SMA3

2020-2025 Strategic Mandate Agreement

ONTARIO TECH UNIVERSITY 2000 SIMCOE ST N OSHAWA ON L1H 7K4





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2020-2025 Strategic Mandate Agreement

Signed Between

University of Ontario Institute of Technology

And

Ministry of Colleges and Universities

SIGNED for and on behalf of the Ministry of Colleges and Universities by:

SIGNED for and on behalf of University of Ontario Institute of Technology by:

Dr. Steven Murphy President and Vice-Chancellor

August 31, 2020

Date

This agreement focuses on performance-based funding associated with the institution's differentiation envelope and enrolment corridor funding. Special purpose/other institutional grants are not included as part of this agreement.

The Government remains committed to SMA3 (2020-25) and implementing the performance-based funding model for colleges and universities approved as part of Budget 2019.

Given the uncertainty regarding future impacts of the COVID-19 outbreak on the SMA3 metrics, the Ministry will delay the planned activation of performance-based funding for two years --Year 1 (2020-21) and Year 2 (2021-22) of SMA3. To determine how to link SMA3 metric performance to institutions' funding beyond Year 2, each year the Ministry will engage institutions through the SMA3 Annual Evaluation process to assess SMA3 metric performance for the current year; and, evaluate potential COVID-19 impacts on the SMA3 metrics for future years. This will include a review of the performance-based funding starting point proportion. Metric data collection, evaluation, and publication will proceed through the SMA3 period as planned.

The agreement may be amended in the event of substantive economic or policy changes that would significantly affect the SMA deliverables. Any such amendment would be mutually agreed to in writing, dated, and signed by both signatories.

Deputy Minister

28,2020

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Introduction

Preamble

This Strategic Mandate Agreement between the Ministry of Colleges and Universities and Ontario Tech University is a key component of the Ontario government's accountability framework for the postsecondary education system.

The Strategic Mandate Agreement (SMA):

- Outlines provincial government objectives and priority areas for the postsecondary education system
- Describes the elements of Ontario's performance-based funding mechanism, including the university's annual performance-based funding notional allocation for the five-year SMA3 period
- Establishes the corridor midpoint that will form the basis of enrolment-related funding over the fiveyear SMA3 period
- Supports transparency and accountability objectives, and
- Establishes allowable performance targets for 10 metrics upon which institutional performance will be assessed.

This SMA is for the fiscal period from April 1, 2020 to March 31, 2025.

Ontario's Objectives

SMAs are bilateral agreements between the ministry and the province's publicly-assisted colleges and universities and are a key component of the Ontario government's accountability framework for the postsecondary education system. This cycle of agreements is focused on promoting accountability through transparency and a focus on performance outcomes. The following objectives underline SMA3:

- Increasing trust and accountability through transparency and improved performance outcomes in Ontario's postsecondary education system
- Reducing red tape by striking an appropriate balance between accountability and reporting through streamlined processes and a reduced number of metrics
- Incentivizing colleges and universities to redirect resources and invest in initiatives that result in positive economic outcomes
- Encouraging alignment of postsecondary education with labour market outcomes, and
- Incentivizing differentiation and specialization to support increased efficiencies.

Institutional Profile

The ministry recognizes the importance of supporting a differentiated system, and recognizing institutional specializations, as a means of enhancing efficiencies in the postsecondary education sector.

The Institutional Profile is intended to describe how the university's institutional mission and strategic goals support the priority areas of the Ontario government, as identified in this agreement. Institutions may also wish to include narrative related to the post-COVID-19 context for the institution.

Ontario Tech is a differentiated university where students, staff, and faculty are immersed in a technologyenriched learning and research environment with a primary commitment to science, technology, engineering, and math (STEM) and professional degree programs. We are labour market-focused and were <u>established</u> 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." Our current strategic priorities flow from our <u>Vision</u>/ Mission and include: (a) tech with a conscience (i.e., developing technological breakthroughs to improve the lives of humans and the planet through the ethical application of technology); (b) learning re-imagined (i.e., adapting to the changing educational landscape through the delivery of flexible and experiential learning opportunities); (c) partnerships (i.e., helping government, industry, and community and academic researchers to identify innovative solutions for our partners' most pressing problems), and; (d) creating a sticky campus (i.e., promoting positive social change in the midst of an accessible, equitable, diverse, and inclusive campus community culture).

We embrace our role in stimulating and enhancing the economy and social fabric of the Durham Region, Northumberland County, and the eastern GTA, as we work closely with university (e.g., OCADU), college (e.g., Durham), local government (e.g., Durham Region, City of Oshawa), and industry partners (e.g., IBM, OPG, Lakeridge Health) to meet the aforementioned objectives while finding efficiencies, reducing duplication, and spawning innovative and future-facing opportunities.

Ontario Tech is a regional university which is supporting the needs of our 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 learning, Open Education Resources (OERs), etc.), and flexible learning options (e.g., stackable credentials, microcredentials), we are committed to lowering the cost of post-secondary education for our students while also promoting continuous lifelong learning and upskilling in the local workforce. We are educating people in our region for the benefit of and employment within the region. Through our research (e.g., with an emphasis on energy, environmental sustainability, clean technologies, autonomous vehicles, aerospace, computer science, cyber security, life sciences, dementia care, and more), we are contributing to the re-shaping of the local and provincial economic landscape.

Ontario Tech is also a major employer and investor in the Durham Region and City of Oshawa, acting as a catalyst to diversify and revitalize the local economy. Through our provision of employment, educational, and infrastructure development opportunities, we have played a major role in 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 in the community while providing much needed support to local organizations addressing poverty, crime, the social determinants of health, the opioid crisis, and quality of life issues.

Performance-Based Funding

Notional Annual Allocation

For the 2020-2025 SMA cycle, Ontario Tech University's annual allocation of performance-based funding has been calculated by the ministry in accordance with the university funding model and Ontario's Performancebased Funding Technical Manual. Ontario Tech University's notional allocations will not be impacted by previous year performance, and will follow a graduated activation plan as follows:

	2020-21*	2021-22*	2022-23	2023-24	2024-25
Differentiation Envelope	\$12,891,123	\$19,049,362	\$25,207,784	\$31,366,206	\$34,445,417
Performance-based Grant	\$12,891,123	\$19,049,362	\$25,207,784	\$31,366,206	\$34,445,417

* Activation of performance-based funding will not be in place for 2020-21 and 2021-22. Thereafter, activation for the following years will be determined through the SMA3 Annual Evaluation process.

**Further details on calculations are available in Ontario's Performance -based Funding Technical Manual. The Performance-based Grant has been capped at the system-average annual proportion and residual funding remains part of the Differentiation Envelope. Notional allocation represents the Performance-based Portion of the Differentiation Envelope capped to the system-wide average.

***The notional allocations presented above are estimates based on 2019-20 final operating grant totals.

Institutional Weighting Strategy

The performance-based funding mechanism in this SMA enables institutions to assign metric weightings to reflect institutional strengths and differentiated roles in the postsecondary education system. Assigned metric weightings will impact performance-based funding on a metric-by-metric basis per the table below. Metric details are described in the following section.

		Institutional Assigned Weightings & Notional Performance-based Funding										
	20	020-21	2	021-22	20	022-23	20	023-24	2024-25			
	Max 35	%, Min 10%	Max 30%, Min 5% Max 25%, Min 5%		Max 25%, Min 5%		Max 25%, Min 5%					
Metric	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%) (\$)		(%)	(\$)		
1. Graduate Employment Rate in a Related Field	10%	\$1,289,112	5%	\$952,468	5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		
2. Institutional Strength/Focus	30%	\$3,867,337	15%	\$2,857,404	15%	\$3,781,168	15%	\$4,704,931	15%	\$5,166,813		
3. Graduation Rate	10%	\$1,289,112	5%	\$952,468	5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		
4. Community/Local Impact – Student Enrolment	30%	\$3,867,337	15%	\$2,857,404	15%	\$3,781,168	15%	\$4,704,931	15%	\$5,166,813		
5. Economic Impact (Institution-specific)	10%	\$1,289,112	15%	\$2,857,404	15%	\$3,781,168	15%	\$4,704,931	15%	\$5,166,813		
6. Research Funding & Capacity: Federal Tri- Agency Funding Secured	10%	\$1,289,112	5%	\$952,468	5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		
7. Experiential Learning			30%	\$5,714,809	25%	\$6,301,946	25%	\$7,841,552	25%	\$8,611,354		
8. Research Revenue Attracted from Private Sector Sources			5%	\$952,468	5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		
9. Graduate Employment Earnings			5%	\$952,468	5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		
10. Skills & Competencies					5%	\$1,260,389	5%	\$1,568,310	5%	\$1,722,271		

Priority Areas and Performance Metrics Summary

To support improved performance in key areas aligned with the Ontario government's priorities and objectives, the allowable performance targets will be set against metrics that measure institutions' effectiveness in addressing the evolving needs of the labour market, enhancing the skills and competencies of our students, and supporting a postsecondary education system that strengthens Ontario's economic competitiveness.

The combination of established targets and assigned metric weightings will be used for institutional assessment of performance through the SMA3 Annual Evaluation process.

Skills & Job Outcomes

This priority area seeks to measure and evaluate the university's role in supporting student and graduate outcomes and alignment with Ontario's economy. Metrics measure institutional commitment to areas of strength and specialization; students' preparation with the skills essential for employment; experiential learning opportunities; graduation; and positive labour-market outcomes for graduates, through the following performance indicators:

- Graduate Employment Rate in a Related Field
- Institutional Strength/Focus
- Graduation Rate
- Graduate Employment Earnings
- Experiential Learning
- Skills & Competencies

Economic & Community Impact

This priority area seeks to measure and evaluate the university's role in supporting Ontario's economy. Metrics measure the attraction of federal research funding; funding from private sector sources; the positive economic impact on local economies brought by students at an institution, and the differentiated ways institutions demonstrate economic impact, through the following performance indicators:

- Community/Local Impact of Student Enrolment
- Economic Impact (Institution-specific)
- Research Funding & Capacity: Federal Tri-Agency Funding Secured
- Research Revenue Attracted from Private Sector Sources

Productivity, Accountability & Transparency

To support the Ontario Government's objective of enhanced transparency and accountability, institutions will provide reporting data in the following areas which will not be tied to performance funding:

- Faculty Activity
- Faculty Compensation

Skills & Job Outcomes

Performance Metrics: Narrative

Metrics will be initiated over three years as new data is collected and validated. For 2020-21, allowable performance targets are calculated using historical data as per the Performance-based Funding Technical Manual.

For the remainder of the SMA3 cycle, allowable performance targets will be calculated annually as per the Performance-based Funding Technical Manual using the most recent historical data available for Ontario Tech University and included as part of the SMA3 Annual Evaluation process for performance-based funding. See appendix for details regarding historical data and annual allowable performance targets.

For the Skills and Competencies metric being initiated for performance-based funding in 2022-23, the Ministry of Colleges and Universities will apply a 'participation weighting' of 5% of annual performance-based funding notional allocation for all institutions. Institutional targets will not be set for this metric in SMA3. Participation will be validated and included as part of the SMA3 Annual Evaluation process for performance-based funding.

Graduate Employment Rate in a Related Field

Proportion of graduates of undergraduate (bachelor or first professional degree) programs employed full-time who consider their jobs either "closely" or "somewhat" related to the skills they developed in their university program, two years after graduation

Metric initiated in 2020-21

Narrative

Our longstanding commitment to provide career-oriented undergraduate degree programs that are innovative and responsive to the individual needs of students and to the market-driven needs of employers has been key to ensuring our success in this area. This commitment has resulted in the majority of our degree programs being STEM- (e.g., Engineering, Nuclear Engineering, Science, Computer Science and Information Technology) and/or professionally-focused (e.g. Nursing, Education, Forensic Psychology). Our highly skilled students have the talent and drive to pursue innovative and entrepreneurial careers related to the emerging digital landscape (e.g., working in artificial intelligence, autonomous vehicles and mobility solutions, digital-first service delivery models, intelligent manufacturing, cybersecurity and digital information systems, forensic science, criminology) and/or in a broad range of professional careers (e.g., accountants, engineers, medical laboratory technologists, nurses, and teachers just to name a few). Our students are market ready upon graduation and prepared to meet the needs of a highly competitive global economy which leads to them being highly recruited by employers ahead of graduation.

Our commitment to immersing all of our students in our Faculty-specific software driven Technology Enabled Learning Environments (TELE) prepares students to transition seamlessly into jobs and careers requiring technologically literate employees. Our graduates are able to pursue these opportunities with confidence, and because we are constantly evaluating and upgrading the hardware and software requirements of these degreespecific supports, students are often using the same state-of-the-art technical platforms as those found in industry.

Importantly, we are committed to our students accessing diverse modes of learning including hands on experiences with new technologies in our classrooms and laboratories, and exposure to immersive learning technologies in a deliberate effort to create ecologically valid (or real world) learning experiences. This includes our Automotive Centre of Excellence (or <u>ACE</u>) climatic wind tunnel facility where students in Health Sciences and Engineering, for example, can understand how environmental and climatic forces may affect the performance and/or integrity of man and/or machine systems. Our Nuclear Engineering program also features the most extensive nuclear power plant computer <u>simulation</u> of any engineering program in Ontario. The Gaming Labs in

the Faculty of Business and Information Technology and Nursing Simulation labs are also adding to the educational experience of our students.

We are also graduating students who are highly entrepreneurial and innovative in approaching real world problems. Our Brilliant <u>Catalyst</u> space and Brilliant Solutions program have become hubs for students, faculty, and staff to collectively gather and explore innovative approaches to real world problems from interdisciplinary perspectives. The use of this space has also recently fueled our partnership with Ontario Shores Centre for Mental Health in support of <u>dementia</u> initiatives, including the development of a clinical evaluation unit in support of student training and the use of cutting edge technologies in dementia care.

With all of this in mind, we know that our students will continue to be readily employable upon graduation. Source: Ministry of Colleges and Universities - Ontario University Graduate Survey

Institutional Strength/Focus

Enrolment in Engineering, Computer Science, and Information Technology Disciplines

Proportion of enrolment (FFTEs, domestic and international, all terms for undergraduate students and Summer and Fall terms for graduate students) in an institution's program area(s) of strength

Metric initiated in 2020-21

Narrative

Ontario Tech's strength lies in its innovative commitment to embed technology throughout our market-driven educational programs, our research, and our learning environments to prepare graduates to excel within the 21st century workforce. We are a Science Technology Engineering and Math - or STEM–oriented institution with institutional strengths in areas of Engineering (i.e., Automotive, Electrical, Mechanical, Nuclear, Software), Computer Science, Information Systems, Networking, and Cybersecurity. Our research areas of expertise (e.g., clean and sustainable energy sources including: geothermal, hydraulic, hydrogen, natural gas, solar, and wind energies; autonomous vehicles; artificial intelligence, machine learning, human-computer and brain-machine interfaces; using big data to improve human health) are innovative, future facing, and supportive of the greater public good and the future of the planet.

Our institutional areas of strength account for 50% of our institutional research funding and hence student exposure to new discoveries. Through introductory research experiences and high experiential learning participation rates, we prepare our students for careers in their chosen disciplines. Based on analysis of the Ontario University Graduate Survey graduates from our institutional strength areas traditionally rate the skills match between their degree program and current employment higher than the Ontario Tech and provincial averages. Furthermore, Ontario Tech Engineering and Technology discipline students' median salaries are higher than the median for the university and the <u>province</u>.

In 2018-2019, 83% of all undergraduate and graduate students were enrolled in Faculties offering professional degree programs, with almost half of these enrolled in Engineering and Information Technology programs. We strive to be one of the foremost engineering and applied science centres in Canada through high-quality, innovative programs with exceptional students/graduates who are prepared to be productive professionals and leaders of tomorrow. The Canadian Engineering Accreditation Board has awarded the maximum national accreditation for all of our programs (including two uniquely accredited programs in Automotive Engineering and Manufacturing Engineering). Ontario Tech houses the only honours degree dedicated to Nuclear Engineering in Canada and we offer several unique degree programs (e.g., Communication and Digital Media Studies, Criminology, Forensic Psychology), many of which lead to licensure, and certain employment upon graduation. Graduates from our Bachelor's Medical Laboratory Science have a 100% pass rate over the past four years. The ultimate pass rate for our Nursing graduates on the <u>NCLEX</u> exam surpasses both the provincial and national average.

Our Technology Enabled Learning Environment (or TELE program) is bolstered by our commitment to state-of- theart laboratories which allow students to immerse themselves in "real world" experiences through the use of virtual reality, augmented reality, and simulation technologies. Graduates from all of our degree programs are technologically literate and able to adapt quickly to a wide variety of constantly evolving workplaces.

Higher education must change to accommodate the needs of today's learners and members of the workforce. Ontario Tech is developing stackable/flexible credentials (e.g., micro-credentials, badges, online offerings) to promote lifelong learning and continuous upskilling opportunities for the existing/future workforce. We are committed to facilitating student mobility and to exploring partnerships with other institutions to reduce duplication while at the same time creating innovative educational offerings.

Source: Provided by Institutions, validated by University Statistical Enrolment Report (USER)/Ministry of Colleges and Universities

Graduation Rate

Proportion of all new, full-time, year one university students of undergraduate (bachelor or first professional degree) programs who commenced their study in a given fall term and graduated from the same institution within 7 years

Metric initiated in 2020-21

Narrative

Ontario Tech is an access institution where a large proportion of students with lower incoming averages enter into demanding degree programs requiring high levels of foundational competency in math and science. The majority of our students, moreover, are also first generation, low-income, and commuter students from a broad range of traditionally underrepresented groups. When these factors are conflated, the result is a lower Year 1 to Year 2 persistence rate than the system average.

Unfortunately, a small decline in this metric is anticipated over the next two years. As a smaller institution with lower enrolment numbers and a relatively small cohort of new incoming students each year, slight fluctuations/reductions in the number of students proceeding to Year 2 have an impact on the metric calculation. In an effort to counter this trend, in the Fall of 2020, we will be introducing a new student success/retention initiative for low performing students who would otherwise be dismissed as a result of being academically ineligible to proceed to Year 2. This initiative will require students to enroll in a student success course, complete a lower number of courses, and to meet weekly with an academic coach. Allowing students to continue to complete courses in their area of interest, while at the same time providing significant opportunities to enhance their learning skills and work with an academic coach, is a positive and supportive approach and one that we trust will yield higher graduation rates over time.

This new program adds to the numerous initiatives that we already have underway at Ontario Tech in an effort to support student success, retention, and ultimately graduation with a PSE credential. We have a robust set of services offered via our Student Life unit (e.g., academic support, accessibility, equity and inclusion, health and wellness including mental health services), including dedicated Orientation programming (i.e., MyStart) for both incoming high school graduates and mature learners at three intake points during the year (i.e., Fall, Winter, and Spring). Our Peer Leader program is one in which all first-year students are matched with an upper year student from the students' respective program or Faculty. These peer leaders are trained to provide students with a variety of strategies and referrals to assist them with their social, cultural, and academic transition to the university.

Knowing that STEM-oriented degree programs rely on high levels of math and science literacy, we have recently introduced dedicated Math and Science Study Halls (e.g., Chem Corner) staffed by learning specialists with expertise in these areas. In 2019-2020, we are also launching a new Academic Advising initiative - one focused on

the first-year experience including putting the best instructors in the first year classroom, a revamped Orientation experience, and dedicated first year Advising programs.

Source: University Graduation Rate Data Collections

Graduate Employment Earnings

Median employment earnings of university graduates, two years after graduation

Metric initiated in 2021-22

Narrative

High graduate employment rates (i.e., 92-96%) within two years of graduation reflect the preparation students receive at Ontario Tech to enter the workforce as highly skilled technologically-literate employees. Employment in technologically-dependent (e.g., engineering, nuclear engineering), high demand professional (e.g., nursing, medical laboratory science, teaching), and newly emerging (e.g., cybersecurity, gaming, sustainability and clean energy, digital communications) occupations also yields favourable graduate employment earnings.

Our graduates get jobs, garner noticeably better-than-average salaries, enter prestigious graduate schools, start their own businesses, and volunteer in disproportionately large numbers. They lead as employees, entrepreneurs, and as engaged citizens. Our dedication begins with who we attract. Ontario Tech fundamentally embraces social inclusion, diversity, and the provision of new opportunities for people who have historically faced barriers to university education. Social justice is a core element in everything we do. We provide opportunities for students for whom university might not have been an automatic choice. College-to-university degree pathways are built into our programs. More than half of our students are the first in their family to attend university. They come from culturally diverse backgrounds, including indigenous communities.

Higher education must change to accommodate the needs of today's learners and the future workforce. Ontario Tech is currently developing stackable/flexible credentials (e.g., micro-credentials, badges, online offerings) to promote lifelong learning and upskilling opportunities for individuals within the existing/future workforce. We are committed to facilitating student mobility and to exploring partnerships with other institutions to reduce duplication while at the same time creating <u>innovative educational offerings</u> (e.g., combining our STEM strengths with OCADU's expertise in design).

Ontario Tech is a regional institution, with the majority of our students hailing from the Durham Region and Northumberland County (39%), and the eastern GTA (41%). We train our students in their place of residency so that they may contribute to the social and economic betterment of the region during and after graduation. We also support student success and practical skill development by offering 25 college-to-university system wide transfer programs. As such, we partner with virtually every college in the Province to offer students choice about where and what they want to study.

During the 2019-2020 academic year, we opted to suspend admissions to our Master's of Engineering Management (MEngM) degree program. We did this so that we could consult with industry partners to update and enhance the curriculum. This is one of our largest and most popular graduate programs and one where the credential often leads to significantly larger earning potential for graduates. We will readmit students to the program during the 2020-2021 academic year. We anticipate that our decision to update the program curriculum may impact this metric moving forward.

We are confident that we will continue to produce graduates who are able to help meet the needs of the rapidly changing Ontario economy. Our graduates are well prepared to make positive contributions, both as a result of their earnings (and hence reinvestments in their local and regional economies), their skillsets, and their foundational learning which leads to lifelong careers.

Source: Educational and Labour Market Longitudinal Platform/Statistics Canada

Experiential Learning

Number and proportion of graduates in programs, who participated in at least one course with required Experiential Learning (EL) component(s)

Metric initiated in 2021-22

Narrative

Two-thirds (67-70%) of all graduating students complete at least one course-based experiential learning (EL) component (i.e., case studies, simulation/immersive labs, crime scene house, simulated workplace projects, capstone projects with community/industry partners). This participation rate is much higher for students in professional degree programs, with over 80% of these students graduating with an EL experience. EL is also found in many forms extending beyond these course-based categorizations and it is an integral part of our efforts to ensure undergraduate students are skills- and career-ready upon graduation.

Co-operative Education and Internship programs provide undergraduate students opportunities to complete 4-16 month work terms with local, regional, provincial, national, and international industry partners (e.g., OPG, HydroOne, CIBC, Honda, Canada Revenue Agency, IBM, GM Canada, Magna, CNSC, and many more). We've also worked with industry via a team-based approach to introduce a new kind of co-op (i.e., Brilliant Solutions) where interdisciplinary groups of 3-6 students work with organizations to solve real world problems. Moreover, we support student participation in international programs such as Enactus, and do so by providing space in our Brilliant Catalyst Incubator space.

Professional practicums and Internships are a key part of degree programs offered in the Faculties of Health Sciences and Education. Practicum placements are required across all years of the BScN Collaborative and the RPN-to-BScN Bridge programs. These programs rely on placements with a variety of organizations including hospitals (e.g., Lakeridge Health; Ontario Shores), specialist organizations (e.g., Grandview Children's Centre; Windreach Farms), private long-term care facilities (e.g., Chartwells), and charitable and not for profit organizations (e.g., Durham Region Health Department). Medical Laboratory Science students train in simulated laboratory facilities from Years 1 to 3, and spend all of Year 4 in clinical placement (e.g., community hospital labs, private industry labs). Teacher candidates in the Faculty of Education take part in three field experience placements in local public and independent schools totaling a minimum of 80 days.

Community service learning/practicums, field placements, and international and domestic internships with community-based organizations options are available for students in the Faculties of Social Science and Humanities, Health Sciences, and Business and Information Technology. Students engage with multiple local organizations (e.g., Durham Outlook Soup Kitchen, Durham Regional Police Services) in projects related to sustainability, food insecurity, poverty, and homelessness. Students also engage in local (e.g., Oshawa Teaching City) and international practicums in Panama and Costa Rica, gaining experience in community development, social justice, and socioeconomic development initiatives.

Applied research opportunities for undergraduate and graduate students, including funded NSERC summer internships, major research papers, theses, dissertations, and the exploration of community/industry problems, are well established. Ontario Tech is <u>ranked first</u> out of 69 institutions across Canada in the number of submissions to the Mitacs Accelerate program relative to our full time student numbers. Graduate students are eligible to enroll in a skill building program known as GradProSkills to prepare them for careers in academia. In 2020, we are opening an Open Educational Resource (OER) Lab where undergraduate and graduate students will work alongside faculty and staff to create new OER resources.

Source: Institutions

Skills & Competencies

Education and Skills Online: Random sample of students (domestic and international)

Metric initiated in 2022-23

Narrative

Since its founding in 2002, Ontario Tech has <u>differentiated</u> itself as a STEM-oriented institution and one where students regardless of discipline are immersed in a technology-enabled learning (or TELE) environment. Today Ontario Tech offers innovative and unique undergraduate and graduate programs that are designed to meet both the interests and career aspirations of students and the market-driven requirements of employers. When our students graduate, they have the critical thinking, and innovative research and technological skills demanded by the world's leading employers as well as the cultural competency skills required to value the principles of <u>equity</u>, diversity, and <u>inclusion</u> in all settings.

Every degree, diploma, and certificate program at Ontario Tech requires students to become competent, literate, and adept in the use of information technologies. Learning and skill acquisition are enhanced, moreover, by immersion in state-of-the-art discipline-specific teaching labs and degree programs with an emphasis on competency-based learning. And we ensure student success by guaranteeing that software and <u>devices</u> such as computers, tablets, and smartphones are accessible for students with vision, hearing, cognitive, and motor impairments. We also provide our students with opportunities to develop entrepreneurial skills outside the classroom.

Over 80% of Ontario Tech's students are enrolled in professional degree programs housed within the Faculties of <u>Business and Information Technology</u>, <u>Education</u>, <u>Energy Systems</u> and Nuclear Science, <u>Engineering</u> and Applied Science, <u>Health Sciences</u>, and <u>Science</u>. Select professional programs also exist within the Faculty of <u>Social Science</u> and Humanities including programs in Forensic Psychology and Criminology and Justice.

Successful completion of these programs positions our graduates to be eligible for licensure and careers in a variety of professions (e.g., as professional Accountants, Engineers; as registered Kinesiologists, Nurses, Teachers, Medical Laboratory Technologists). The Bachelor of Health Sciences in <u>Medical Laboratory Science</u> program provides a top notch example of a skills- and competency-based program, whereby students combine theoretical courses with practical hands-on laboratory experiences working with human specimens, including their entire fourth year of study on clinical placement in public and private testing labs. The skills and competencies gained via this program allow them to pursue a broad range of careers as technologists, whether it be in the medical laboratory field or beyond (e.g., veterinary medicine, food sciences, or environmental/biological testing).

We also offer a variety of unique degree programs (e.g., Computer Science; <u>Cybersecurity</u>; Data Science; Digital Media Studies, Game Development and Entrepreneurship; <u>Forensic Science</u>; Materials Science; Networking and Information Technology Security; Pharmaceutical Chemistry; Technology Management) and specializations (e.g., Astrophysics; Nanotechnology and Clean Energy) which lead to specialized careers in a variety of fields. Notably, these programs prepare students not for a singular job but rather a career path that involves life-long learning and multiple employment opportunities.

Our students win awards on the <u>national</u> and <u>international</u> stage and employers around the world are employing our <u>graduates</u>.

Source: Education and Skills Online Assessment, Organisation for Economic Co-operation and Development (OECD)

Economic & Community Impact

Performance Metrics: Narrative

Metrics will be initiated over three years as new data is collected and validated. For 2020-21, allowable performance targets are calculated using historical data as per the Performance-based Funding Technical Manual.

For the remainder of the SMA3 cycle, allowable performance targets will be calculated annually as per the Performance-based Funding Technical Manual using the most recent historical data available for Ontario Tech University and included as part of the SMA3 Annual Evaluation process for performance-based funding. See appendix for details regarding historical data and annual allowable performance targets.

Community/Local Impact of Student Enrolment

Institutional enrolment share in the population of the city (cities)/town(s) in which the institution is located Metric initiated in 2020-21

Narrative

With over 1,900 employees and more than 10,000 students Ontario Tech has been instrumental in revitalizing the Durham Region and the City of Oshawa (Population: 160,000) and in supporting the current and future growth and aspirations of its local municipalities. Beyond its tremendous <u>economic</u> impact, Ontario Tech contributes: (a) industry-specific education and training programs, including innovative opportunities for upskilling and retraining the local workforce; (b) research and development expertise specific to local industry and community needs; and (c) through its geography, volunteerism and philanthropy, contributions to the social fabric of the community.

Ontario Tech plays a key role in supporting local and regional industry-specific workforce education and training program needs. For example, graduates from our unique degree programs in Nuclear Engineering and Energy Systems are employed throughout Ontario's nuclear energy sector, including the ongoing operations of the Darlington and the decommissioning of the Pickering nuclear facilities. Through our Continuous Learning unit (e.g., CANDU <u>Decommissioning</u>), we are able to provide specialized cultural and educational training as needed by local industry. We also offer multiple <u>opportunities</u> for re-training and upskilling, something critical in Oshawa with the recent closure of the General Motors plant.

Our faculty, staff, and students are also actively embedded and engaged in our local urban and rural communities. Ontario Tech has long established and innovative collaborations with the <u>Durham Regional Police</u> Service, Northumberland Business and Entrepreneurship Centre, <u>Ontario Shores</u> Centre for Mental Health, <u>Lakeridge</u> Health, and <u>CAMH</u>-Durham Region. Ontario Tech is also closely partnered with the City of <u>Oshawa's Teaching City</u> City Idea Lab initiative whereby students work directly with City staff to co-design solutions to real problems and the City's <u>Age-Friendly</u> Strategy by recently receiving an Age-Friendly University <u>designation</u>. Importantly, new collaborations are constantly emerging and evolving in response to local area needs (e.g., Municipality of <u>Clarington's</u> growing investment in the cannabis industry.

Ontario Tech is geographically situated on two campuses, with one in the City of Oshawa's downtown core and the other in north Oshawa. Faculty, staff, and students are embedded in the social fabric of the community and contribute to its vitality through engagement in local <u>science fairs</u> and robotics competitions, entrepreneurship pitch competitions, <u>environmental</u> cleanups, <u>camps</u> for kids and teens, annual <u>Powwow</u> and <u>charitable</u> drives. The University also annually hosts a <u>Volunteer</u> Fair for community organizations to recruit students for volunteer opportunities in the community. Ontario Tech's revamped <u>Regent Theatre</u> is also becoming a cultural hub in the downtown core with its weekly offerings of live musical entertainment, classic movies, and more.

By virtue of its location, Ontario Tech provides a cost effective option for residents of the Durham Region, Northumberland County, and the eastern GTA to secure a university degree without having to incur the financial burden associated with moving to go to school. Also, by virtue of its presence, it brings diversity to our region by attracting over 600 international students from around the world.

Source: University Statistical Enrolment Report (USER), Ministry of Colleges and Universities, Census Data/Statistics Canada

Economic Impact (Institution-specific)

Student placement contributions to local economic activity

Number of Assessment-Based Student Work-Related Placements in the Durham/Northumberland Region

Metric initiated in 2020-21

Narrative

Situated in the heart of the City of Oshawa, Ontario Tech is a major contributor to the economies and populations of the Durham Region (Pop. 645,862), Northumberland County (Pop. 85,598), and the eastern GTA. Ontario Tech is a regional university and one that is positively serving the needs of the rapidly growing population of this catchment area through its provision of employment and educational opportunities, and contributions to the regional economy. Ontario Tech is the third largest employer in the City of Oshawa with more than 1,900 employees and when combined with our campus partner institution, Durham College, we are the largest.

Our commitment to the economic health of our local communities extends well beyond our on-campus employees. We are investing in our students through paid work-related placements in the Region of Durham and Northumberland County. We are educating in the catchment area for the catchment area. This makes sense given our founding commitment to provide career-oriented undergraduate degree programs that are innovative and responsive to the individual needs of students and to the market-driven needs of employers. Students are gaining important work experience while bringing a different mindset to the workplace. They are helping local industries enhance the Region's capacity for innovation, especially in the areas of intelligent and advanced manufacturing.

Our degree programs are closely aligned with our local industries which form a vibrant cluster of energy, environmental and engineering businesses in the Durham and Northumberland regions. Durham Region produces approximately 30% of Ontario's electricity and is home to 12 of Canada's 22 CANDU nuclear reactors. Year over year, more students from the Faculties of Engineering and Applied Science, Energy Systems and Nuclear Science, and Science are completing co-op and internship placements with OPG and their suppliers. In addition, via paid student placement opportunities, Ontario Tech works closely with new start-up companies and small-to-medium sized enterprises (SMEs) and local municipalities (e.g., City of Oshawa). Via student placements, the institution has also played an important role in diversifying the regional economy, helping it to move beyond its dependence on the manufacturing sector and increasing the competitiveness of the Region. Indeed, by working with private and public sector partners, Ontario Tech has helped to promote and enhance the Region's capacity for innovation.

In addition to bringing new and innovative perspectives, our students are important catalysts in the development of social capital. Social *capital* is a set of shared values that allows individuals in a group to work together effectively to achieve a common purpose. In business, *social capital* can contribute to a company's success by building a sense of shared values and mutual respect.

Importantly, we are also providing work-related opportunities to students on campus via a commitment to openeducational resource (OER) development. In May 2020 we are opening an OER Lab on our campus. This lab will employ students to work with faculty and staff members with the goal of developing an enhanced suite of OER offerings for use within our university and beyond.

Source: Institutional Experiential Learning Database

Research Funding & Capacity: Federal Tri-Agency Funding Secured

Amount and proportion of funding received by institution from federal research granting agencies (SSHRC, NSERC, CIHR) in total Tri-Agency funding received by Ontario universities

Metric initiated in 2020-21

Narrative

Ontario Tech is a STEM-oriented institution with particular institutional research strengths in areas of Engineering (i.e., Automotive Engineering, Software and Electrical Engineering, Mechatronics), Energy Systems and Nuclear Science, and select areas of Computer Science, Information Systems, Networking, and Cybersecurity. Our research areas of expertise (e.g., clean and sustainable energy sources including nuclear, geothermal, hydraulic, hydrogen, natural gas, solar, and wind energies; autonomous vehicles; artificial intelligence, machine learning, human-computer and brain-machine interfaces; data analytics in health care) are innovative, future facing, and oriented toward the greater public good and the future of the planet. Our Natural Science and Engineering <u>Publications</u> (i.e., 69.7% which ranks 5th nationally and 2nd provincially) as a percentage of total institutional publications from 2013-2017, as well as our Tri-Agency funding history, reflects this expertise.

Total dollars disbursed from Tri-Agency sources has annually increased from \$3.7 million in 2016-2017 to \$4.6 million in 2018-2019, with 80-84% of total dollars coming from NSERC sources on an annual basis. Over the same time period, approximately 13-17% and 1-7% of the remaining total dollars disbursed have come from SSHRC and CIHR, respectively. SSHRC has funded faculty with research programs in the areas of poverty reduction and unemployment, human trafficking, digital communications (i.e., including social media), forensic psychology, and K-12 STEM and mathematics education. From 2017-2018 to 2018-2019, the total funding received from CIHR more than doubled, a trend which reflects our growing capacity in areas of human health research (e.g., workplace disability prevention, health economics and health system reform, Indigenous health, healthy aging). Per capita research intensity has annually increased \$54,204 in 2015-2016 to \$60,255 in 2018-2019.

Total federal dollars received by researchers at Ontario Tech have also steadily increased, rising from \$7.2 million in 2016-2017 to \$8.4 million in 2018-2019. These totals include Tri-Agency funds, and those received from all other federal research sources including CFI, NCE, and the Canada Research Chairs (CRC) program. Ontario Tech is home to 11 CRCs and six other endowed, industry-sponsored, and research excellence chairs.

We are amongst the Province's newest universities, yet the Maclean's 2020 national rankings for primarily undergraduate universities list Ontario Tech as 1st in SSHRC grants and 4th in Medical/Science grants (i.e., based on average size and number) and 2nd in citations as a measure of scholarly output. We are confident that our success in securing Tri-Agency funds will continue to increase. Success in research grant competitions largely depends upon the proposed research program, the researcher's research record, including demonstrated excellence in peer-reviewed productivity, knowledge translation, and the training of undergraduate and graduate students and postdoctoral fellows. In comparison to more established institutions across the country and within the province, we have a disproportionately large number of research faculty who are still in the early stages of their careers and at the rank of Assistant Professor. It is reasonable to anticipate that their success in securing external grant funding from Tri-Agency and other federal sources will grow as these researchers progress and build their research records and careers.

Source: Tri-Agency Institutional Programs Secretariat

Research Revenue Attracted from Private Sector Sources

Research revenue attracted from private sector sources Metric initiated in 2021-22

Narrative

Ontario Tech's focus on STEM-oriented 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 Durham Region and Northumberland County, small to medium size enterprises (e.g., nuclear industry supply chain, growing cannabis industry in Clarington), and large national and international firms. Our major partners include General Motors, Toyota, Honda, Nike, Uber, Emerson Climate Technologies, Kubota Canada, Infineum, and L-3 Wescam.

Ontario Tech has made strategic investments in state-of-the-art research facilities, including more than 70 specialized laboratories, to support cutting edge research activities. These facilities allow significant revenue to be generated by the university from private sector sources. As evidence of this, in Research Infosource Incorporated's (page 2 and page 6) recently released rankings, Ontario Tech ranked 2nd in Ontario (4th overall in Canada) for research revenue from private sector sources for primarily undergraduate universities. Equally impressive were our rankings of 1st amongst Canadian primarily undergraduate universities for the number of research grants held with corporate/industry partners and 2nd for all universities in Canada with respect to research intensity (i.e., private sector research contracts per 100 faculty members).

Of particular importance to our revenue generation activities is our 16,300 m² Automotive Centre of Excellence (<u>ACE</u>) Climatic Wind Tunnel. It is a world class facility for industry leaders, top researchers, and our best students to create, test, and validate innovative and paradigm shifting technologies with a focus on getting them to market as rapidly as possible. It provides a valuable tool for product developers, researchers, and scientific experts from many markets including: architectural, automotive, aerospace, high-performance sport, motorsport, unmanned aerial vehicles, and the film/media industry. A new highly flexible moving ground plane will be installed in ACE in 2020, making its research capacities unique on a global scale.

The Energy Systems and Nuclear Science Research Centre (ERC) is a 9,290 m² facility that houses nine specialized laboratories which support research in a broad range of areas, and perhaps most notably in the area of sustainable energy sources including: nuclear, geothermal, hydraulic, hydrogen, natural gas, solar, and wind technologies. We are establishing a major new energy consortium/think tank that is positioned to lead national discussions on the future of energy industries in Canada.

In late 2016, the university became home to the first large-scale <u>microgrid</u> installation at a Canadian university campus. The microgrid, developed in partnership with Panasonic Eco Solutions Canada, provides a unique facility for research, testing, development, commercialization, and training of skilled engineers to improve and develop the microgrid concept for broader use and seamless power transition during power failures. This will lead to novel emergency power options for essential services in installations such as hospitals, military facilities, chemical processing plants, and power dependent research facilities.

Productivity, Accountability and Transparency Reporting Metrics – Attestation

This priority area of the Ontario government supports the government's goal of increasing trust and accountability through transparency and improved performance outcomes in Ontario's postsecondary education system.

These metrics are not tied to funding, and are used to measure and report on the following indicators:

- Faculty Activity
- Faculty Compensation

Faculty Activity

Information regarding Ontario Tech University Faculty Activity will be made publicly available in Year 3 (2022-23).

Faculty Compensation

Information regarding Ontario Tech University Faculty Compensation will be made publicly available in Year 3 (2022-23).

Enrolment Profile

In addition to the performance-based funding outlined in sections above, institutions will receive enrolmentrelated funding through a funded corridor 'midpoint' to provide funding predictability to institutions. These enrolment corridor midpoints for universities were established as part of the 2017-20 Strategic Mandate Agreements (SMA2), and account for adjustments related to graduate expansion and teacher education achieved targets.

Corridor Midpoint

For funding purposes **18,323.18** Weighted Grant Units (WGUs) will be the corridor midpoint value for the fiveyear period from 2020-25 for Ontario Tech University. Enrolment-related funding will be will distributed consistent with this level of enrolment and subject to the funding framework set out in the *Ontario University Funding Formula Reform Technical Manual, May 2017, Version 1.0.* Funding eligible enrolments are defined by the *Ontario Operating Funds Distribution Manual.*

2019- 20 Midpoint (A)	2019-20 Funded Graduate Growth (Master's) (B)	2019-20 Funded Graduate Growth (Doctoral) (C)	2019-20 Teacher Education Growth (D)	2020-25 SMA3 Midpoint (A+B+C+D)
17,845.72	335.11	142.36	-	18,323.18

Note: The midpoints presented in this table were established using final 2019-20 enrolment data.

Projected Funding-Eligible Enrolments

	2020-21	2021-22	2022-23	2023-24	2024-25
Undergraduate FFTE	7,200	7,350	7,730	8,125	8,650
Master's FFTE	325	350	425	470	500
Doctoral FFTE	105	115	125	140	160
Total FFTE	7,630	7,815	8,280	8,735	9,310

Below is Ontario Tech University's projection of funding-eligible enrolments as of March 31, 2020.

Note: This table reports on Fiscal Full-Time Equivalents. These include all terms for undergraduate students and Fall and Summer terms for graduate students.

Projected International Enrolment

Below is Ontario Tech University's projection of funding-ineligible international student enrolments as of March 31, 2020.

	2020-21	2021-22	2022-23	2023-24	2024-25
Undergraduate FFTE	610	800	1,075	1,400	1,600
Master's FFTE	155	185	225	250	260
Doctoral FFTE	65	75	85	95	105
Total FFTE	830	1,060	1,385	1,745	1,965

Note: This table reports on Fiscal Full-Time Equivalents. These include all terms for undergraduate students and Fall and Summer terms for graduate students.

Appendix: Historical Data, Targets and Results

The following table will be refreshed annually by the ministry to display results from SMA3 Annual Evaluation process and update Allowable Performance Targets (APT) for the current year. The SMA3 Evaluation will occur every year in the Fall-Winter and the updated appendix will be made publicly available the following Spring. Please note that greyed out fields indicate metrics that will be initiated in later years of SMA3.

It should be noted that historical data reflects pre-COVID-19 context. Actual values achieved during the SMA3 period may include COVID-19 pandemic impacts.

			University of Ontario Institute of Technology										
				SMA3 Performance									
SMA3 Metric	Metric Historical Data		2020-21		2021-22		2022	2022-23		2023-24		2024-25	
				APT	Actual	APT	Actual	APT	Actual	APT	Actual	APT	Actual
1. Graduate	2016-17	2017-18	2018-19										
Employment in a Related Field	89.45%	90.39%	85.43%	86.44%									
2. Institutional	2016-17	2017-18	2018-19	34.07%									
Strength/ Focus	32.83%	34.72%	34.74%										
3. Graduation Rate	2016-17	2017-18	2018-19	67.49%									
	71.66%	67.83%	66.15%										
4. Community/ Local	2016-17	2017-18	2018-19										
Impact of Student Enrolment	9.53%	9.64%	9.71%	9.60%									
5. Economic Impact	2016-17	2017-18	2018-19	195.58									
(Institution-specific)	211	241	383										
6. Research Funding	2016-17	2017-18	2018-19										
& Capacity: Federal	\$3,858,091	\$4,108,867	\$4,172,015										
Secured	0.61%	0.62%	0.61%	0.59%									
7 Experiential	2016-17	2017-18	2018-19										
Learning	#	#	#										
	%	%	%										
8. Research Revenue	2016-17	2017-18	2018-19										
Attracted from Private Sector	ć	ć	ć										
Sources	Ş	Ş	Ş										
9. Graduate	2016-17	2017-18	2018-19										
Employment	\$	\$	\$										
10. Skills & Competencies								Survey initiated	E.g. Yes				