Lorain County Community College
Helps High Schoolers Build IT Skills

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Across Ohio, many college students are extending their learning and building competencies this summer by working in internships. While the college classroom helps them gain knowledge in a wide variety of subject areas, there is no substitute for the real-world experience an internship provides.

This issue of ConnectED features some examples of how various colleges help students explore the world of work. You’ll learn about Bowling Green’s Falcon Internship Guarantee program, the Advanced and Additive Manufacturing Showcase recently hosted by Miami University, and a program at Southern State that is preparing students to work in an in-demand field.

Enterprising companies seeking talent for the future may find summer to be the hottest season for prospecting, but the savviest employers are developing year-round opportunities for experiential learning. Such opportunities are critical to the future of our state and our citizens, and we hope all of our students can be introduced to internships at some point during their college career.

Experts predict that 65 percent of jobs in the year 2025 will require some kind of postsecondary education and/or certification. The current attainment level in Ohio is around 43 percent, so we have a way to go to prepare Ohio’s workforce to compete for jobs. A talented, prepared workforce will position Ohio well to bring more industry to our state, and help current employers remain innovative, competitive, and ConnectED to the global economy.

John Carey
Chancellor, Ohio Department of Higher Education
Lorain County Community College will begin a STEM (science, technology, engineering, and mathematics) pilot program – Building IT Futures – that provides local high school students the opportunity to be introduced to local companies and career opportunities while learning valuable skills and earning college credit.

A $150,000 Ohio Department of Higher Education grant will support the two-year pilot program targeted to 12th grade students. Eleventh-grade students will be accepted if space is available. Across the program, up to 30 students per year from North Ridgeville, Midview and Elyria high schools that are enrolled in College Credit Plus IT pathways will be selected to participate. Funds are from the Ohio STEM Public-Private program, created to encourage public-private partnerships between high schools, colleges, and the community to provide high school students with the opportunity to get education and training in a targeted industry.

“The goal is to improve the likelihood that students will find employment in the IT field after high school and completion of an associate degree,” said Kelly Zelesnik, LCCC’s dean of engineering, business, and information technologies. “This pilot program will expose students to opportunities available in the IT field locally in conjunction with their coursework through College Credit Plus.”

LCCC, its partner high schools, and the Regional Information Technology Engagement (RITE) board will work with employer partners Hyland Software, OEConnections and University Hospitals to focus the pilot program on junior- or entry-level software developer or application developer positions.

“Hyland is excited to partner with Lorain County Community College and area high schools on the Building IT Futures project. Programs like this help us fulfill our commitment to cultivate a local-area technology community and shape the region’s workforce,” said Dennis Sasinka, senior manager, tech outreach at Hyland. “It is a great opportunity for students to learn valuable skills and be exposed to the kinds of opportunities available at companies like Hyland.”
LCCC, collaborating with high school and employer partners, will select from three courses – Database Design & Implementation, Intro to Programming C#, and Web Development – with the goal of delivering the courses at high school sites and employer locations, working with LCCC faculty. The three companies have committed their facilities, equipment, and staff time to support the success of the pilot program.

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Kelly Zelesnik Dean of Engineering, Lorain County Community College

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The program meets the high demand for individuals with education and skills in software development, web development, and network administration.

“This project distinctly aligns with key STEM initiatives already under way in the Midview schools that are focused on development of student skills and building the local STEM talent pipeline with job-ready graduates,” said Dr. Bruce Willingham, superintendent, Midview Local School District.

The project also addresses local employers’ needs for top talent and links directly to two LCCC priorities of its Vision 2020 strategic plan – driving student completion for academic and career success and leading talent development while accelerating business and job growth.
Research Universities Showcase Student Talent and Advances in Manufacturing

Miami University President Gregory Crawford hosted a regional advanced and additive manufacturing talent summit this spring at Miami’s Voice of America conference center near Cincinnati.

Student researchers and advisors from Miami University, the University of Cincinnati, and Cincinnati State Technical & Community College showcased their latest work in the fields of 3D printing, biomedical simulation, aerospace, and advanced manufacturing.

Joined by industry partners in the region, the three universities took the opportunity to thank the Department of Higher Education for its innovative RAPIDS (Regionally Aligned Priorities in Delivering Skills) grants, which have allowed the campuses to partner in purchasing state-of-the-art equipment that students use in their research. To date, ODHE has awarded more than $8 million in regional RAPIDS grants with more than $1 million invested in the southwest region of the state. Additive manufacturing is using advanced scientific techniques to improve the way companies produce products, leading the way toward a fast and efficient future for manufacturing everything from jet engine parts to human replacement parts.

While the RAPIDS grants bring industry partners together with university research and teaching to have an immediate impact on workforce training needs specific to the region, a long-term benefit is in place, as well. Miami University and its regional campuses work with Cincinnati State and Sinclair Community College to introduce area high school students to the concepts college students are learning. Last year, 3,000 high schools students attended workshops involving 3D printing and robotics. By definition, additive manufacturing creates products by building layers rather than the older subtractive manufacturing techniques of cutting materials into shape. But the additive aspect most impressive when it comes to how Ohio’s two-year and four-year campuses have partnered with each other and with industry is the added investments made through the partnerships.

“We’re investing more than $2 million in 3D printers for primary and secondary schools so younger students can experience the technology,” said Chris Panczyk, a General Electric engineer who works closely with the researchers at UC. “We want younger students to get familiar with the tools of the future, and what we’re seeing is encouraging as younger students quickly see the fun in hands-on learning.”
Panczyk works for a start-up company within GE called GE Additive. “Additive (manufacturing) changes the game in terms of flexibility, creativity, and cost, and it played an important role in the development of a new fuel nozzle for a 757 jet aircraft that was much more durable and lighter, dramatically reducing the number of parts (from 855 to 12),” he said.

While additive manufacturing is becoming commonplace in aerospace and other high-tech industries, its prevalence in health care and hospital environments is also rising. Researchers at Miami University have been using 3D printers to develop training tools to help health care workers and home care workers recognize the early signs of bed sores, which plague patients in long-term care environments.

Pressure sores affect more than three million adults each year and increase health care costs by as much as $11 billion. Miami University is developing tools to help health care workers and family members recognize and treat the pressure sores early and prevent more extensive skin damage.

Meanwhile, other partner companies see a convergence of biology and robotics as the next major step in biomedical research and development.

James Hoying, Ph.D. chief scientist for Advanced Solutions Life Sciences, LLC, sees a day when robotic arms modeled on manufacturing processes will be used in the biofabrication of replacement tissue for human beings.

Stay tuned.
Recognizing the importance of experiential learning, Bowling Green State University (BGSU) launched the Falcon Internship Guarantee program four years ago to encourage student exploration of career options early in their academic careers.

“Parents get it immediately,” said Jeff Jackson, who leads the BGSU Career Center.

“Students, many away from home and on their own for the very first time, take a little longer to catch on. They don’t know what they don’t know, so our program can help a lot.”

Jackson’s goal is to provide students with as many opportunities to explore career options as possible. And BGSU has built a network of options that is helping many students see their futures in area business and industry. The idea is to help students become more strategic in their course selections. Jackson said this helps students more efficiently select classes that complete requirements for graduation.

All incoming first-year students are eligible to participate in the program, including those who have completed college credits during high school. The program requires that students maintain a 3.0 grade point average, declare a major by the beginning of their sophomore year, and make satisfactory progress toward a degree.

There have been encouraging additional benefits to the internship program. “Two-year retention among those participating in the internship program is about 10 percent higher,” Jackson said.

Participation among freshmen has risen to nearly 20 percent, and the increase is expected to continue as
awareness grows and students see how others have benefitted. Student experiences can occur in individual and group internships, thorough co-ops and undergraduate research, and with field experiences. Jackson said the program grew as state grants such as those offered through Ohio Means Internships and Co-ops (OMIC) became available. BGSU currently operates one of the larger OMIC grants, which has created nearly 100 internships through some 40 area employers.

Keller Logistics in Defiance, Ohio has been an OMIC II partner since the inception of the grant in 2014. The company has hired a total of 14 interns in the field of sales, customer service, operations, human resources, health and wellness, management, and information technology. This year, the OMIC grant funded 93 internships in area businesses and in research departments at Bowling Green.

Interested in supply chain logistics, his internship grew into a career with Keller. Wolfrum was raised in Defiance and seized the opportunity to put down his own roots in the area. He’s since welcomed numerous interns from BGSU. He currently employs several, including Josh Evers, a 22-year-old junior from Huron, Ohio majoring in supply chain logistics.

Evers is a National Guard soldier enrolled in BG’s ROTC program. He’s developed a program that is taking a deep dive into trackable metrics to boost the efficiency of the company’s shuttle drivers.

“I like to have a specific area of focus and working with people from all backgrounds,” Evers said.

“This internship gives me a way to show I can identify areas for improvement and allows me to develop my people skills, too. I like managing people as well as information, and because I want to be a military officer, I see the benefits of this experience.”
Stark State College in Canton is launching a new program this fall that encourages high school students to use the popular College Credit Plus program to earn industry certifications in an effort to help young people learn skills needed to fill in-demand jobs in many technical fields.

The new program is expected to help companies in the region restock skilled workers as baby boomers leave the workforce for retirement. The program, dubbed “Learn to Earn,” is an example of higher education working with employers to meet workforce needs while providing students a low-cost pathway to higher-paying jobs in their home communities. Many skilled jobs go unfilled today due to a lack of qualified applicants.

Workforce experts have forecast that by 2025, 65 percent of all jobs in Ohio will require some kind of professional or technical certification. Today, only about 43 percent of Ohio workers have attained such qualifications.

“The program is as much about awareness at a younger age as it is about anything,” said Para Jones, president of Stark State. “Certificate pathways have been around for years, but have not been specifically marketed to high school students. The focus of the curriculum will be to support jobs in information technology, automotive, welding and heating, ventilation, air conditioning and refrigeration, but will grow beyond those areas quickly.”

The Learn to Earn program coincides with news that the Stark County Educational Service Center is relocating to space on Stark State’s main campus in North Canton, a move coordinated with the Ohio Department of Education, local school districts, and area employers.

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There are approximately 3.5 million professional truck drivers in the United States, according to estimates by the American Trucking Association (ATA). The total number of people employed in the industry, including those in positions that do not entail driving, exceeds 8.7 million.

About one of every 15 workers in the country is employed in the trucking business, according to the ATA. These figures indicate that trucking is an exceptionally stable industry that is likely to continue generating jobs in the coming years.

Employment figures underscore the rationale behind the state grants available for those seeking short-term training in Ohio’s public two-year colleges. The workforce demand is high, as is enrollment in programs where students can earn a Commercial Driver License (CDL) in just four weeks (eight weeks in a weekend-based program).

With the cost for training running about $5,000, many see a fresh career start well within reach.

Southern State Community College offers CDL training through its truck driving academy in seven locations across Ohio. Its training facility in Wilmington is just across the street from Sewell Motor Express, a family-owned trucking company that welcomes new drivers with a sign adjacent to Southern State’s training pad.

“We believe the key to our long-term company success is a good work-life balance for our employees,” said Jay Sewell, the third generation president of the company. “We attract the best drivers by focusing on shorter runs that allow our employees to get home sooner to their friends and family.”

John Smith is the director of Southern State’s Truck Driving Academy. Smith turned to teaching about five years ago, after 31 years as a driver, and he’s proud of his career and the opportunities a CDL can provide. Southern State trains about 240 students each year.

“With the huge number of baby boomers retiring these days, there are many, many opportunities opening up for professional drivers,” Smith said. “In just four weeks, a student can earn their CDL and begin a career they can depend on to take care of their family. There are plenty of opportunities for folks who take pride in the independence this career can provide.”

During a recent visit to the Wilmington training facility, four students, all military veterans, were completing their first week of classes. “After the military, I worked a number of years in retail sales, which was often very demanding, competitive, and repetitive. I was ready to do something that offers more flexibility and higher earnings,” said Peter Weinbacher of Cincinnati.

Ohio has an excellent variety of trucking and diesel technology programs to help students get started in this field. Today, there are 34 schools in Ohio offering such programs, including many at public two-year colleges and adult training centers.
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