequent changes. This dictates that skills and knowledge be learned to a level of performance that significantly exceeds that of only a few years ago. Workers need to meet the skill standards of industry in order for the industry to be successful and for the individual workers to be successful.

The industry demands that all parts of the system must be able to achieve the same levels of quality, be innovative and continuously increase productivity to deliver more value for less cost. As a critical supplier and input to the auto manufacturing industry, the education and training community must meet or exceed these same expectations. Partners have discovered that with the common goal of student mastery in the skills and knowledge needed for the automotive workforce, open dialogue and working together result in creative solutions for the auto industry giving the United States the competitive edge globally.

For more information on AMTEC, visit autoworkforce.org.



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