



MOHAWK

Strategic Mandate Submission

future**ready**

The Government's decision to review Ontario's postsecondary education sector (PSE) through the lens of the province's future economic needs is a timely, forward-looking and strategic initiative. It reflects the McGuinty government's ongoing commitment to investing in human capital as a basis for ensuring Ontario's future prosperity.

Mohawk College believes we have already entered an accelerated period of change that will require publicly funded PSE institutions to respond to evolving economic, social and student learning needs. We are a college that understands and embraces the imperative for rapid innovation in order to effectively meet these needs. For several years the College has been actively and methodically positioning itself to be a leader in addressing fundamental changes in the communities that we serve.

I am pleased to provide Mohawk College's submission in respect to our Vision, Mandate, Priority Objectives and Productivity Gains which we believe helps the government advance its PSE agenda. Mohawk looks forward to working with the Province as this process unfolds.

Rob Maclsaac

President, Mohawk College



Mohawk College's Proposed Mandate

Mohawk College can serve a unique, high-value and exciting mandate within the province as Ontario's first *specialized Institute of Health and Technology*. Serving the western Greater Golden Horseshoe (Peel, Halton, Hamilton, Brant and Niagara regions), the new Mohawk Institute of Health and Technology (MIHT) will provide apprenticeship, certificate, diploma and degree programs in the fast growing areas of Health and Technology, buttressed by our signature hands-on applied research experience in the same fields. Cross-pollinated by vibrant private sector and entrepreneurial partnerships, MIHT's impact will power the economies of the communities we serve. The foundations to achieve this mandate have already been laid, and represent a natural progression that will support and advance Ontario's economy.

Inherent in this proposed mandate is a shift toward a regional approach to delivering postsecondary education. In the context of accelerated change, Mohawk's mandate is to continue to build and intensify the value of its demonstrated leadership in Health and Technology. No other college in the western Greater Golden Horseshoe (GGH) matches Mohawk's expertise and differentiated programming in Health and Technology. As such, we are the best positioned institution to deliver this mandate for the benefit of our students and Ontario's changing economy. At the same time, Mohawk is committing not to duplicate or enter into subject areas in which neighbouring institutions have clear and specialized expertise. Mohawk should not compete with Niagara College in the areas of Tourism and Hospitality, or with Sheridan in Animation or Theatre Arts.

Essentially, this is a strategy focused on extending the advantages of our strengths to the broader region, while leveraging the unique expertise of other institutions by avoiding duplication of offerings. Our strategy allows the Province to take a more strategic, impactful, and fiscally sustainable approach in infrastructure and equipment funding by creating fewer yet better equipped centres of excellence in education.

Briefly, our priorities are the following:

- 1. Lead in Health and Technology.** We will serve the western Greater Golden Horseshoe by leveraging our traditional strengths in the areas of Health, Technology, and skilled trades and apprenticeships.
- 2. Excel in Applied Research.** We will build on our internationally recognized expertise in applied research in Health and Technology while providing students practical skills and allowing them to work with entrepreneurs and local businesses to solve every day challenges.
- 3. Transform Lives Through Access.** Through a powerful combination of bold ideas and best practices, we will transform our community by enhancing access to PSE, increasing the rate of participation in communities at risk, and improving student success.

The outcomes associated with achievement of this mandate include:

- More efficient and effective use of capital and operating funding
- Better learning outcomes from a centres of excellence approach
- A decrease in critical skilled labour shortages in Ontario
- An internationally competitive institute of applied learning in Ontario
- A bigger share of federally funded research activity for Ontario
- More entrepreneurial start-ups in Mohawk's catchment
- Higher PSE participation rates particularly in Hamilton
- A higher graduation rate for Mohawk students
- Significant contributions to the prosperity of Hamilton and the western GGH.

Mohawk's Vision

Mohawk College will be internationally renowned for its innovation culture and highly skilled future ready graduates who will drive tomorrow's opportunities.

The essence of Mohawk's Vision, and its brand promise, is the notion that our graduates are future-ready. Our commitment is to give our students the skills they will require to meet their futures with confidence. By focusing our mandate in the areas of health, technology, and applied research, we can deliver with excellence the skill sets in high demand in our regional and provincial economies. Furthermore, by broadening access to education in these areas through innovative outreach initiatives, and aggressively adopting new learning technologies, we can deliver these skills to a very broad array of students.



VIDEO: mohawkcollege.ca/vision

Mohawk's Priority Objectives

1 Lead in Health and Technology: Specialization and Value-Added Differentiation

Hamilton is a nationally significant centre for health care and life science research with its teaching hospitals and McMaster University's medical school. Hamilton is also a critical centre for Ontario's advanced manufacturing sector with technology and skilled trades playing a pivotal role for the province's future success in this area. With the relocation of CANMET MATERIALS LAB to Hamilton, the city remains Canada's materials production and research centre. Looking forward, Hamilton anticipates continuing skill shortages in health care, technology, and skilled trades, a scenario also playing out on the national stage.

The City of Hamilton's economic development plan identifies health and technology as key economic drivers and as areas where there will be a skills shortage in the city. Biotechnology, for instance, is becoming an emerging industry in the city with a jobs growth rate of over 95% in the last decade. Similarly, technology companies relocating to Hamilton are urging civic leaders to address the skills shortage challenges that exist in the sector. The Conference Board of Canada has forecast that during the next two decades, 40 percent of new jobs will be in the trades and technologies sectors.

With more than 6,400 students enrolled in Health and Technology programs and 4,500 apprenticeship students, Mohawk is a provincial leader in the training of skilled workers. Mohawk's renowned partnership with McMaster, a world class, pure research university, is trend setting. Our notable success in Applied Research funding in the areas of Health and Technology is unparalleled in nearby colleges. These distinctive advantages lay the foundation for us to expand our program offerings into the neighbouring regions of Halton, Peel, and Niagara regions.

Mohawk has been actively planning changes to our enrollment mix to implement this strategy.



Over the next three years we are planning growth of approximately 20% in Health and Technology programs. More specifically,

- Our projections are grounded in planned programming changes reflecting growth within this sector
- Our strategy includes rationalization of our programs in order to concentrate on our areas of specialization.

Beyond this three year horizon, our growth will be driven by students in new programming areas and through increases in student retention through to 2018.

In order to meet the demands of employers and students, Mohawk proposes to deliver high quality three year degree programs in specific areas of Health and Technology by transforming its existing suite of advanced diplomas into new three year degrees. By 2014-15, as part of this differentiated model, Mohawk's strategic enrollment management plan calls for new programs in areas that intersect multiple disciplines in Health and Technology, such as imaging informatics, social media and energy technology. For example, in 2013 Mohawk will launch two new Health and Technology centres that integrate graduate certificates with applied research activity.

One limitation to becoming the pre-eminent provider of training in Technology for the western GGH is the age and state of our current engineering technology facilities. Mohawk requires new, dynamic facilities that allow for greater innovation and further productivity gains. Mohawk is planning a strategic investment in state-of-the-art facilities that will allow for efficiency and growth in our engineering technology infrastructure and invites the Province to participate in this important venture.

As a provincial leader in skilled trades and apprenticeship, Mohawk is prepared to lead the modernization of apprenticeship certification to assist the Province in addressing skilled trades shortages. Rationalization of the number of colleges offering independent, expensive apprenticeship programs, through concentrating regional program delivery at Mohawk is a key tactic in this process. Mohawk has the experience, facilities and infrastructure to:

- Train apprentices, pre-employment participants and technicians in closely related fields
- Expose secondary school students in the Ontario Youth Apprenticeship Program and High Skills Majors to the college and work environment.

By 2018 Mohawk will commit to transform the delivery of apprenticeship programs by:

- Employing back-to-back education modules, blended and online learning to reduce the time apprentices are away from the workplace and accommodate employer workload priorities, resulting in improved apprenticeship completion
- Expanding apprenticeship delivery to the integrated technician apprenticeship model – an area where Mohawk has won national awards
- Enabling apprentices to complete portions of their workplace hours by expanding the in-school component to include real world, living lab work experiences and co-op placements.

Five Year Full-Time Health and Technology Enrollment Projections

| | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|------------|---------|---------|---------|---------|---------|
| Health | 2,299 | 2,509 | 2,635 | 2,845 | 3,072 |
| Technology | 3,657 | 3,901 | 4,119 | 4,306 | 4,600 |

2

Excel in Applied Research: Commercialization and Entrepreneurialism

Virtually all of Mohawk’s programs focus on applied learning which is why applied research is a key priority for us. Mohawk’s centre for applied research and innovation is called iDeaWORKS. iDeaWORKS is an acronym for innovation, design thinking, entrepreneurship, and applied research. iDeaWORKS focuses on three centres:

- Electronic health records and management
- Advanced materials research for industrial applications focusing on the advanced manufacturing and technology sectors
- Energy Technologies involving primarily smart grid technology.

Through private and public sector partnerships, these centres provide multi-disciplinary hands-on education that offer students the chance to help solve real-world problems, address challenges and pursue opportunities faced by local SMEs. Professors act as project managers, coaches and mentors, with students actively engaged on project teams. Our close involvement with local businesses has also allowed us to engender entrepreneurial skills and spirit in our students.

Mohawk’s strong record in the area of applied research is clear – we have been a high performing college in attracting applied research funding. In the past five years, Mohawk has received two NSERC grants in the amount of \$4.6 million for applied research in electronic health records and energy technologies, as well as two FedDEV awards of \$750,000 each to assist SME’s in specific productivity enhancements. In addition, the Canadian Foundation for Innovation (CFI) and the Ontario government awarded Mohawk \$2 million to establish a state-of-the art test centre for mobile devices in electronic health records. Mohawk has been the most productive college in Ontario in securing applied research grants in the past three years.

During the same period, iDeaWORKS has also become a regional centre for entrepreneurial

collaboration and creativity by engaging companies not traditionally associated with academic institutions, and by immersing students in technology-intensive, fast-paced working opportunities.

Looking ahead, Mohawk intends to maintain and enhance its role as a provincial leader in the college sector in applied research within the fields of Health and Technology. We anticipate that Provincial recognition of our proposed mandate will serve to enhance our ability to continue attracting federal research funding.

iDeaWORKS Funding and Student Participation

| | 2009-10 | 2010-11 | 2011-12 | 2013-14 |
|-----------------------|-----------|-----------|-------------|-------------|
| Grants | \$334,419 | \$491,754 | \$1,698,888 | \$2,908,895 |
| Student Participation | 36 | 86 | 119 | 200 |

Given that our applied research activity is embedded into existing and future programming, the enrollment impacts of this priority are included in the projections noted in our first priority.

Innovative Approaches

This summer, iDeaWORKS had 24 projects underway, primarily comprised of commercialization projects with SMEs such as Fluid Media, ecGroup and Desire2Learn. Our students gained real-world experience in a broad range of projects which included specialized iPad and Android applications, specialized SMS technology for use in remote health care settings, and prescription encoding technology to help prevent prescription errors. Other projects involved data capture for clinical trials and clinical notes, applications that provide data on bus schedules and university campus maps, advanced materials design and new product development, development of Everest software, and an e-Health software development kit that was presented at RIMBAA to global software developers.

 VIDEO: mohawkcollege.ca/AppsforHealth12

 VIDEO: mohawkcollege.ca/Motech12



iDeaWORKS Highlights:

- Awarded a 5-year CCI-Innovation Enhancement Grant, and is in the process of developing a working model for power system protection for distributed generation, partnering with Hydro One, Horizon Utilities, Langford Associates, General Electric, MEARIE, McMaster University, the City of Hamilton, various SMEs and schools
- Awarded NSERC funding to develop a model of the Canadian Electronic Health Records Infrastructure, and created specialized skills in e-Health architecture which subsequently attracted collaborations with e-Health Ontario, Canada Health Infoway, NexJ, NetHope and others
- Installed an Entrepreneur-in-residence, who provides direct mentoring to students in respect to start-up endeavours
- Launched an entrepreneur speaker series
- Attracted a Lawyer-in-residence to provide counsel on Intellectual Property issues for our students
- Created an incubator for students to develop business ideas
- Will soon launch a research and innovation journal which will be distributed to faculty, students, alumni, other institutions, employers, and funding partners.

3 Transform Lives Through Access: Community Building

We intend to continue our current leadership role in enhancing access to PSE. Mohawk defines access broadly to include existing students, life-long learners, and underrepresented populations. We understand that access without support is meaningless which is why we have launched an innovative suite of programs aimed at making us a provincial leader in student success. We see technology as a key enabler to enhancing access and accordingly are providing our students more choices and control over how, when and where they learn.

Innovative Access Programming for Underrepresented Populations

Mohawk has formulated a regional strategy to promote access to postsecondary education for vulnerable youth beginning with a series of pilot initiatives to bring college resources and expertise to community centres in areas locally identified as “Code Red” neighborhoods – areas of chronic multi-generational poverty and urban decay.

- Hamilton has a lower postsecondary completion rate than the provincial average at 51.1%
- The four Code Red neighbourhoods have high school drop-out rates in excess of 65% of youth aged 15-24 in Hamilton, 38% are not attending school
- 21% of all youth in Hamilton live below the low income cut off.

Mohawk is working with community, government and other education sector stakeholders to profoundly improve the opportunity for disadvantaged youth to pursue postsecondary education by better recognizing their needs and circumstances, and supporting their success at Mohawk.

There is no better and more viable way to close the provincial skills and productivity gaps than to engage disenfranchised youth and provide them with the skills for meaningful employment.

Community Outreach and New Students

| | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------------------|-------|-------|-------|-------|-------|
| Youth Contacts | 6,752 | 7,352 | 7,434 | 7,270 | 7,270 |
| New PSE Registrants | 45 | 214 | 311 | 400 | 553 |

Innovative Approaches

- **College In Motion** – a mobile team of staff and students with expertise, specialized communication skills and information tools on admissions and financial aid provides a seamless approach to encourage young people in priority neighbourhoods to prepare and submit their applications to Mohawk.
- **Early Alert Initiative** – an online system to monitor first semester students at frequent intervals and identify students at-risk. Where appropriate the system initiates an early intervention providing support from a cross-disciplinary team of faculty and student success advisors.
- **Loyalty Card** – a system that provides incentives for students to pursue their studies through the accumulation of reward points that reduce application and tuition fees in return for engaging in activities with Mohawk.
- **Aboriginal Recruitment** – working closely with Six Nations community and Six Nations Polytechnique, a range of recruitment, retention, programming, cultural and residential programs have been developed to attract and retain Aboriginal students for academic success, educational attainment and career development opportunities.
- **Project Pathfinder** – a Summer Experience which targets grades 7 to 10 Aboriginal youth living both on and off reserve. This program provides safe, culturally significant and career oriented educational activities and has provided life-changing experiences to young Aboriginals. In its first two years, more than 200 urban Aboriginal youth participated ensuring that these youth see a postsecondary education in their future.



VIDEO:

mohawkcollege.ca/projectpathfinder

- **Mohawk@Schools** – in partnership with the public and catholic school boards, students have the opportunity to achieve an OSSD and post-secondary credit simultaneously through programs delivered by secondary school teachers and college faculty.
- **Mohawk@Work** – establishes co-op and summer employment opportunities for selected high-school students with local employers who have strong partnership ties to Mohawk.

Mohawk's access programs play an important role in the continuing transformation of post-industrial Hamilton. Reinventing Hamilton, as Pittsburgh reinvented itself in the 1990s, and by breaking the cycle of poverty in priority neighbourhoods is a material contribution to the provincial economy, as well as advancing the province's goals for education attainment. Access programs create aspirations, and Mohawk has achieved significant momentum as a "school of hope" providing the same learning outcomes for students regardless of their individual paths to post-secondary education.

Looking forward, other key access initiatives will include:

- A downtown Hamilton centre designed to employ principles of youth engagement similar to those successfully implemented by Bill Strickland in Pittsburgh's Manchester Bidwell School. Mohawk invites the Province to participate in this innovative initiative aimed at both city building and engaging disenfranchised youth
- Further development of "School within a College" programs with greater emphasis on learning outcomes giving students the option to accelerate their learning and skills development versus traditional sequential approaches to education
- The creation of stackable programs with options for students to create their own credential based on what they need and what their employer needs. These needs will evolve through the career and life journey of our students and graduates
- An increase in the number of programs available via part time options, including



weekends and evenings, as well as online and through blended learning

- Provision of opportunities for students to set their own pace: fast track, slow track, or stepping in and out when life's circumstances require an unorthodox path
- Creation of a first of its kind evergreen personal digital library for every Mohawk student.

Technology Enabled Learning

Mohawk will deliver all of our programs in a blended learning format by 2013, and we have established measurable performance objectives against this commitment. We are not aware of any other Ontario academic institution that has made such a commitment. This goal encompasses the integration of mobile and personal devices in classroom learning, on-line teaching and course materials, as well as partnerships with major publishers to provide textbook resources in formats individualized to student needs, and at lower prices than traditional text materials. Mohawk is working toward a technology-based learning platform connecting content management, assessment tools, collaboration and social networking applications that will significantly enrich the learning experience.

Blended learning technologies will also be an enabler for inter-institutional collaboration and efficiencies. They will:

- Respond to student demand for flexibility in learning customized to individual student needs, while providing a rich online learning environment
- Support telecommuting and work-at-home opportunities
- Be efficient from a capital planning standpoint, over the long term reducing requirements for physical learning facilities, maintenance and upkeep.

Productivity Gains

Over the last 5 years, Mohawk has consistently balanced its budget while achieving productivity gains in excess of 10%. Our improvements have been largely based on strategies such as differentiated staffing and modified work arrangements. Mohawk made a commitment three years ago to increase year-round teaching, optimizing the distribution of fixed costs per student. Since 2009, summer enrollments have increased by 73%, almost 20% year over year. Furthermore, Mohawk has adopted an aggressive strategy aimed at diversifying revenue sources.

Mohawk is committed to continuous improvement and to achieving yearly productivity improvements. For example, Mohawk has recently embarked on a process re-engineering in its Registrar's Office, and is pursuing aggressive energy efficiency initiatives. However, traditional incremental strategies will not be sufficient to address the very significant provincial fiscal and educational priorities as diminishing returns begin to take hold.

The transformative strategies set forth in this mandate submission will enable more significant productivity gains through scaling our activities and focussing our efforts. If supported in its proposed mandate, Mohawk will have the ability to pursue new strategies and efficiencies to maintain balanced budgets as well as to deliver an additional 15% improvement in productivity over 10 years to 2022. Our projections do not include indirect productivity gains enjoyed by the PSE system resulting from our proposed strategy.

The Role of Partnerships in Improving Productivity, Quality and Student Focus

Mohawk's deep experience with collaborative programming and partnerships with other PSE institutions provides clear evidence of its move toward a more integrated and regionalized approach to more efficient program delivery. For example, the Bachelor of Technology and Medical Radiation Science collaborative programs that Mohawk has developed with McMaster have reduced the amount of time that students in the college system spend in attaining college and university credentials. We intend to continue a focused approach toward partnerships that values differentiated core competencies in the following ways:

- More expansive plans for collaboration between Mohawk and McMaster to develop a joint strategy for postsecondary education in our region with a view to offering students a broad array of complementary academic pathways while capitalizing on the distinctive strengths of each institution
- Mohawk proposes that the Province consider establishing a credential aimed at students in 2 + 2 programs. This credential would give students leaving two year college programs that are to dovetail with a 2 year university honours degree the credential “Associate Degree”
- Unprecedented cooperative initiatives with Sheridan College that will see Mohawk delivering programming on Sheridan’s campus in areas where Mohawk has expertise (eg. Health and Technology) and vice versa
- As leaders in the field of digital education, Mohawk and Algonquin College have committed to collaborate on a virtual centre for teaching and learning where we share curriculum, and best practices in e-learning and blended learning.

Putting Students First as a Measure of Productivity

Mohawk has improved student satisfaction as measured by Provincial KPIs moving from number twenty-three in Ontario four years ago to number one in the Greater Toronto and Hamilton Area in 2010-11, and amongst all large colleges in 2011-12. KPI data plays an active part in planning and decision-making in every facet of the learning experience at Mohawk.

Having made impressive progress in student satisfaction over the past four years, Mohawk’s President recently established aggressive targets that will see Mohawk become a provincial leader in student success within the next five years. Other key metrics used by Mohawk to assess student programming and program quality include:

- Student demand – Total number of “first choice” applications per academic year; number of students enrolled by November 1 Audit date
- Student success – first year-retention rates
- Graduation Rate
- Employment demand – graduate employment
- Financial performance – program contribution rates
- Applied Research Grants received
- Number of students involved in Applied Research.

Policy Tools In Support of Achievement of Objectives

1. Designate MIHT as the regional provider of program offerings in Health and Technology for the western Greater Golden Horseshoe region.
2. Establish Mohawk as the key trainer of apprentices in the Greater Golden Horseshoe region.
3. Direct admission of students into Mohawk apprenticeship programs.
4. Include School to College to Work funding into colleges’ funding base.
5. Transform three-year advanced diplomas into three-year baccalaureate degrees.
6. Empower OCQAS to approve all college credentials (including three year degrees).
7. Establish the credential “Associate Degree” for graduates from two year programs designed to dovetail with a further two year University degree.
8. Establish flexible program standards to accommodate the development of cross-disciplinary programs in Health and Technology at Mohawk.
9. Align provincial capital funding policies with a regional PSE delivery model.
10. Provide financial support towards the building of a state-of-the-art Mohawk engineering technology facility as well as a centre in downtown Hamilton aimed at youth engagement.



Mohawk Institute of Health and Technology

Priority:

- Regional provider of applied health and engineering technology training
- Regional hub for apprenticeship training



Outcomes:

- More efficient and effective use of capital and operating funding
- Better learning outcomes from a centres of excellence approach
- A decrease in critical skilled labour shortages in Ontario

iDeaWORKS

Priority:

- Provincial Hub for Applied Research in Health and Technology
- Commercialization and entrepreneurial skills training



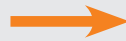
Outcomes:

- An internationally competitive institute of applied learning in Ontario
- A bigger share of federally funded research activity for Ontario
- More entrepreneurial start-ups in Mohawk's catchment

Transform Community through Access

Priority:

- All programs delivered in Blended Format
- Innovative access programming for underrepresented populations



Outcomes:

- Higher PSE participation rates particularly in Hamilton
- A higher graduation rate for Mohawk students
- Significant contributions to the prosperity of Hamilton and the western GGH



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