

MOMENTUM

MOHAWK COLLEGE COMMUNITY MAGAZINE

SPRING 2020

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ABOUT: Mohawk College educates and serves more than 33,000 full-time, part-time, apprenticeship and international students at three main campuses in Hamilton, Ontario and at learning hubs across Hamilton through City School by Mohawk, and at the college's Centre for Aviation Technology at Hamilton International Airport. Mohawk is among the leading colleges in Canada for applied research. It has been named one of Canada's greenest employers for six years in a row, holds a GOLD STARS rating from AASHE for sustainability achievements and is home to the country's largest zero carbon energy institutional building, The Joyce Centre for Partnership & Innovation. More than 125,000 people have graduated from Mohawk since it was founded.

COVER: Jim Vanderveken, Dean of Centre for Community Partnerships and Experiential Learning, Paul Armstrong, Chief Operating Officer, Marty Verhey, Owner, Fora Outdoor Living. **LOCATION:** Fora Outdoor Living, Ancaster, ON



Ron McKerlie, President, at Mohawk's
Institute of Applied Health Sciences at
McMaster University



FROM THE PRESIDENT

Powerful employer relations prepare our students and graduates.

We could not graduate future-ready students, or lead the way on applied research, or tackle community issues without the deep and meaningful partnerships we have built with employers.

Building on these powerful partnerships, we will work together with employers to recover from the devastating effects of the pandemic, forging new growth and capturing new opportunities.

Key to our employee partnerships is the college's strategic priority to embed work integrated learning opportunities in 100 per cent of our more than 160 programs. We simply cannot make that happen, or prepare our students for today's and tomorrow's jobs, without our invaluable employer partners.

They also work alongside us in program development and review, they contribute financially and in-kind to our cutting-edge labs and centres of excellence, and they partner with us on applied research, accelerating us to the top 10 for research colleges across Canada.

Recently, we launched our one-of-a-kind Future Ready Premium Employer Program. This strategic initiative optimizes and elevates our employer partnerships transforming our college and our local economy at a critical time in our history.

We are so proud of and grateful for our multi-layered connections with employers and excited to see just how far we can take them. ■■■

Regards,
Ron J. McKerlie



Jim Vanderveken, Dean of Centre for Community Partnerships and Experiential Learning, Paul Armstrong, Chief Operating Officer, Marty Verhey, Owner, Fora Outdoor Living



EMPLOYING SUCCESS

Mohawk is leading the way on partnerships with employers

Deep and meaningful relationships with employers amplify student success, and ensures Mohawk College is answering the shifting talent needs of the local economy. Making Hamilton a more prosperous and better place to live.

These relationships will ensure that Mohawk is a critical component of economic recovery as Ontario and Canada emerge from the effects of COVID-19.

"There isn't another postsecondary institution in Ontario that is committed to employer engagement in the way we are. Mohawk is definitely a leader," said Chief Operating Officer Paul Armstrong.

"The level of commitment to employers here at Mohawk is unique and ground-breaking. It means that we can prepare our students in a way that differentiates them in the labour market."

The college has established partnerships with thousands of employers and industry stakeholders across all sectors and all programs. Employer engagement comes in a wide variety, including co-ops, internships and field placements, contributions in curriculum development and program advisory committees, joint projects in applied research, and financial and in-kind contributions to classrooms and labs.

"Our employer and workplace partners put a deep level of trust in us and they are willing to invest in Mohawk. There is an authentic, genuine commitment among our employers to advance the best interest of our students," said Armstrong.

"These relationships will be at the forefront as our economy finds its stride again and then moves into high gear."

Mohawk makes it a strategic priority to understand employer needs and challenges and to find ways to answer them, says Jim Vanderveken, Dean of the Centre for Community Partnerships and Experiential Learning.

"Employers are playing a vital role in almost every dimension of our institution and we engage employers of every size across a very broad spectrum of sectors. It is a truly extraordinary constellation of partnerships that we have."

Strategic commitment

Employer connections will only grow as Mohawk realizes its strategic plan commitment to offer chances for experiential learning in 100 per cent of its programs.

"As a college, we are always endeavouring to take our partnerships with employers to a strategic level," said Vanderveken.

First connection is often through a co-op or field placement student and as a relationship grows, employers find other ways to engage, including acting as a mentor, speaking to groups of students, serving on a program advisory committee, or helping the college build partnerships with other industry players.

The college also calls on its alumni networks to forge relationships with existing and new employers through inviting leaders to campus events, speaking engagements, and mentorship opportunities with students.

"That's been a very valuable point of connection for us," said Armstrong.

The college has also placed a premium on creating connections with Hamilton Economic Development, so that staff there have a clear appreciation of what Mohawk can provide to new or expanding businesses. Armstrong was recently part of a Hamilton Economic Development trade delegation to India.

"We are getting the message out that we can work together on workforce challenges and that our value

proposition adds to all the other reasons a company would come to Hamilton."

Armstrong says Hamilton is unique when it comes to how the major players work together to address challenges and create opportunities.

"The key leaders can build the kinds of personal relationships in Hamilton in which innovation and ideas can flourish. We have a role to play in bringing applied, skills-based educational programming to the table."

Applied research

Employer connections are the foundation of a range of applied research hubs, including the mHealth and eHealth Development and Innovation Centre (MEDIC), the Additive Manufacturing Innovation Centre, and the Energy and Power Innovation Centre.

"When employers see the value we provide and how we can deliver, they don't hesitate to come back with other projects or partnerships," said Armstrong.

"I think applied research is the most tangible and impactful way that employers access the value of our expertise," said Jeff McIsaac, Dean of Applied Research.

Industry partners, from start-ups to global giants, benefit from faculty knowledge, resources, culture of innovation and leading-edge equipment and labs, but the real benefit comes in communicating real-world experience and learning to students, says McIsaac.

"It means when they graduate, they can walk into roles with our partners and they are ready and employers know what they can do."

The Mohawk Additive Manufacturing Innovation Centre has partnered on projects in a wide variety of sectors and more than a dozen students have been hired by 3D printing companies. MEDIC has completed projects for governments, healthcare providers and health researchers around the world.

"The kind of applied experience they get at Mohawk differentiates our students from anyone else in the job market. These students are ready to hit the ground running and provide value immediately," said McIsaac.

Talent imperative

The number one concern of employers today is access to talent and Mohawk is answering that need, says Vanderveken.

"We are responding to the talent imperative across the economy, including food and beverage processing, agriculture, advanced manufacturing, health care and life sciences, early childhood education, social services and business."

Mohawk is also partnering with the arts, media and entertainment sector and the game design and software development industries, and has established its leadership in digital health, cybersecurity, industrial internet of things, additive manufacturing, and aviation and aerospace.

The latter is evidenced in a new, 70,000-square-foot learning facility for 300 Mohawk aviation students at Hamilton International Airport that is part of a \$40-million, three-fold expansion of KF Aerospace's operations. The partnership with Mohawk demonstrates a new approach – educating potential employees right in the building they could eventually work in.

In a range of Mohawk labs, industry partners have contributed machines, equipment, platforms,

and software that optimizes student learning and readiness.

"Employers want to be involved here. There is a substantial appetite to invest in our college and participate in what's going on here," said Vanderveken. "They see their investment and support as an integral part of their own strategic planning process."

Creating an ecosystem where students and employers frequently come together makes for a vibrant learning experience for both, says Vanderveken.

Employers also play a key role in capacity-building initiatives such as City School, which delivers free college courses in underserved settings, and Challenge 2025, an initiative launched by President Ron McKerlie to target ways Mohawk can address poverty, under-education and labour shortages.

Challenge 2025 brings together Mohawk, Ontario Works, employers and community support agencies, all with the goal of defining exactly the pathway to move an individual into meaningful, life-sustaining employment with an engaged employer. ■■■



Marty Verhey and Jim Vanderveken in front of new City School mobile classroom

EMPLOYING SUCCESS

CASE STUDIES

THE HAMILTON OSHAWA PORT AUTHORITY

The Hamilton Oshawa Port Authority (HOPA), which works with 130 tenants employing more than 2,100 people, manages about 750 acres of industrial harbourfront, and handles more than 10 million tonnes of cargo a year, has a multi-layered relationship with Mohawk.

HOPA worked with Mohawk to launch a new Supply Chain Management postgraduate certificate in 2018. The port authority sponsors the program, works with its tenants to provide co-op and internship placements, and has also set up a \$20,000 tuition support fund to assist local students enrolled in the program.

"It's our flagship endeavour with Mohawk," said Larissa Fenn, HOPA's director of public affairs and corporate secretary. "We've seen really great uptake among both domestic and international students."

Working in tandem with Mohawk means investing time and money, says Fenn, but that pays off in a strong, deep and reliable workforce.

"We hear from our tenants that they are challenged around finding talent. Through job fairs and our Careers at the Port initiative adds value to our relationship with tenants."

The Careers at the Port is an eight-week, tuition-free program that connects students with employers and offers job-readiness and skills development opportunities. "I think employers are finding they have to be proactive. They can't just sit back and wait for postsecondary institutions to produce the students they need," said Fenn.

"It makes a lot of sense to work together to shorten the distance to finding talent that are ready to immediately be a productive member of a team." ■■■



Jim Vanderveken, Mohawk College Dean of Centre for Community Partnerships and Experiential Learning, Patricia Reles, Vice President People and Culture, Heddle Shipyards, and Ted Kirkpatrick, Sales Manager, Heddle Shipyards

CITY SCHOOL SHIPS OUT NEW PROGRAM



Mohawk is embarking on a new initiative with marine maintenance and ship-building company Heddle Shipyards and the Hamilton Oshawa Port Authority to launch a City School mobile program in conjunction with City Kidz.

It will teach ship repair and maintenance skills to at-risk youth and others during a 10- to 12-week program at the Heddle shipyard on the Hamilton Harbour. The company is providing a scrapped boat for program participants to work on.

The partnership is an offering of City School's Skilled Trades Awareness and Readiness Training (START), a series of initiatives aimed at reducing a shortage in skilled trades.

Mohawk staff will develop and deliver the curriculum, while seasoned Heddle employees will act as teachers and trainers for an anticipated group of 20 to 30 participants.

"The idea is to give them a taste of the multiple trades in the ship repair industry," said Patricia Reles, vice president, people and culture at Heddle. "We hope they find something they are passionate about and then they can go to Mohawk to learn a skilled trade and possibly pursue a career with us."

Heddle is also establishing two bursaries for trades students at Mohawk, including one for women, says Reles. The company participates in a job fair at Mohawk and frequently hires graduates for frontline and office roles. Heddle staff also speak to skilled trades students and is in constant contact with coordinators and faculty.

"We want to get the word out there that we support skilled trades. We struggle to find talent for our shipyards."

Working in marine requires a special set of skills.

"Welders are taught to weld new material to new material, but here, where it's about maintenance and repair, it's welding new material to old material. That requires in-house training," says Reles.

By growing a connection with Mohawk, Heddle hopes to see more marine-related skills embedded into curriculum, says sales manager Ted Kirkpatrick.

"We are open to working as closely as we can with Mohawk."

Heddle, founded by Rick Heddle and Blair McKeil, has operated for 30 years and has directly engaged with Mohawk for the last five, says president Shaun Padulo.

McKeil is a major benefactor of Mohawk's McKeil School of Business and has been behind the push to work with the college to address talent needs, he says.

"To have one of the most successful colleges in Ontario and in Canada in our backyard is very exciting for us and will be very important to us as we expand," said Padulo.

The company's Port Weller operation has grown from 12 people to 150 and that kind of growth is expected for Hamilton, too. Heddle is building critical mass to go after large government contracts, under the \$100-billion federal National Shipbuilding Strategy.

"We are working hard to be involved in that. There is a huge opportunity there for us, but we need the people to feed the growth." ■■■

STACKPOLE INTERNATIONAL

It is tough to find and keep talented technical people, says Gord Rowe, Manufacturing Engineering Manager Automation and Assembly at Stackpole International. The global company has Corporate Services in Ancaster and is part of Johnson Electric Group. They are a leader in fluid power systems and powder metal technology, building precision components primarily for the automotive market.

The company employs more than 4,000 people in 14 locations worldwide.

"We are very automated here and that requires a higher-end skill set that is difficult to find in the market. We are working with the college and only expect that to grow," he said.

Mohawk's robotics lab uses the same platform used at Stackpole, making Mohawk graduates particularly attractive to the company.

"Students have already had their hands on these robots, so they are an immediate asset when they walk in the door," said Rowe.

Stackpole is looking at the integration of new technology, including augmented and virtual reality, and will rely on the expertise of Mohawk to guide the way, says Rowe. ■■■

DESJARDINS INSURANCE

Desjardins Group is the largest cooperative financial group in Canada, and one of the largest employers in Canada. It has been ranked one of Canada's Top 100 Employers for the last 8 years!

"We are excited to partner with Mohawk College, offering opportunities for students, co-op students and recent graduates of the Insurance program. Currently, we are hiring students that will work full-time this summer and then continue part-time when they return to school in September. They will complete our training program which includes licensing, products and systems training, building the skills to deliver a great client experience, and then the opportunity to work in the company's LIVE program where they will speak with clients while being supported by our training team," says Marianne Morton, Manager of the Client Care Centre. The initiative has been very successful, and this year several students were offered and accepted full-time positions with Desjardins!

Desjardins also participate in job fairs at Mohawk and speak to graduating classes. "We are impressed with the quality of candidates from Mohawk College, and it is our hope that co-op students will also choose to work with Desjardins on a full-time basis upon graduation. We look forward to continuing this valuable partnership in the years to come." ■■■

ORLICK INDUSTRIES

Orlick Industries has had a Mohawk connection for many years, and it is continuing to develop, says Scott Armstrong, human resources manager.

The automotive parts supplier employs many Mohawk graduates among its 450 employees, and is particularly involved with the Millwright apprenticeship program, employing more than half a dozen students at any given time.

They have also taken part in a number of committees, including program development, course content review, and women in manufacturing. Orlick staff are enrolled in technical

and leadership continuing education offerings, too.

Orlick also participates in the Hamilton Skilled Trades Apprenticeship Consortium (HSTAC), a group of local employers that work with Mohawk College to help youth transition into the manufacturing workforce. It provides job placements, mentorship, career guidance, skills upgrading, and employment readiness training.

"Mohawk is so engaged in the employer community. They are at the centre of bringing employers and the city together when partners at the table meet to discuss needs, challenges and solutions," said Armstrong. ■■■



City School student with instructor Sean James

EMPLOYING SUCCESS

CASE STUDIES

FORA OUTDOOR LIVING

Fora Outdoor Living, a new backyard showroom and garden centre in Ancaster, is home to City School's mobile unit where participants are learning horticulture and landscaping.

Fora owner Marty Verhey didn't hesitate to say yes when the opportunity came up. "City School is an amazing program," said Verhey, who was immediately inspired when he heard College President Ron McKerlie speak about it.

City School encourages participants from disadvantaged communities to enrol in college or pursue a career. "It's a great solution to the trades shortage," said Verhey. "A wealth of people are available, but they just need a connection and exposure to the college."

Verhey saw the power of Mohawk during his 10-year tenure in human resources at Hamilton structural steel fabricator Walters Group. He continues to work as a consultant for the company.

"Developing a close relationship just made sense because Mohawk is a strategic talent pipeline for Walters."

Verhey says securing and keeping talent requires that employers be creative and willing to build partnerships.

Walters employs Mohawk alumni throughout its operations – from technicians and technologists and engineers, to project managers and front-office staff.

That relationship included a partnership to establish the Mechanical Techniques Welding and Fabrication certificate program. That includes the Joint Venture Training Program in which students in the program work one day a week in the Walters shop.

"It's essentially paid training and we have dedicated staff who are training them. They get direct industry training and we get a 10- to 12-week working interview." ■■■



MyCanvas
is coming spring 2020

Cebert Adamson, Dean,
Continuing Education, Academic
Quality, Library and Centre for
Teaching & Learning

CONSTANT MOTION

New programs continually under development to meet industry needs

Developing new programs at Mohawk College is critically important to graduating future-ready students.

Led by Academic Quality, the process involves virtually every area of responsibility at Mohawk, including every school and faculty, administration, finance, scheduling, the registrar, facilities, experiential learning, continuing education, human resources, and communications.

"Developing new programs is a continual process, particularly given how we are always trying to respond to emerging needs in industry," said Cebert Adamson, Dean, Continuing Education, Academic Quality, Library and Centre for Teaching & Learning.

Mohawk staff study labour market trends at the local, provincial, national and global levels and gather critical intelligence from deans and associate deans, faculty, alumni and industry stakeholders who volunteer on program advisory committees or the college's Board of Governors, says Adamson.

"We do major research to ensure everything we develop is of the highest quality, meets industry needs, and leads to our students being future ready."

Mohawk College typically rolls out three to six new programs a year, but the last five years have been particularly busy, with five to seven additions annually. They include offerings across all credentials – diplomas and advanced diplomas, certificates and postgrad certificates, and degrees.

Recent new programs include mental health and disability management, global business management, cybersecurity, aviation – avionics, drones, artificial intelligence, elevating devices, sustainability, and internet of things.

New programs must align with Mohawk's Strategic Mandate Agreement, a negotiated deal with the Ministry of Colleges and Universities that sets out each college's areas of focus. For Mohawk, they include aviation, cyber security, data management, digital health, health care, community services, and skilled trades and apprenticeships. ■■■



Andrew Wolfe, Wolfe Procurement, Chair of Supply Chain Program Advisory Committee

STAYING AHEAD

Program advisory committees ensure Mohawk is meeting industry needs

Among the formalized ways employers shape how Mohawk College prepares the workforce of tomorrow is through program advisory committees (PAC) that guide and review curriculum and delivery, and the integration of technology and experiential learning.

"PACs provide a forum for employers to tell us what the needs and challenges are in their industries and to provide their expertise and experience to help us ensure our programs develop the skills required for our students to be future ready," said Alison Horton, Vice-President Academic.

PACs are made up of business leaders, sector experts, and representatives of industry and trade groups, along with Mohawk deans and program coordinators.

Horton says serving on a PAC is often a point of entry for partners, who then discover other ways to get involved at Mohawk.

"I think PACs work very well," said Andrew Wolfe, chair of the PAC for the 18-month postgraduate certificate in Supply Chain Management within the McKeil School of Business. Wolfe is a Business graduate from Mohawk and has worked since in procurement and supply chain roles. He now owns a consultancy.

The PAC meets every four to six months to examine market trends, needed skill sets, the job success rates of graduates, and the long-term strategic vision to grow the program.

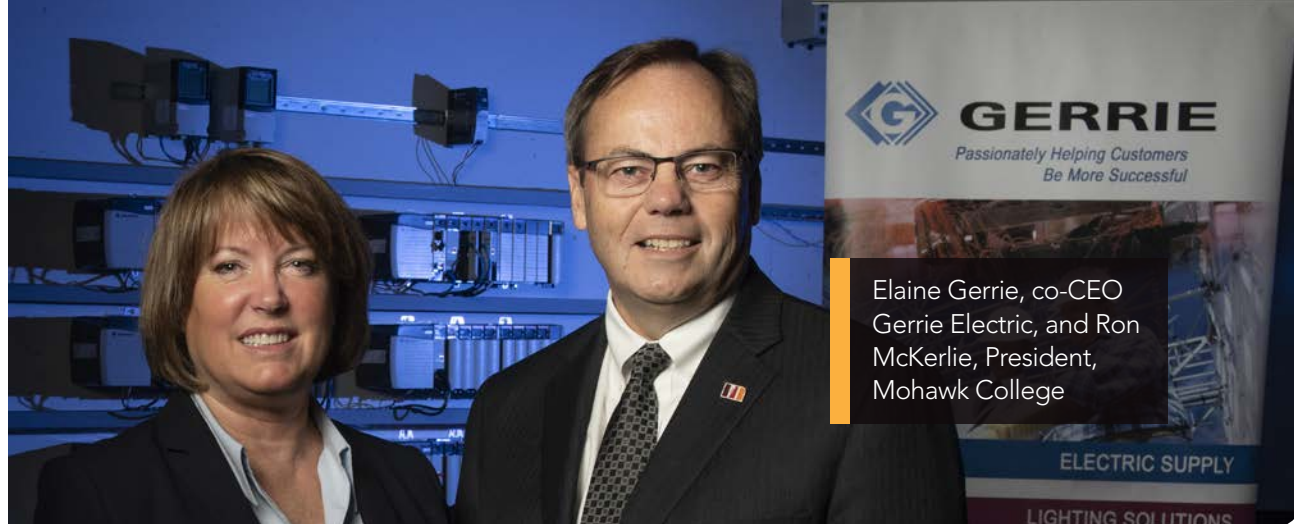
Wolfe says not only does he connect with faculty and deans through the PAC, but students also reach out to him for market insight and career advice.

"For me, it means a lot to come back to Mohawk in this role. To have a voice in the development of future talent is great and it's also an opportunity to leverage students into potential employees."

PACs are often the source of concepts for new programs. Some recent examples include new post-graduate certificates in Brain Disorders Management, Mental Health and Disability Management, and Concurrent Disorders and a range of offerings in cybersecurity, network engineering, software development and augmented and virtual reality.

"The PACs identified a need for skills development in those areas," said Horton.

"That input allows us to be responsive to act on the needs in the community because our committee members are on the front lines." ■■■



Elaine Gerrie, co-CEO
Gerrie Electric, and Ron
McKerlie, President,
Mohawk College

CREAM OF THE CROP

Mohawk is leading the way in industry partnerships with the Future Ready Premium Employer Program

Gerrie Electric and Mohawk College have been partners for 25 years, but it wasn't until the company was selected to take part in the Future Ready Premium Employer Program that co-CEO Elaine Gerrie realized "just what a powerful relationship we've had."

Close to 40 employees are Mohawk alumni, Gerrie has four Mohawk co-op students at any one time in various divisions, and the company provides an annual scholarship. Gerrie Project Managers judge capstone projects, the company contributes equipment to college labs, and it supports women-in-trades events and mentorship programs.

As well, employees sit on program advisory committees and have helped to develop programs and curriculum.

"There are so many amazing touchpoints that we have to a great school. Mohawk is so innovative, and this program is getting the word out that the college is not just a teaching institution but is bridging the gap to careers."

The Burlington-based electrical and automation distribution company is among 10 local companies in the first cohort of the program, which also includes ArcelorMittal Dofasco, City of Hamilton, Hamilton Health Sciences, IBM, KF Aerospace, L3HARRIS, Stelco, Thrive Group and Walters Inc.

Each has a longstanding, deep and multidimensional

relationship with the college, says Jim Vanderveken, Dean of Centre for Community Partnerships and Experiential Learning.

"We are focused on advancing each of these partnerships and growing them over the long term so that our partners are fully invested in the success of the college and our students."

Mohawk is leading the way when it comes to strategizing around stimulating and accelerating deeper employer relationships, says Paul Armstrong, Chief Operating Officer.

"No other postsecondary institution is engaging partners with so much intention. We are tying this in with our job-ready guarantee for students. Everything that we can offer our students improves when we deepen our relationships with employers."

Premium employers identify strategic connections and yearly goals for their partnership and together with Mohawk, create work plans to achieve them. Goals could include offering more experiential learning opportunities, expanding applied research or contributing more leadership to the college.

The Future Ready Premium Employer Program offers students new learning modules to support career development, early exposure to significant employers in the region, new experiential learning and applied research opportunities, and opportunities to explore company-specific jobs prior to graduation.

"The openness and innovative approach along with the drive to partner is exceptional at Mohawk and it's all for the benefit of students and the economy," said Gerrie.

"We are so hungry for talent and are confident in the students that come from Mohawk." ■■■



Wendy Lawson, Dean of Health, Jeff McIsaac, Dean of Applied Research, and Joseph Varrasso, Associate Dean of Electrical and Computer Science

TO A DEGREE AND BEYOND

College approved to deliver its first bachelor program and postgraduate certificate program in digital health

Mohawk College will soon roll out its first stand-alone degree along with a postgraduate certificate in Digital Health.

"This is a major milestone for the college and it's so appropriate that the first degree is in digital health, because Mohawk has such deep expertise in that space," said Jeff McIsaac, Dean of Applied Research.

"This is a really important test case for Mohawk in launching a degree program that blends experiential and classroom learning, with industry applied research."

Joe Varrasso, Associate Dean of Electrical and Computer Science, joined the college in 2016 as the Program Coordinator tasked with leading the development of the inaugural degree. (Mohawk currently offers a Bachelor of Engineering Technology in partnership with McMaster University.)

"The digital health field is rapidly growing and it's a well-established area of excellence at Mohawk College. It makes sense to develop a degree to provide synergies in research, faculty teaching and student learning that really builds on our strengths."

The degree program, which is embedded in the School of Engineering Technology, combines computer science, health, and business disciplines and will culminate in a capstone project. It will lead to jobs as software developers or networkers for healthcare providers, business developers or data analysts for health tech companies, or as entrepreneurs.

The postgraduate certificate program will welcome students with a prior credential in a wide variety of fields such as health, business and technology. It will allow them to apply their current skills and deepen their knowledge of the rapidly growing field of digital health. The power and reach of digital health research centre MEDIC are foundational to the new degree, says McIsaac, and offer a new way to think about partnerships with industry.

"Typically, employers find it takes two to three months to really see the contributions of a new hire. If we can take the digital health degree and build in experiential learning, we can cut that onboarding time. What students think of as a project in a lab is actually onboarding for an employer."

The experience of building this program and the interdisciplinary collaboration it took to make it happen have been "invaluable," says Varrasso, and will inform the development of other degree programs in the future.

The development of the degree involved five deans and the co-design of courses and learning outcomes involved multiple program areas. The program will launch September 2021.

"To see this level of co-design is unusual but there is so much value in beginning these conversations," said Wendy Lawson, Dean of the School of Health.

"I expect this kind of thing will happen more often because there is much crossover of the skills needed to be successful in this employment landscape." ■■■



SIMULATING SUCCESS

Students build confidence in their skills
at the Centre for Health Care Simulation

Students in Mohawk's School of Health spend hours each week learning through powerful simulations at the innovative Centre for Health Care Simulation in the Mohawk Institute for Applied Health at McMaster University.

"Simulation is one of the most important and meaningful experiences for our students," said Wendy Lawson, Dean of the School of Health. "It sets them up for success in clinical settings."

The Centre includes the Professional Practice Collaboratory (PPC), which features eight practice labs, four simulation suites, and three daily living apartments. The PPC features settings that mimic hospitals, long-term care and patients' homes and the equipment is exactly what students will be using in hospitals.

About 2,000 students studying nursing, medical imaging, pharmacy, cardiovascular, ultrasound, personal support worker, and occupational therapy and physiotherapy learn at the centre each semester.

Mohawk hires actors – standardized patients – to play out scenarios, alongside sophisticated high-fidelity manikins that are capable of simulating realistic sounds and physiology including speaking, breathing, vomiting, bleeding, and other bodily functions. One manikin can even give birth.

Staff control the response of the manikins based on the actions or inactions of students.

"We try to make it as realistic as possible," said Theresa Merwin, Director of Simulation, Business Development and Inter-professional Learning with the School of Health.

"The ultimate goal is to have students learning in a safe environment. They can make mistakes and learn from them before they are out in the world."

Simulation training is followed by extensive debriefing from peers and faculty, so students understand what went right and what needs to be worked on.



Madelyn Ferguson, Practical Nursing student and Theresa Merwin, Director of Simulation, Business Development and Inter-professional Learning

The result is that when students go into clinical placements “the fear is gone,” said Merwin. “They are able to adapt more quickly and take initiative because they have confidence in their skills.”

That was certainly true for Laura Bridgland, a third-year Bachelor of Nursing student.

“Simulations really give us a chance to practise and expand our skills in a more real-life setting. They help us be successful in a stressful environment.”

A recent simulation included a manikin in respiratory distress and a standardized patient acting as an angry and confused spouse.

“I take the simulations very seriously and sometimes I forget it’s not really happening,” said Bridgland, who hopes to head into critical medicine.

“I think that’s why I enjoy the simulations so much. I work well under pressure, but I want to develop those skills further.”

The simulation centre is often used to train staff at community healthcare organizations and Mohawk also offers simulation suites at Six Nations Polytechnic’s Brantford campus and the Village of Wentworth Heights retirement home in Hamilton.

The School of Health is also embarking on applied research at the newly formed Medical Technology Innovation Centre, located next to the Centre for Health Care Simulation.

“It is meant to build capacity in applied health research and introduce a new set of skills to our students, such as inquiry, discovery and agility,” said Lawson.

The college is exploring embedding augmented and virtual reality into foundational learning, and investing in a range of smart-home and wearable medical devices both for research and student training.

“Coupling simulation with research means Mohawk will always expose students to what’s coming next.” ■■■

ADVANCING APPRENTICES

Mohawk is the first in the province to grant Ontario College Certificate to apprentices

Mohawk College is continuing its tradition of innovation and leadership in apprenticeship training by becoming the first in the province to grant an Ontario College Certificate to students completing apprenticeships in 17 of the college's skilled trades disciplines.

The first group of apprentices received the new credential at the college's fall convocation.

Mohawk used to award a one-year local certificate to graduating apprentices, but the Ontario College Certificate is recognized by all colleges in the province and provides a head-start on achieving further certifications, a diploma or degree.

"We want to encourage apprentices to further their education either right after graduation or down the road. This credential gives them a foundation to start from," said Angelo Cosco, Acting Dean of the Marshall School of Skilled Trades and Apprenticeship at Mohawk College.

"Many apprentices and licensed journeypeople launch their own businesses or want to go into management and leadership paths or they head into teaching occupations. This opens the door for them because it gives them advanced standing."

The new certificate also gives apprentices alumni status at Mohawk, which deepens the sense of connection and belonging to the college, says Cosco, who is himself a licensed journeyperson and a graduate of Mohawk's Automotive Service Technician and Truck and Coach Technician programs.

Ryan Gascho, who finished the advanced level Automotive Service Technician apprenticeship in

October, said "I like the idea of getting a college certificate and I am excited to be considered an alumnus of Mohawk College."

Completion of an Ontario College Certificate requires a minimum 600 hours of in-school training. All but one of Mohawk's apprenticeship programs identified for an Ontario College Certificate are 720-840 hrs in the classroom.

It took about two years of collaboration between program coordinators and Mohawk's Program Quality team to ensure all necessary learning outcomes and employment skills for an Ontario College Certificate were embedded in the various apprenticeship programs.

"Mohawk was the very first college to bring the initiative forward but it's now being adopted by all the others. This will benefit all apprentices," said Cosco.

Brody Huk, a General Machinist apprentice who has just completed his in-class hours at Mohawk, values the Ontario College Certificate and says it will provide a foundation to add to his education and professional skills.

"There is so much movement in this trade, so the ability to transfer some courses I've taken here into future postsecondary programs or training is really, really critical to me," said Huk, who is a supervisor at a machine shop that specializes in automation systems and robotics.

"Maybe I will go into management or manufacturing efficiency platforms or engineering. The opportunities this gives me, it's huge."

A man with a mustache and glasses, wearing a grey t-shirt with a 'BYRIDE 150' logo, is working on a large industrial machine. He is looking down at his work. The machine has a large rotating part with a gear-like edge. The background shows a factory setting with various equipment and a bright light source.

Brody Huk, General Machinist apprentice

Leading apprenticeship training

Mohawk College's specialized Marshall School for Skilled Trades & Apprenticeship at the Stoney Creek campus is equipped with leading-edge technology, shops and professional facilities and graduates apprentices who are recognized as industry-ready by employers.

Mohawk is one of Ontario's largest providers of apprenticeship training, serving more than 2,900 students enrolled in 18 apprentice programs and 17 postsecondary programs. The college has developed robust partnerships with local unions, employers and community agencies, including the Hamilton Industry Education Council, Hamilton City Housing, the Mayor's Blue Ribbon Taskforce on Workforce Development, the Hamilton Skilled Trades Apprenticeship Consortium (HSTAC), and local school boards.

Mohawk has also partnered with George Brown College and Algonquin College on a Bachelor of Business Administration Trades Management degree.

Apprentices at Mohawk benefit from the commitment and contribution of local industry partners and enhanced funding from the province that ensures students are always working with state-of-the-art equipment, says Cosco.

"We have been able to purchase lab assets that allow our students to have hands-on experience with the latest technology."

That includes embedding augmented and virtual reality into welding training. That is especially useful for students needing more hands-on practice than lab scheduling allows, says Cosco. They can put on an AVR headset and practise in a simulated setting whenever they need.

Mohawk's provincial funding boost is in the second year of a three-year modernization plan that has contributed \$1.39 million each year, says Laura Side, Associate Dean, Motive Power.

"We are making a constant investment in technology, including developing a lab for a new Elevating Devices Mechanic program."

Mohawk is just the second college in Canada to offer such a program and has benefited from \$500,000 in contributions from industry partners.

Apprenticeship access

Mohawk is pioneering a number of initiatives aimed at growing the ranks of the skilled trades, at a time when a critical shortage has been made only worse by the impact of the COVID-19 pandemic.

The college is building on Ontario's Apprenticeship Strategy through the creation of the Apprenticeship Community Hub, which will support apprentices and employers, and lead the college's efforts to promote the opportunities in skilled trades careers.

As well, a new three-year project through City School called Skilled Trades Awareness and Readiness Training (START) is aimed at promoting the opportunities in apprenticeships among underrepresented groups.

This builds on a 20-year tradition at the college, which has delivered 55 pre-apprenticeship programs in 10 trades in partnership with 10 community partners, along with three of Ontario's Indigenous communities.

START is trying to address a shortage of skilled trades talent by "bringing an employer lens to the issue," said Bryan Ledgerwood, Training Specialist with Community Access and Engagement.

"Our Employer Engagement Strategy is focused on feeding into employer talent pipelines."

Participants are exposed to a range of hands-on experiences in skilled trades and some have gone on to employment and further education, says Ledgerwood. Past and future START offerings include construction and renovation, ship repair and maintenance, millwright, and collision repair.

Employers, many of which have to cope with chronically unfilled positions, are working with City School on data collection and analysis, program and curriculum development, taking part as speakers and trainers, and even offering their work sites as training grounds, says Ledgerwood.

Altogether, Mohawk's apprenticeship access initiatives have resulted in growing intake in January 2020 by 185 seats in five trades.

Accelerating demand

The shortages of talent in skilled trades are widespread and, in many cases, only growing. About one in five new jobs in Ontario over the next five years is expected to be in trades-related occupations.

Among the trades experiencing the greatest demand provincially are welding, carpentry, automotive service technicians and construction electricians.

BuildForce Canada, an organization that provides labour market information in the construction industry, projects 91,000 workers are set to retire in the next 10 years. Across the skilled trades, about one in three journeypersons were 55 and older.

"Many apprentices and licensed journeypeople launch their own businesses or want to go into management and leadership paths or they head into teaching occupations. This opens the door for them because it gives them advanced standing."

According to a Workforce Planning Hamilton report published in February, 89 per cent of employers in the manufacturing sector had a position that was hard to fill, and shortages were particularly found in welders, electricians, machinists, industrial millwrights, and pipefitters. The construction sector found acute shortages in carpenters, electricians, plumbers, and sheet metal workers.

That same report found the average hourly wage for an industrial electrician was \$36.15, while an industrial mechanic made \$34.21, and a construction millwright also earned \$34.21. ■■■

Melissa Groves, Associate Dean, Industrial, Marshall School of Skilled Trades and Apprenticeships and Louise Stallings, Apprenticeship Engagement Specialist

PRIDE IN THE TRADES

The Apprenticeship Community Hub showcases rewarding careers found in the skilled trades

A first-of-its-kind-in-Canada approach to supporting apprentices and promoting the skilled trades has launched at Mohawk College.

The Apprenticeship Community Hub is a one-stop centre for everything needed by apprentices and those considering apprenticeships. It comes amid a provincial push to boost skilled trades numbers in areas of severe talent shortages and the recognition during COVID-19 restrictions that skilled trades are an essential service.

"The skilled trades offer so many options and pathways to lucrative and rewarding careers," said Melissa Groves, Associate Dean, Industrial, Marshall School of Skilled Trades and Apprenticeships.

According to a national labour market report by the Canadian Apprenticeship Forum in 2019, the skilled trades will need to attract close to 168,000 new apprentices over the next five years to keep pace with workforce needs.

It is clear that economic recovery and growth after the pandemic will rely on the foundational contribution of the skilled trades.

Mohawk, already one of the largest providers of apprenticeship programs in Ontario, sees a role for itself in engaging with apprentices, promoting skilled trades and helping to knock down barriers for participation, says Louise Stallings, Apprenticeship Engagement Specialist.

Stallings says there are four key audience groups the college hopes to connect with through the Hub: industry and employers who are looking for apprentices; registered apprentices who need support navigating their apprenticeship path; people exploring careers in the skilled trades, from high school, to mid-career transitions, underrepresented groups, and university/college graduates; and finally, school staff and parents who may not fully realize the opportunities and realities of today's skilled trades.

"Whatever we can do to help more people complete their apprenticeship, or to bring more people to skilled trades, will help to address the shortage that's out there," said Stallings.

One major initiative of The Apprenticeship Community Hub currently under a pilot project is bringing skilled trades outreach to students in grades six to eight. That includes field trips to the campus and presentations by those working in the trades.

"We want to help them explore the skilled trades early and dispel any myths that may be out there," said Stallings.

The Hub will also target outreach to traditionally underrepresented demographics, building on partnerships with Indigenous communities and Women in Trades & Technology. "We see generations of families working in the same trade and we want to highlight those stories and to see that pride resonate. The trades are the foundations of our past, present and future." ■■■

HISTORY FLYING HIGH



Mohawk professors behind game, VR experience celebrating Canadians and the Avro Lancaster

A development studio with deep ties to Mohawk College is bringing a video game and virtual reality experiences to life that will celebrate the contributions of Canadian aircrews and the Avro Lancaster in the liberation of Europe during World War II.

One Mohawk professor and alumnus also has a very personal tie to the project.

It all began with Mohawk Professor Andrew Spearin, who was inspired by watching the Lancaster fly over his house in Dundas.

"I would imagine what it would be like to be in that plane. I was drawn to it."

Growing up in Hamilton as a soldier and bagpiper with the Argyll & Sutherland Highlanders of Canada, Spearin was often around World War II veterans and more recently he began volunteering as a re-enactor at the Canadian Warplane Heritage Museum.

There, he saw one of only two Lancasters in the world that can still fly. He also saw a need for technology to help tell stories, so he set up Sharp End Studio (SES) in 2019 to develop Valiant Effort, which will tell the stories of the Royal Air Force Bomber Command.

"I think it's really important to carry on the stories of that extraordinary generation. We are losing them so quickly."

Half of the 14-member team at SES are alumni, professors or students at Mohawk.

One of them is Shea Floren, a Professor of 3D animation and motion graphics. Floren and Spearin

met at a meeting of Mohawk's Game Development Club and immediately connected over Spearin's Lancaster game idea.

"We want to bring this history to the modern day. Video games can really tell stories that will connect with youth," said Floren, who graduated from Mohawk's Animation program in 2012.

Floren's great-uncle Harold Floren was the first to pilot a Canadian-built Lancaster in combat overseas. He didn't know much about his great-uncle's service, but wanted to learn. During research for Valiant Effort, Floren was able to see his uncle in a National Film Board documentary.

"It was amazing to get to see and hear him in this video. If we can do that for other people, all those with a connection to this plane, that's what really drives me and Andrew."

Harold Floren flew many harrowing missions before he and his crew were killed when their Lancaster was shot down on Jan. 15, 1944. Harold Floren was just 22 and is among the more than 10,600 Canadians killed in service of Bomber Command.

"For me, it means a lot to be able to honour the sacrifice of not only my family but all those who went off to war at a very young age," said Floren. "I feel very connected to this and to conveying the Canadian impact in the war and how much our men and women contributed. We found in our research that it's often left out of the story."

The studio is working on two projects: a video game that will allow players to take on missions either as



Valiant Effort team: Drew Edgar, alumnus – software development, Lissa Rodda, alumnus – software development, Connor McTear, student – software development, Jessica Costello-Murray, student – animation 3D, Professors Andrew Spearin, software development, Geoff Graham, animation 3D and Shea Floren, animation 3D

a single player or in cooperative teams; and virtual reality experiences that can be used in aviation and military museums.

“VR visitors will sit shoulder-to-shoulder with the crew, experiencing D-Day,” said Spearin, who teaches a number of software development courses at Mohawk. Gamers will experience what it was like to enlist, train, get sent overseas, and to take part in combat missions.

The museum has granted full access to its archives allowing Sharp End to pore over flight logs, airfield reports, and film footage to develop scripts and capture every detail inside the Lancaster. The team was able to digitize helmets, uniforms and gear found among the museum’s 15,000-item archives using technology called photogrammetry to capture every last detail in 3D space.

“We are giving people the chance to be in the cockpit of a piece of history,” said Lissa Rodda, operations and project manager. “That’s really cool because very few people in the world got to experience that.”

She calls the building of these worlds “digital heritage” that will connect to future generations.

“We are working hard to be as authentic as we can to the time period. War aficionados will see the work that has gone into that.”

Mohawk students are important contributors to Valiant Effort.

“I am grateful to be given the opportunity to be a part of a passionate and motivated team,” said Jessica Costello-Murray, a third-year 3D Animation student, who is working as an artist on Valiant Effort. “Because of the 3D Animation course and the dedicated staff at Mohawk College, I was able to learn the necessary software and skills that prepared me for a career in the gaming industry.”

Mohawk helped Drew Edgar, a senior developer who graduated from Software Development in 2012, build industry connections.

“Without attending Mohawk College, I wouldn’t have met a great number of people who have helped me get to where I am now and continue to be valuable professional contacts. I have learned that, while skill sets are important, the connections you make can be one of the most important keys to a successful career.” ■■■

MOHAWK HAPPENINGS

HIGHLIGHTS

1. Mohawk honours 10 outstanding alumni. **2.** Mohawk College women's basketball player Sam Pocrnic breaks college's all-time scoring record (men and women) with 1,128 career points. **3.** Six Nations Polytechnic STEAM Academy Partners with IBM Canada and Mohawk College to launch the P-TECH school model. **4.** A group from an Ancaster Girl Guides troop visited Mohawk's Fennell Campus to learn about trades and technology in a fun and engaging way. **5.** Construction begins at Mohawk's new airport campus. **6.** Mohawk welcomes Michelle Grimes as new Dean, McKeil School of Business and School of Media & Entertainment. **7.** Mohawk receives Canada's first zero carbon dual certification from Canada Green Building Council. **8.** Mohawk Alumni of Distinction Kathy Lerette receives Premier's Award. **9.** Mohawk and nine Ontario school boards establish a large-scale learning partnership offering students opportunities for new skills, curriculum connections and research, as they learn first-hand how to reduce the carbon footprints in their schools. **10.** Skills Ontario honours Mohawk professor Richard Dupp with Glenn Beatty Award. **11.** New gift catalogue helps more students make it to graduation. 🇩🇪

To learn more about the happenings at Mohawk, visit mohawknewsdesk.ca





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