

Integrated Academic-Research Plan 2021-2023



DRAFT

Vision, Mission, and Values

The University of Ontario Institute of Technology Act¹ envisioned a new type of university, one that would focus on offering programs that were innovative and responsive to the individual needs of students and to the market-driven needs of employers. And over the past 19 years, Ontario Tech has embraced this vision with its strategic commitment to being a change-maker and leader in technology-driven research, teaching and scholarship.² As the institution nears the end of its second decade of operation, this commitment is stronger than ever. Our newly coined Vision, Mission, and Values³ differentiate us from other universities and capture the essence of our potential.

Vision

Embracing technology with a conscience to advance knowledge and promote sustainability.

Mission

We equip future leaders to solve complex problems.

We respond to the needs of students and the evolving world by providing superior undergraduate, graduate, and lifelong learning experiences. To this end, ‘what we do’ to achieve our mission and to ‘tell our story’ is guided by a community-focused approach on our strategic priorities:

- **Tech with a conscience:** *Innovating to improve lives and the planet by incorporating technology-enhanced learning strategies and promoting the ethical development and use of technology for good through intensive research and inquiry.*
- **Learning re-imagined:** *Co-creating knowledge by adapting to the ever-changing educational landscape through the provision of flexible and dynamic learning and research opportunities.*
- **Creating a sticky campus:** *Cultivating student- and community-centric engagement opportunities by encouraging an inclusive culture for our institution through online and on-campus activities.*
- **Partnerships:** *Uncovering innovative solutions for their most pressing problems through purposeful research and collaboration with industry, community, government and academic partners especially as it relates to all facets of global sustainability and well-being.*

Values

Ontario Tech is a place where every person belongs and is free to grow their skillsets and mindsets. We cultivate lasting relationships through:

¹ See <https://www.ontario.ca/laws/statute/02u08>

² See <https://shared.uoit.ca/shared/department/opp/Governance/Office-of-the-President/2017-2022-strat-plan1.pdf>

³ Most recent version approved by the Board of Governors on February 25, 2021.

- **Integrity:** *Supporting a culture of trust and belonging by consistently promoting equity, fairness, kindness and ethics.*
- **Inclusion:** *Advancing a learning community where we achieve success by prioritizing reconciliation, valuing diversity and eradicating discrimination and hate.*
- **Intellectual resilience:** *Pursuing excellence in all that we do by respecting different points of view and engaging constructively when exploring ideas and advancing knowledge.*
- **Innovation:** *Inspiring world-changing ideas by re-imagining learning and in so doing, fostering an environment that provokes curiosity, creativity, ingenuity and failure while stimulating growth.*

Our Current Context

Ontario Tech is a differentiated university where students, staff, and faculty are immersed in a technology-enriched learning environment with a commitment to science, technology, engineering, and math (STEM) and professional degree offerings, and an impressive and growing suite of innovative social science, humanities, and arts programs. We are labour market-focused and we were established⁴ with a mandate to advance the highest quality of learning, teaching, research, and professional practice and a special mission “to provide career-oriented university programs...with a view to creating opportunities for college graduates to pursue a university degree.” Importantly, as stated in our Vision and Mission, we are committed to “Embracing technology with a conscience to advance knowledge and promote sustainability” and “We equip future leaders to solve complex problems.”

We embrace our role in stimulating and enhancing the economy and social fabric of the Region of Durham, Northumberland County, and the eastern GTA. We also work closely with university (e.g., Trent University, OCAD University, UTSC), college (e.g., Georgian, Fleming, Loyalist, and Durham College), and community partners (e.g., City of Oshawa Teaching City, CityStudio Durham, Ontario Shores Centre for Mental Health Sciences, Lakeridge Health) to meet the aforementioned objectives while finding efficiencies, reducing duplication, and spawning innovative and future-facing opportunities in the province’s post-secondary education sector.

Importantly, Ontario Tech is a regional university that supports the needs of our rapidly growing and changing local populations, employers, and communities. We are an access institution and, through our location, enhanced use of technology (e.g., on-line and hybrid/blended learning platforms), and flexible learning options (e.g., stackable credentials, microcredentials), one that is committed to accessible post-secondary education while also promoting continuous lifelong learning and upskilling in the local workforce. We are educating people in our catchment area for the catchment area. Through our research (e.g., with an emphasis on energy, digital technology, intelligent

⁴ See <https://www.ontario.ca/laws/statute/02u08>

manufacturing, environmental sustainability, clean technologies, autonomous vehicles, aerospace, computer science, forensic psychology, health and life sciences, dementia care, and much more), we are helping to re-shape the local and provincial economic landscape. With our provision of employment, educational, and infrastructure development opportunities, we are helping to revitalize the City of Oshawa's downtown core while at the same time anchoring development and growth in the north end of the city. The social and intellectual capital invested by our faculty, staff, and students is building resilience across the Region of Durham and Northumberland County and providing much needed support to community organizations in their efforts to address poverty, homelessness, crime, opioid addiction, and quality of life issues.

Looking Back: The Plan, the Pandemic, and Perseverance

When we began our 2019-2021 planning process, Ontario Tech found itself immersed in an economically-constrained environment filled with tremendous opportunity and heightened expectations. We acknowledged that the world around us was in a constant state of flux and that technological disruption was challenging us to explore new, exciting, previously unforeseen, and spontaneous opportunities. We realized that our potential would depend on our ability to value, celebrate, and respect our collective strengths as well as our individual differences. Collectively rallying around our shared priorities was considered to be essential if we were to be successful in navigating the forthcoming opportunities and challenges for post-secondary institutions provincially, nationally, and globally. We knew that staying committed and focused on our four key strategic areas was essential and we hoped that our new approach to planning would yield results – and these results are impressive.

In line with “Tech with a conscience,” we established new research institutes (e.g., Digital Life Institute; Institute for Cyber Security and Resilient Systems), centres (e.g., Centre on Hate, Bias and Extremism), and chairs (e.g., NSERC/UNENE Industrial Research Chair in Health Physics and Environmental Safety). We also positioned ourselves as leaders in the national discussion on the future of energy by initiating the Brilliant Energy Institute, created a global network to address online hate with Facebook Canada⁵, and with Ontario Shores established a Clinical Demonstration Unit⁶ to explore a wide range of innovative treatment options for dementia care.

Under “Learning re-imagined,” we introduced a new Learning Management System (i.e., Canvas™) and became Ontario's first post-secondary institution to issue digital degrees to all of our graduates. We also established an OER Lab⁷ to support the development of OERs while also providing experiential employment opportunities for our students. We broadened our degree program offerings (e.g., with the addition of Honours BA and BSc Psychology programs; MScN Professional Practice Leadership) and established Ontario

⁵ See <https://news.ontariotechu.ca/archives/2020/07/ontario-tech-university-and-facebook-canada-create-global-network-to-address-online-hate.php>

⁶ See <https://news.ontariotechu.ca/archives/2019/10/transforming-dementia-care-through-technology-ontario-tech-university-and-ontario-shores-unveil-new-research-partnership.php>

⁷ See <https://learninginnovation.ontariotechu.ca/oer/creating/index.php>.

Tech Talent Inc.⁸ to introduce a unique and differentiated lifelong-learning model with industry to bridge the skills gap.

Aligned with our “Sticky campus” strategy, we laid the groundwork to become a more inclusive institution with the hiring of our first Director of Equity, Diversity and Inclusion, and the receipt of major reports and recommendations from the President’s Indigenous Reconciliation and Equity Taskforces. We signed the Dimensions Charter⁹ and became one of a handful of Canadian Universities to receive the Age-Friendly University (AFU)¹⁰ designation by committing to enhancing the quality of life of older adults in our community. Construction of our new academic building also got underway, as we were opening a new campus bookstore and contracting with a new food provider to bring a broader array of healthy food options to the university.

In terms of “Partnerships,” we engaged more students in our Brilliant Catalyst¹¹ and Brilliant Solutions¹² activities, while also establishing new international academic and research (e.g., University of Technology Sydney; Microsoft Canada¹³; TD Bank Group¹⁴), and industry partnerships (e.g., to design, engineer and build APMA’s Project Arrow zero-emission concept vehicle¹⁵). According to Research Infosource, Canada’s leading provider of research intelligence for business and higher education, we ranked second for both corporate research income as a percentage of total university research income and in year-over-year corporate research income growth.¹⁶

These are but a few examples of the many things we accomplished during the 2019-2021 time period. As a university community, we should be very proud of our accomplishments given the unforeseen onset of the COVID-19 pandemic. It impacted us at almost the exact midpoint of this previous planning cycle with our closing of the university on March 13, 2020, yet we were able to adapt quickly because as we stated in the 2019-2020 plan:

In comparison to our provincial competitors, Ontario Tech is uniquely positioned to adapt to technological change because of our founding institutional commitment to STEM and our longstanding pledge to embed technology throughout our market-driven educational programs, our campus learning environments, and our research.¹⁷

⁸ See <https://news.ontariotechu.ca/archives/2020/02/university-announces-bold-ontario-tech-talent-initiative-to-bridge-the-skills-gap.php>

⁹ See <https://news.ontariotechu.ca/archives/2019/05/ontario-tech-president-signs-new-equity,-diversity-and-inclusion-charter.php>

¹⁰ See <https://www.geron.org/programs-services/education-center/age-friendly-university-afu-global-network>

¹¹ See <https://news.ontariotechu.ca/archives/2020/11/ontario-techs-brilliant-catalyst-expands-engagement-and-impact.php>

¹² See <https://news.ontariotechu.ca/archives/2020/09/ontario-tech-students-brainstorm-with-city-of-oshawa-on-downtown-revitalization-ideas.php>

¹³ See <https://news.ontariotechu.ca/archives/2020/09/ontario-tech-the-provinces-first-university-to-join-new-microsoft-canada-data-analytics-and-ai-skills-program.php>

¹⁴ See <https://news.ontariotechu.ca/archives/2021/01/ontario-tech-university-and-td-bank-group-offering-free-micro-credentials.php>

¹⁵ See <https://news.ontariotechu.ca/archives/2020/10/ontario-tech-named-lead-academic-institution-for-phase-2-of-project-arrow-all-canadian-concept-vehicle.php>

¹⁶ See <https://news.ontariotechu.ca/archives/2020/12/ontario-tech-cracks-top-40-of-canadas-best-research-universities-list.php>

¹⁷ See p. 6 of the Ontario Tech Integrated Academic-Research Plan 2019-2021 at <https://shared.ontariotechu.ca/shared/departement/provost/integrated-plan-full/integrated-plan-brochure-full.pdf>

The disruption caused by the pandemic emphasized the ability of technology to enable changes in the way educational programming is delivered around the world. This too was predicted and highlighted within several passages of our previous integrated plan, including:

Continued adherence to a traditional university model is not and will not be a viable option as the world around us continues to change. Global trends including increased reliance on existing and emerging technologies, digitization, and the demand for flexible education options are driving us to transform the way we deliver our programs.¹⁸

Post-secondary education is on the cusp of enormous change and at the forefront of that change is the demand for flexible and accessible education options. Ontario Tech will use virtual platforms and resources to expand our reach beyond our physical campus boundaries, which will both break down geographical barriers and reduce for our students the cost of earning a degree.¹⁹

We were already pressing ourselves towards a new “technological” mindset when the pandemic changed our reality. This helped us to adapt more quickly than our peer institutions, yet the real key to our success was our people - our students, staff, and faculty. Despite the enormous personal challenges created for each and every one of us, we supported each other throughout and remained committed to ensuring that our core business continued.

The past year has been more than difficult. It has stretched us beyond our comfort zones and it has been emotionally and mentally challenging. We have experienced fear, anxiety, fatigue and grief. Whether we wanted to or not, we were forced to work from home. We also tolerated the unforeseen challenges associated with new forms of communication and engagement imposed by online video conferencing tools. Each of us has persevered through our own unique set of personal circumstances. Most importantly, however, hope is on the horizon.

As this plan is being written, global daily COVID-19 case counts although still higher than we want them to be are on the decline. The threat of a third wave is still with us but so too is the promise of a mass vaccine roll out in Ontario, across Canada, and around the world. Slowly, and with determination and the guidance of public health officials, we will remain active in a virtual learning environment while also returning in person to our north and downtown campus locations. We need to be realistic in understanding what this return will look like and accept that post-secondary education will be forever changed by the pandemic and its aftermath.

¹⁸ See p. 6 of the Ontario Tech Integrated Academic-Research Plan 2019-2021 at <https://shared.ontariotechu.ca/shared/departement/provost/integrated-plan-full/integrated-plan-brochure-full.pdf>

¹⁹ See p. 6 of the Ontario Tech Integrated Academic-Research Plan 2019-2021 at <https://shared.ontariotechu.ca/shared/departement/provost/integrated-plan-full/integrated-plan-brochure-full.pdf>

Looking Forward: The Pandemic, Planning, and our Priorities

This Integrated Academic-Research Plan represents just one of many planning initiatives currently in place or underway at the university. It is designed to work in tandem with the already existing Ontario Tech *Driving the Future with Research Excellence: Strategic Research Plan 2020-2025*. It also necessarily aligns with our year-over-year budgeting processes.

There is much anxiety about our fiscal future, thanks to a prior 10% reduction and ongoing multi-year freeze in domestic tuition rates. Government grants have also remained static and have been declining in value for some time due to inflation. The pandemic forced the provincial government to suspend its previously planned move to performance-based funding for a period of about two years, yet much uncertainty remains. Most notably for Ontario Tech, an unexpected decline in new incoming first year students in September, 2020 will have a lasting effect on our annual tuition and grant revenues for some years to come. Attracting and retaining students is a top priority and will depend on our ability to differentiate ourselves as leaders in delivering high quality, technologically-supported educational experiences in face-to-face, hybrid, and online instructional formats.

Moving forward, staying focused on these aforementioned core priorities (i.e., attracting and retaining students; differentiating Ontario Tech as a leader in defining and delivering high quality technologically-supported instructional experiences) while adapting to the pandemic and its aftermath will be a must. At the same time, we will continue to be accountable in ensuring that our graduates are employable, and that the generation, analysis, retention, and meaningful translation of our research efforts support the greater good of society. Universities have an important role to play in addressing societal challenges and problems in visible and meaningful ways. In times of crisis such as these, we need to envision ourselves as key contributors to the post-pandemic economic recovery of our region and our province, and as community leaders committed to rising and supporting those in need.

We must continue to build upon our existing research strengths (e.g., energy, advanced manufacturing, digital technology, sustainability, and autonomous vehicle production) while also being responsive to the challenges created by the pandemic (e.g., growing our capacity in areas such as COVID-19 wastewater surveillance, health policy and administration, and personalized health and medicine). Technology with a conscience requires us to explore the intersection between technological innovation and policy formation to first and foremost answer the most important questions of “What should we do?” and “What do we need to do?” ahead of “What can we do?”²⁰ Asking these questions reflects our commitment to focusing on more than just the use of technology. Our commitment at Ontario Tech for both research and learning is on the development and application of technology with a conscience.

²⁰ As stated by Bill Buxton (2019), a noted technology theorist, designer and principal researcher at Microsoft. See <https://news.ontariotechu.ca/archives/2019/05/ontario-tech-university-sharpens-its-focus-on-technology-with-a-conscience.php>

Out of necessity, we will continue to use technology and virtual platforms to deliver our educational programs. As nimble – or “technologically-able” – as we were to move online in response to the pandemic, we were not as equally “pedagogically-able.” Through a commitment to both technology and pedagogy, and with the leadership of many dedicated faculty members²¹, we will need to explore and find new ways to engage our learners, while at the same time exploring innovative options in program delivery including stackable credentials²² and microcredentialling²³ to meet the needs of existing and emerging workforces. We will work closely with industry and employers to immerse our current students in work integrated and experiential learning opportunities, and to define curriculum and identify the skillsets and competencies required for their successful transition into future careers. The submission of a large number of proposals to the province’s recent call for Virtual Learning Strategy proposals bears witness to our faculty and staff members’ tremendous interest in investing in learning re-imagined.

Universities need to envision themselves as community hubs – places where people come together to meet one another and engage in social and cultural activities that reflect community needs. As we roll out this new plan, our Campus Ice Centre is the home of Oshawa’s singular mass vaccination clinic. This provides but one example of how we can and do act as a community hub – through our virtual and physical locations. We have the opportunity to increasingly contribute to the economic recovery and social cohesion of our community in real and tangible ways. We want to welcome more students to our campus and once here, ensure that they realize success in completing their academic programs of choice. We also want to recruit, retain, and support staff and faculty and to provide them with virtual and physical environments that meet their needs. At Ontario Tech, we are actively committed to the concept of social accountability and the creation of a sticky campus.

We need to continue to envision ourselves as a national leader for research excellence and innovation. Ontario Tech has evolved since its early beginnings to be recently recognized as a rising star in terms of research intensity and output. The Maclean’s 2021 national rankings for research at Canada’s 19 primarily undergraduate universities list Ontario Tech as 1st in SSHRC grants, 4th in Medical/Science grants, and 3rd in total research dollars.²⁴ Our ability and willingness to work effectively with industry, community, government and other academic partners underpins our success in this domain. We are also well aware that our future successes in research and innovation will be dependent upon maintaining and constantly seeking out new opportunities for successful partnerships.

This Integrated Plan is important because it keeps us collectively focused to realize

²¹ See <https://news.ontariotechu.ca/archives/2020/08/ontario-tech-faculty-of-education-helping-teachers-prep-for-online-curriculum-delivery.php> and <https://news.ontariotechu.ca/archives/2020/10/ontario-tech-faculty-of-education-celebrates-two-provincial-awards.php>

²² See <https://www.insidehighered.com/print/views/2016/05/23/understanding-differences-what-credentials-are-being-stacked-and-why-essay>

²³ See <https://www.forbes.com/sites/petergreene/2019/02/16/education-micro-credentials-101-why-do-we-need-badges/#4886fb462419>

²⁴ See <https://www.macleans.ca/education/university-rankings/canadas-best-primarily-undergraduate-universities-rankings-2021/>

further successes for Ontario Tech as we emerge from the challenges of an unforeseen global pandemic. It also aligns our activities with our vision, mission, values, strategic priorities, and resources. This is exceptionally important during periods of fiscal restraint such as the one that we are currently experiencing in the province. Our fiscal uncertainty is further complicated by the possible emergence of broader degree granting privileges within the province's colleges as well as a growing number of industry-based education and training programs. We are being pressed to do more with less while also being held to greater levels of accountability by government and society in general.

The pandemic has taught us that we are better positioned than most other universities throughout Canada to build on our existing strengths and to be innovative leaders in defining the future of Canadian higher education. Disruption is pervasive and higher education is changing, yet opportunity abounds. Let's lead the way by embracing this opportunity, while at the same time continuing to build an environment in which everyone can thrive by being collaborative, collegial, and welcoming to all.

The Process

Building on previous annual planning efforts - and the determination and successes of our past and present administrative leaders, faculty, staff, students, and alumni - this plan assists us in staying focused as we aspire to new levels of accomplishment and achievement in four key strategic areas: tech with a conscience, learning re-imagined, creating a sticky campus, and partnerships. It also reflects on and supports our existing Ontario Tech *Driving the Future with Research Excellence: Strategic Research Plan 2020-2025*.

This document aligns our key strategic areas with explicit commitments (or goals) and the actions required to achieve them. It is informed by our previous integrated plans as well as the multiple annual plans generated by Ontario Tech's academic and administrative units. This plan differs from prior iterations in that it is informed by our new and recently approved Vision, Mission, and Values statements and it follows the short-term rolling plan format first introduced in 2019. This allows us to commit to doing "fewer things better" and to be more action oriented. It also affords the opportunity to implement an annual review and evaluation cycle to determine the success of our previously identified actions, as well as the opportunity to adjust to changing resource realities. It is intentionally brief.

This year's planning exercise began with members of the Ontario Tech community being invited to engage in planning activities at the unit level. The process was led by our academic and administrative leaders who were asked to work with their key stakeholders to evaluate the progress made on the action items contained in their 2019-2021 unit level plans. Simply put, the purpose of these evaluation processes was to identify what actions had been completed, remained in progress, or were yet to be addressed. From there, each unit was positioned to identify what previously identified actions would carry forward into and what new initiatives might be included in their 2021-2023 unit plans.

Following the completion of individual unit plans, in late October, 2020 a day long retreat

with all academic and administrative unit leads was held to identify key points of intersection (or integration) between the various plans. Thereafter an Executive Summary version of this document was drafted and used as the basis for university-wide town hall sessions in February, 2021. The Executive Summary version which will be available to those outside the institution complements this version of the plan which is intended for internal use only.

Before reading the remainder of this document it is important to note that even though these key strategies are sequentially presented, the commitments and anticipated outcomes associated with each are interconnected and therefore not mutually exclusive. Moreover, these strategies and the bulleted lists that follow are devoid of any order of priority and may not reflect the full diversity of activities happening within the university. This is because plans like this one are prone to expressing our common goals and objectives while inadvertently understating the tremendous contributions that each and every member of our university community makes on a daily basis. It is important to explicitly recognize this shortcoming while at the same time expressing our sincere hope that every member of the Ontario Tech community will see their day-to-day contributions somehow reflected within this document. Moreover, we hope to accomplish what we have outlined in this document so that we may continue to tell our story.

The Integrated Academic-Research Plan

This plan, including our goals, objectives, commitments, and actions, necessarily aligns with Ontario Tech's four key strategic directions. In each section that follows, a brief statement on what we aim to accomplish, our commitments (or goals), and the actions we will employ to accomplish them is included. These are followed by a narrative in which a limited number of examples are provided for illustrative purposes.

Tech with a conscience:

Innovation, impact, and the social and ethical implications of technology

We aim to improve the lives of humans and the planet through the ethical application of technology. It's a key component in our teaching and learning practices, administrative processes, and innovative research projects.

Our Commitments

- Establish new research institutes, centres, and chairs
- Be national leaders in the conversation pertaining to the future of energy in Canada
- Intentionally differentiate ourselves as an institution committed to using technology in all that we do

Attainment of these goals will be measured against actions that contribute to making Ontario Tech a great place to work, study, and play. We will know if we are on track if by 2023 we have:

- Launched new research institutes, centres, and chairs which examine the use, application, social and ethical implications, and impact of technology on everyday life
- Built on existing strengths by establishing interdisciplinary research teams in select areas to create innovative and ethical technological solutions for the future
- Established advisory boards and/or industry consortia to guide complex interdisciplinary conversations and community-based research and experiential learning initiatives pertaining to technology and its promise for the future, as well as its challenges
- Developed new undergraduate and graduate programs that critically examine the intersections of technology, the environment, societies and local communities (e.g., MA in Social Practice and Innovation, Minor in Indigenous Studies)
- Expanded student, staff, and faculty usage of digital/virtual platforms governed by robust “Future of Learning” and “Future of Work” policies and processes guided by key principles pertaining to equity, diversity, and inclusivity

Narrative

Technology has pervaded virtually every aspect of our society and daily lives. Nowhere is this more apparent than within Ontario Tech, where our founding commitment to STEM continues to play a role in uniquely situating us as a technologically differentiated university within the province. We have nationally and internationally recognized researchers²⁵ who are influencers and leaders in important interdisciplinary discussions on a plethora of topics including technological invention and innovation, and the use of technology with a conscience. Importantly, while we have embraced our commitment to advancing technological innovation, we have also challenged ourselves to critically examine both the positive and negative impacts of technology on our everyday lives.

Within the timeframe of this plan we remain committed to the establishment of several new research institutes, centres (e.g., Centre for Small Modular Reactors), and chairs (e.g., Tier 1 Canada Research Chair in Adaptive Aerodynamics; Tier 2 Canada Research Chair in Trustworthy Artificial Intelligence). Also high on our priority list is the establishment of the Brilliant Energy Institute to lead the national conversation about Canada’s energy future. Ontario Tech’s single largest thematic area of research expertise is in the area of energy and sustainability (i.e., clean and sustainable energy including human powered transportation, as well as nuclear, geothermal, hydraulic, hydrogen, natural gas, ammonia, solar and wind) and we are uniquely positioned to play a leadership role in creating regional and national energy policies rooted in scientific evidence.

Equally important is the role that we are taking in working with Ontario Shores in the creation of a Clinical Demonstration Unit to explore a wide range of innovative treatment options for dementia involving technology and artificial intelligence²⁶ and the Durham Region Health Department in assessing wastewater as an important part of an early

²⁵ See <https://news.ontariotechu.ca/archives/2020/12/ontario-tech-researchers-demonstrate-powerful-international-influence.php>

²⁶ See <https://news.ontariotechu.ca/archives/2019/10/transforming-dementia-care-through-technology-ontario-tech-university-and-ontario-shores-unveil-new-research-partnership.php>

warning system for the presence of COVID-19.²⁷ Using our technological expertise and our social capital to support recovery and growth during and after the pandemic illustrates our commitment to humankind, as does our commitment to expanding student, staff, and faculty usage of digital and virtual platforms to evolve toward new “Future of Learning” and “Future of Work” realities.

Learning re-imagined: Learner-centred educational options

We adapt to the ever changing educational landscape by experimenting with the most effective ways to deliver flexible and dynamic learning, giving more choices to more people.

Our Commitments

- Open our doors to all learners and prepare them for life experiences and careers which contribute to individual, societal, and global solutions and prosperity
- Re-invent learning by defining and constructing innovative high quality pedagogical practices specifically designed for use with technological solutions
- Provide learners with continuous learning/upskilling, experiential learning and work integrated learning opportunities including entrepreneurial and research-intensive options domestically and globally

Attainment of these goals will be measured against actions that contribute to making Ontario Tech a great place to work, study, and play. We will know if we are on track if by 2023 we have:

- Increased the quantity of online and hybrid curricular and course offerings, and open-access journals, while simultaneously committing to enhancing the quality of the same
- Combined the use of virtual technologies and reimagined physical campus spaces to design and mount dynamic educational programs that are highly engaging and meeting the needs of traditional and newly emerging student markets
- Designed and incorporated new approaches to scheduling, structuring and formatting on campus and virtual program offerings
- Invested in and utilized an expanded array of technological platforms and assets while simultaneously exploring and identifying new opportunities in relation to the technology-pedagogy interface
- Leveraged existing technological assets to offer a greater number of degrees, courses, and other “for credit” offerings (e.g., micro-credentials) via online formats
- Leveraged existing (e.g., ACE) and emerging technological assets and expertise (e.g., simulation, gaming, AR/VR) to elevate the integration and use of “immersive” learning strategies

²⁷ See <https://news.ontariotechu.ca/archives/2019/10/transforming-dementia-care-through-technology-ontario-tech-university-and-ontario-shores-unveil-new-research-partnership.php>

- Increased the development, creation, production, adaptation, adoption and usage of OERs in each of our Faculties
- Introduced new or re-vamped undergraduate and graduate program offerings via increased collaborations within- and between- Faculties, with external university and/or college partners, and with local communities, municipalities and industry
- Increased the number, quality, and diversity of undergraduate and graduate student engagements in experiential and/or work integrated learning and co-op opportunities via enhanced community-, industry-, and partner-sponsored options
- Increased enrolment in a suite of increasingly diversified Continuous Learning offerings

Narrative

Amongst other valuable lessons learned, the pandemic has taught us that a continued adherence to a traditional campus-centric university model is not and will not be a viable option as the world around us rapidly changes going forward. Ontario Tech is evolving to meet the demands of this new social space where we will all work and live. To this end, we are positioning ourselves to be responsive to the needs of our students, including preparing them for career success in a shifting work landscape. Importantly, “work” will be more automated, data driven, collaborative, and mobile in nature.²⁸ Continual upskilling or credentialing of the workforce – underpinned by a recognition of the need for briefer, more accessible modular educational units - will also be in demand as industries and businesses seek to train their employees on the job.

In the post-pandemic period we will continue to expand our commitment to work-integrated and experiential learning opportunities for our undergraduate and graduate students. In September 2020 we announced our involvement in the Province of Ontario’s Career Ready Fund,²⁹ a program designed to help automotive and advanced manufacturers employ upper-year students and recent graduates from Ontario Tech. Involvement in initiatives such as this will be further buoyed by the recent establishment of a standing committee on Experiential Learning under the auspices of the Office of the Provost. The university also increased its funding from Mitacs by 150% to more than \$2 million in 2020, providing industry based applied-research work opportunities for undergraduate and graduate students, and making us second in the country for Mitacs placements per graduate student among all Canadian universities.

As the pandemic lingers, and even as we transition back to face-to-face learning on campus, we will continue to offer a substantive portion of our educational programs in an online or hybrid format. This will provide an important point of access for students, staff, and faculty who are concerned about the potential impact of the coronavirus on their own health or that of their families and significant others. In addition, it will allow for the innovations, lessons learned and the pedagogical materials created during the pandemic

²⁸ See <https://www.workfront.com/blog/2017-trends-7-biggest-changes-coming-to-the-workplace>

²⁹ See <https://news.ontariotechu.ca/archives/2020/09/career-ready-fund-auto-stream-a-winning-combination-for-ontario-tech-students-and-employers-seeking-new-talent.php>

to continue to be used and improved upon over time.

Moving forward, we must provoke ourselves to continuously re-conceptualize how we create highly engaged learning environments to provide the best possible educational and training environments for our students. This includes rethinking our use of face-to-face, hybrid and online instructional tools (or combinations thereof) and campus spaces to achieve the best possible learning outcomes. Importantly, it is understood that there is no “one size fits all” solution as different disciplines will require different approaches. We must also be open to exploring new scheduling options, allowing for the traditional twelve-week course formats to be gradually of less import so that we may attract new students from different demographic pools, including those who want to continue to learn as they remain employed in full-time career positions. Shorter duration stackable credentials or skill-oriented microcredentials are gaining in favour with employers and students alike. Several microcredentials have already been developed at Ontario Tech and more are being conceptualized every day.

Creating a sticky campus: A place to make lasting connections

We promote positive social change and encourage an accessible, equitable, diverse, and inclusive culture for our campus community.

Our Commitments

- Create new campus spaces and experiences at our downtown and north locations while expanding our virtual campus assets
- Leverage social networks to engage our university stakeholders and to build connections with alumni and community
- Broaden and diversify our university community demographics while at the same time celebrating and promoting equity, diversity, and inclusion in all that we do

Attainment of these goals will be measured against actions that contribute to making Ontario Tech a great place to work, study, and play. We will know if we are on track if by 2023 we have:

- Opened our new academic building to support faculty, staff, student, and community educational, research, and service needs
- Repurposed existing physical spaces to support growing teaching, research, and service needs while at the same time investing in our information technology systems to create new virtual platforms, “collision” spaces, and social hubs where innovative ideas can thrive
- Supported the mental and physical health needs of our students, staff, and faculty via the provision of enhanced programmatic supports
- Supported student recruitment, persistence and success through investment in the Registrar’s Office, the use of AI driven analytics (e.g., early alert systems), and dedicated student support programming (e.g., UPREP, LEAP)

- Committed to student success and persistence via enhanced and adaptive experiences, new investments in student advising and mental health supports, and cost reductions via OERs and other digital delivery strategies
- Increased our overall student enrolment numbers, including the number of international students, scholars, and visitors to our university
- Acted on the Truth and Reconciliation Commission's Calls to Action in support of Indigenous students and the local Indigenous communities
- Welcomed greater participation from members of our local communities and region via age-specific programming and community-specific needs
- Enacted a comprehensive EDI plan for the university, including forward thinking student admission and employee recruitment policies
- Embraced and gained, with intention, a better understanding of the diversity of our university demographics through robust employee and student data collection methods
- Introduced and implemented new orientation, mentorship, and leadership programs for our faculty, staff, and students
- Expanded our commitment to sustainability through energy and waste reduction initiatives

Narrative

A sticky campus is defined as "...a place where [people] choose to be rather than have to be."³⁰ Pre-pandemic, a large proportion of our students, staff, and faculty commuted to our campuses and we experienced significant ebbs and flows in the numbers of people that were using our physical spaces at any one time. As the pandemic continues, and even once it fades into the past, our campus reality will likely be forever changed. The challenge going forward will be to imagine the concept of a "sticky campus" as it applies to both our virtual and physical spaces. We need to focus on having infrastructure and activities that will draw diverse groups of people in, but also a positive and welcoming climate that will keep them here.

In terms of physical infrastructure, there is a lot happening. The construction of a new academic building is nearing completion on the north campus location. By September, 2021 this building will become the new home of the Ontario Tech Student Union, Student Life, and the Faculty of Health Sciences. It will include new classroom and social spaces, with a design that lends itself to the hosting of academic and professional conferences and other special events. Our campus Library also continues to evolve and function as an important hub for our students. Under the leadership of our University Librarian, it will continue to take an active role in leading and organizing important academic initiatives and social events and in creating welcoming spaces – virtually and physically at both the downtown and north locations - for our diverse community of users.

In terms of virtual infrastructure, we are piloting new classroom technologies as we explore the possibility of livestreaming classes to allow students the option of attending a

³⁰ See <https://www.indesignlive.sg/happenings/sticky-campus-education-getting-social>

class in person or while online. Plans are also in the works to transform the Teaching and Learning Centre to provide improved supports to faculty, staff, graduate students, and learners. Importantly, this will be achieved by shifting the focus of the unit from its historical emphasis on providing support for the use of technology in the classroom to building our overall institutional capacity in finding effective ways to incorporate pedagogical knowledge within technology-oriented environments.

We know that once students arrive on our campus, we must do everything in our power to support their success in completing their desired program of study. To this end, we are investing in our Academic Advisors and restructuring our Academic Advising efforts, and adding new programs (e.g., Learner-Enhanced Academic Program (LEAP)), to provide enhanced guidance and support to those who face unforeseen challenges in completing their diploma or degree programs.

Throughout the duration of the pandemic and beyond, we will continue to attract numerous people to our campuses via a variety of events (e.g., Annual Powwow, Futures Forum, Women in STEM, Science Rendezvous, Ridgeback Athletic events, Convocation, and others), but we can always be opening our doors to broader and more diverse populations. Beginning in 2021, with the assistance of our new Director of Equity, Diversity, and Inclusion and the action plans created by the President's Indigenous Reconciliation and Equity Taskforces, we will continue to create a framework, governance structures, and data collection methods to support an evidence-informed approach to addressing EDI issues. Importantly, we will remain intentionally committed to the Truth and Reconciliation Commission's Calls to Action in support of Indigenous students and local Indigenous communities.

Partnerships:

Meaningful connections with our local and global communities

We help industry, community, government, and academic partners be more effective by bringing them together with students and researchers to uncover innovative solutions for our partners' most pressing problems.

Our Commitments

- Strengthen existing and cultivate new, external industry, community, and government relationships within the Region of Durham, Northumberland County, and the Greater Toronto Area (GTA)
- Strengthen and add to our existing academic and research partnerships – regionally, nationally, and internationally
- Broaden our impact and reach beyond the Durham Region and Northumberland County

Attainment of these goals will be measured against actions that contribute to making Ontario Tech a great place to work, study, and play. We will know if we are on track if by 2023 we have:

- Engaged a greater number of students in Brilliant Catalyst, Brilliant Solutions, and other “upskilling” activities
- Successfully started up Ontario Tech Talent Inc. in conjunction with corporate partners and developed a business model to help our students and all employees upskill or reskill to ensure or enhance job-readiness
- Increased the number of faculty, staff, and students in City of Oshawa’s Teaching City, and CityStudio Durham initiatives
- Established respectful, collaborative connections with local and regional Indigenous communities
- Increased the number of faculty, staff, and student engagements with other municipalities within the Region of Durham, Northumberland County, and beyond
- Increased the number of students enrolled in collaborative programs offered between Ontario Tech and other universities and colleges
- Established up to five new international partnerships (including within the United States) with universities renowned for their technologically-oriented research and academic programs
- Increased the number of university-industry research chairs and institutes
- Increased the number of Ontario Tech-lead pan-university partnership agreements with industry, new startup companies, employers, community partners, and collaborative international research teams
- Experienced an increase in research granting success from funding sources both within and from outside Canada
- Completed our first community engagement survey to benchmark Ontario Tech’s engagement within community
- Set up satellite research and partnerships offices

Narrative

Ontario Tech’s focus on STEM and technology-driven research and development provides opportunities for collaboration with corporate partners across various business sectors, including but not limited to the growing startup community in Region of Durham and Northumberland County, small to medium size enterprises (e.g., in intelligent manufacturing), and large national and international firms. Our major industry partners include General Motors, Toyota, Honda, Magna, Ontario Power Generation, Canadian Nuclear Laboratories, ECamion, SmartCone, IBM, GlassHouse Systems, Nike, Uber, Emerson Climate Technologies, Kubota Canada, Infineum, and L-3 Wescam. With this in mind, the Faculty of Engineering and Applied Science (FEAS) and FESNS are particularly well positioned to strengthen and expand upon their existing relationships, both within and beyond our local region.

Ontario Tech’s “*Driving the Future with Research Excellence: Strategic Research Plan 2020-2025*” identifies a set of five research priorities that provide the impetus for us to

increase our efforts to secure grant funding from funding sources outside Canada, as well as the development of a wide range of new partnerships. Collectively such efforts should also effectively support the establishment of new university-industry research chairs and pan-university partnership agreements with industry, community partners, and collaborative international research teams.

We also intend to move our efforts beyond our current geographical boundaries, to raise our profile, and to enhance our reputation nationally and internationally. To this end, we will explore and build academic partnerships with reputable academic institutions on an international scale (e.g., Africa, Asia-Pacific, European Union, Great Britain and Ireland) including a select few technology-focused universities in the United States.

Key to our successes in this domain will be the integration of our students within a variety of industries. Employers are seeking talented graduates who are job ready. This includes not only the acquisition of a requisite degree or diploma, but the “value added” skills (e.g., communication skills, critical and innovative thinking, empathy, entrepreneurship, etc.) which allow them to make immediate contributions in their new roles. We will use our Brilliant Catalyst and Brilliant Solutions programs in conjunction with Ontario Tech Talent Inc. to bolster skill sets. Together with opportunities to engage students in the City of Oshawa’s Teaching City and CityStudio Durham initiatives, our students will have many channels to develop core skill sets.

Resources

Members of the Ontario Tech University community are annually invited to contribute to our planning exercises. Using a rolling plan approach, this Integrated Academic-Research Plan is supported by its complimentary five-year Strategic Research Plan as well as annual budgeting and capital planning exercises. Together, these instruments comprise an integrated university-wide planning approach that will support our efforts through 2023 and beyond.

Conclusion

Ontario Tech is continuing to grow, expand, and mature into the promise its founders envisioned when it was established in 2002. It has always been a technologically forward-looking institution characterized by innovation, entrepreneurship, and a strong commitment to the betterment of society and the planet.

In the wake of the COVID-19 pandemic, this plan builds on the University’s established position as a dynamic, conscientious, and innovative technological leader in the province’s higher education sector. We are young, yet with intention, we now more than ever welcome faculty, staff, students, and the greater community to engage in strategic education and research initiatives with the aim of building a better and brighter future for all. Importantly, Ontario Tech is growing and diversifying to include students, staff, and faculty from around the world. Together, through an overt appreciation of our differences – products of our individual backgrounds, world views, and choices - we are aspiring to

excellence in all that we do.

We are motivated to find solutions to complex societal problems that can serve as catalysts for improvement and change within our local and global communities. Within this planning cycle, we are confident that we will realize our goals through hard work and the implementation of the commitments articulated herein.

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