



Lorain County Community College

Testimony before the House Finance Subcommittee on Higher Education

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Chairman Perales, Ranking Member Ramos and members of the House Finance Subcommittee on Higher Education, thank you for the opportunity to address you today. My name is Marcia Ballinger, President of Lorain County Community College.

I am delighted to join my colleagues representing Ohio's community colleges to share with you how our sector is uniquely prepared and motivated to advance Governor Kasich's goal to reach 65% of all Ohio adults with a credential or degree by 2025. This is a bold goal, but essential if Ohio's economy is going to compete globally. To meet this goal, higher education needs to equip one million more residents – that's one million more than what we are currently on track to do -- with the skills and knowledge employers need.

To get there, we must leverage all that Ohio's institutions of higher education have to offer, including pursuing new approaches that break traditional boundaries. Our employers are depending on us. Since becoming President of Lorain County Community College July 1, 2016, I have made it my priority to listen to and learn from our community and have met with many employers from a variety of sectors. Their common concern: talent. They have described to me that many of the jobs they are looking to fill are in emerging technologies where traditional occupations don't adequately describe the skill sets they need.

Governor Kasich has included in House Bill 49 an updated proposal that would allow community colleges, in partnerships with local industries, to develop and offer in-demand applied bachelor's programs that are not otherwise available locally and for which there is a demonstrated workforce need. This is the direction Ohio needs to pursue to remain competitive with other states. Nearly half of all other states have already moved in this direction. At Lorain County Community College, we are seeing firsthand the need, opportunity and value for this proposal. Let me share with you an exciting example.

In 2013, based on needs of industry, Lorain County Community College began delivering an Associate of Applied Science in Mechatronics Technology with a concentration in Micro Electromechanical Systems (MEMS), the only Associate's Degree of its kind in Ohio and one of only 16 in the country. Mechatronics engineering technology focuses on the precision control of mechanical and machine systems. In today's modern engineering systems, control is achieved electronically through sensors, actuators and microprocessors. Mechatronics is an interdisciplinary field combining mechanical and electrical engineering technology with science, mathematics and communications. With the emergence of the Internet of Things, this technology is increasingly being adopted across multiple industries: biomedical, aerospace, automation and controls and more.

Representative Perales and Representative Ramos, thank you for visiting LCCC and the Desich SMART Center last week. During your visit you met several of the students in the program. Students like Kraig Holler (24) who will graduate from the program in May. Kraig is already working for a biomedical company, NanoBio Systems, that moved from Boston, Massachusetts to the Desich SMART Center on our campus. Kraig is helping the company advance a MEMS technology that takes the pain out of the prick for diabetic patients through a saliva, instead of blood-based, glucose sensor. Or Bill MacKeigan



Kraig Holler

(58), who is a United States Army Veteran and retiree from the United States Postal Service following a knee injury. Bill needed a new career and entered LCCC's MEMS program. Bill works in this field three days a week at RBB Systems, a manufacturer of mission-critical electronic assemblies, while attending class at LCCC two days a week. Or Sherry Washington (44) who was a full-time mom for more than 20 years when her life circumstances changed and she realized she wanted to start a new career. Sherry was drawn to the program because the curriculum is infused with lessons that align with current local industry needs and all students are required to complete at least 300 hours of an internship to graduate.

Kraig, Bill and Sherry are on their way to great careers in this emerging technology field. But in a deep dive into the data and in our work with these employers, we know that employers are posting jobs in this field that desire a bachelor's degree. Yet, no bachelor's degree in Mechatronics Engineering Technology exists Ohio. Currently, students, in order to gain the knowledge necessary for these careers pursue a Bachelor's Degree in Mechanical Engineering and take additional classes to create their own interdisciplinary curriculum. This is not an efficient path or model – for students or for employers.

We have a unique opportunity to develop Ohio's first interdisciplinary Applied Bachelor's Degree in Mechatronics Engineering Technology, building off the strength of LCCC's Associate of Applied Science in Mechatronics. Furthermore, LCCC already has in place the labs and equipment needed to support this program. The State of Ohio has invested over \$6 million through the Ohio Third Frontier and the Ohio Department of Higher Education Non-Credit Job Training Grant program to create four clean rooms (one Class 10000 and three Class 1000 clean rooms), environmental and life cycle testing labs and failure analysis labs within LCCC's Desich SMART and Desich Business and Entrepreneurship Centers to support this program while being used by industry for commercialization of products.

One student taking full advantage of this opportunity is Ann Paxton. Ann is enrolled in our mechatronics technology program. Ann is 28 and in 2009, she earned a bachelor's degree in arts with concentrations in sculpture and metal smithing from Skidmore College in New York. Soon after, she returned home to Oberlin and began working at Bead Paradise, while also making jewelry. She learned about LCCC's mechatronics program from her friend and MEMS graduate, Mara Rice. Ann began classes in January 2015.

Recently, Ann interned with Nordson Corporation and worked on a research study that investigated the best methods for cleaning and covering circuit boards with an environmentally protective coating at a molecular level. The project focused on measuring printed circuit boards, produced by AirBorn Electronics in Akron with work being done by Ann at the Desich SMART Commercialization Center for Microsystems on the LCCC campus. The experience was a win for Ann and for Nordson Corporation as the product moves toward full commercialization.

After graduation, Ann plans to continue her education toward a bachelor's degree. Given that no bachelor's degree exist in Ohio in this specific technology, Ann will take the route of Mechanical Engineering and supplement her education with additional classes and hands-on experiences through LCCC's Desich SMART Center to create her own interdisciplinary approach. We can fix this for Ann and others like her that industry is looking to hire.



Sherry Washington



Bill MacKeigan



Ann Paxton

By Ohio joining the 20 plus other states that afford community colleges the authority to confer Applied Bachelor's degrees in specific fields by passing the provision included in HB 49, Ohio, through Lorain County Community College, is uniquely positioned to create the state's first interdisciplinary Applied Bachelor's Degree in Mechatronics Engineering Technology. The program meets a documented industry demand and is developed in concert with industry providing insight into the curriculum and real skin in the game through paid internships. Companies like: Rockwell Automation, Sierra Lobo, Laird Technologies, Valtronics, Hanna Microdisplay Technologies, Nordson Corporation, and more.

LCCC is prepared to lead this development. Not only does LCCC have the first and only Associate of Applied Science in Mechatronics Technology in the State, the specialized labs and equipment to provide the hands-on learning and the partnerships with two dozen employers involved in the program, LCCC has a 20-year track record creating innovative paths to a bachelor's degree that works for students and employers. Through LCCC's University Partnership Program, created in 1995, 13 colleges and universities now deliver over 50 bachelor's and master's degrees on the LCCC campus. Over half of the bachelor's degrees offered through LCCC's University Partnership Program are 3+1 programs, where students take three years of the program from LCCC's course catalog at our tuition rates (second lowest in the state) and one year from the university partner. This model creates an average cost savings for students of \$60,000!

LCCC's University Partnership Program is moving the needle in raising educational attainment in our community. Lorain County now ranks 7th in the region for bachelor degree holders, moving up from last place when the University Partnership Program began in 1995. Creating and delivering Ohio's first Applied Bachelor's Degree in Mechatronics Engineering Technology can have a powerful impact on our region's economy and position Ohio as a leader in this rapidly expanding technology sector.

Ohio's economy has always been deeply rooted in manufacturing since the start of the industrial age. As new technologies create more advanced manufacturing opportunities, it is programs like this that employers will demand and depend upon in order to stay here and grow here, while other companies, like in the case of NanoBio Systems, will be attracted to move here. I strongly encourage the House Finance Subcommittee on Higher Education to support Governor Kasich's recommendation on Applied Baccalaureates at Community Colleges. This is an opportunity we can't afford to miss.

Representative Perales and Representative Ramos, you were able to witness firsthand the energy and passion for this program from our faculty and students. I can attest employers are equally enthusiastic and deeply supportive. This is an ideal opportunity for Ohio to pilot the Applied Bachelor's Degrees by Community Colleges. All the necessary components are in place for Lorain County Community College to immediately launch the development of an Applied Bachelor's Degree in Mechatronics Engineering Technology.

Thank you again Chairman Perales, Ranking Member Ramos and members of the House Finance Subcommittee on Higher Education for allowing me to share this exciting opportunity with you. I would be delighted to answer any questions.