

# 2020-2025 Strategic Mandate Agreement

**MCMASTER UNIVERSITY**

1280 MAIN ST W  
HAMILTON ON L8S 4L8



MINISTRY OF COLLEGES AND UNIVERSITIES



# Contents

- Signing Page .....2
- Introduction.....3
- Institutional Profile .....4
- Performance-Based Funding .....6
- Priority Areas and Performance Metrics.....7
- Skills & Job Outcomes .....8
- Economic & Community Impact .....16
- Productivity, Accountability and Transparency .....22
- Enrolment Profile .....23
- Federated and Affiliated Institutions .....24
- Appendix: Historical Data, Targets and Results .....25

# Signing Page

## 2020-2025 Strategic Mandate Agreement

Signed Between

McMaster University


And

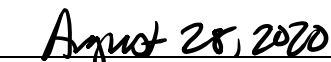
Ministry of Colleges and Universities

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

SIGNED for and on behalf of McMaster University  
by:

  
\_\_\_\_\_  
Shelley Tapp  
Deputy Minister

  
\_\_\_\_\_  
Dr. David Farrar  
President and Vice-Chancellor

  
\_\_\_\_\_  
Date

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.*

# Introduction

## *Preamble*

This Strategic Mandate Agreement between the Ministry of Colleges and Universities and McMaster 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 five-year 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

SMA3s 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.

Founded in 1887, McMaster University is a research-intensive, student-centered institution dedicated to advancing human and societal health and well-being. Ranked 72nd in the world by the Times Higher Education World University Rankings (an improvement of five places from 2018), McMaster is one of only two Ontario universities in the world's Top 75.

McMaster is a uniquely differentiated institution with a global reputation for innovation in teaching and learning — closely aligned with world-leading research excellence that generates significant societal and economic impact. Recent achievements demonstrate McMaster's strengths as a research powerhouse and commitment to an exceptional educational experience:

- McMaster is second in the world and first in Canada in the Times Higher Education's University Impact Rankings 2019, based on the Sustainable Development Goals of the United Nations, which recognizes our work as champions of health, well-being, equity, and sustainability.
- McMaster won the 2018 Global Teaching Excellence Award, in recognition of our institution-wide commitment to excellence in teaching and learning.
- McMaster has been named Canada's most research-intensive university for the third consecutive year (<https://researchinfosource.com/>). With sponsored research income of \$391.6 million we have maintained the top place in both corporate research income and graduate student research intensity.

McMaster plays a key role in developing a highly skilled workforce for Ontario. We invest considerable resources in providing outstanding academic programs, along with experiential learning opportunities, student wellness programs, and career advising services. This commitment to a personalized student experience is a longstanding McMaster hallmark, as exemplified by "problem-based learning." Developed by the medical school in the 1960s, this student-centered, interdisciplinary approach, known as The McMaster Model, has been adopted around the world.

Today, McMaster continues to offer an outstanding learning environment, through innovative programs that are reimagining and transforming the undergraduate curriculum. Students across all Faculties benefit from many co-op and experiential learning opportunities, we offer numerous pathway programs for underrepresented groups, and we lead the country in industry-sponsored research, which allows for invaluable work-integrated learning.

Our students also benefit from McMaster's pioneering research excellence. For example, the McMaster Nuclear Reactor (MNR), built in 1959, was the first university-based research reactor in the British Commonwealth. Now the largest research reactor at a Canadian university, the MNR is one of a suite of research facilities at McMaster that generate discoveries in medicine, clean energy, nuclear safety, materials and environmental science.

Across our six Faculties, McMaster's researchers and students produce the knowledge, discoveries and innovations that advance human understanding, empower entrepreneurship and creativity, attract industry partnerships, and create jobs.

We understand the importance of accountability for public funds and we are committed to contributing to the province's economic growth, while ensuring efficient use of resources. We are equally committed to ensuring that Ontarians have access to affordable, high-quality postsecondary education.

Above all, McMaster University is dedicated to nurturing excellence and preparing the highly skilled and well-educated graduates who will contribute to Ontario's future.

McMaster's response to mitigate the negative effects of COVID-19 has been swift and, by necessity, will continue to evolve. Significant focus has been placed on COVID-related research and investments in enhancing digital pedagogy. New programs to support students are in place, including **Archway**, which matches every first-year student with a mentor and a small student group helping them make friends, get support and bolster their success. The financial impact of the pandemic on McMaster is significant and at this time it is premature to accurately assess the impact on our planning, outcomes and projections over the term of this agreement.

Discover more about [McMaster's economic impact](#) and [McMaster's teaching excellence](#)

Read how [McMaster's researchers](#) are creating a brighter world.

# Performance-Based Funding

## Notional Annual Allocation

For the 2020-2025 SMA cycle, McMaster University's annual allocation of performance-based funding has been calculated by the ministry in accordance with the university funding model and Ontario's Performance-based Funding Technical Manual. McMaster 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	\$64,247,089	\$89,676,409	\$115,106,487	\$140,536,564	\$153,251,603
Performance-based Grant	\$62,581,612	\$87,614,257	\$112,646,901	\$137,679,546	\$150,195,869

\*\* 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.

Metric	Institutional Assigned Weightings & Notional Performance-based Funding									
	2020-21		2021-22		2022-23		2023-24		2024-25	
	Max 35%, Min 10%		Max 30%, Min 5%		Max 25%, Min 5%		Max 25%, Min 5%		Max 25%, Min 5%	
	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)	(%)	(\$)
1. Graduate Employment Rate in a Related Field	15%	\$9,387,242	15%	\$13,142,139	15%	\$16,897,035	15%	\$20,651,932	15%	\$22,529,380
2. Institutional Strength/Focus	10%	\$6,258,161	5%	\$4,380,713	5%	\$5,632,345	5%	\$6,883,977	5%	\$7,509,793
3. Graduation Rate	20%	\$12,516,322	5%	\$4,380,713	5%	\$5,632,345	5%	\$6,883,977	5%	\$7,509,793
4. Community/Local Impact – Student Enrolment	15%	\$9,387,242	25%	\$21,903,564	25%	\$28,161,725	25%	\$34,419,887	25%	\$37,548,967
5. Economic Impact (Institution-specific)	25%	\$15,645,403	10%	\$8,761,426	10%	\$11,264,690	10%	\$13,767,955	10%	\$15,019,587
6. Research Funding & Capacity: Federal Tri-Agency Funding Secured	15%	\$9,387,242	15%	\$13,142,139	15%	\$16,897,035	15%	\$20,651,932	15%	\$22,529,380
7. Experiential Learning	--	--	10%	\$8,761,426	10%	\$11,264,690	10%	\$13,767,955	10%	\$15,019,587
8. Research Revenue Attracted from Private Sector Sources	--	--	10%	\$8,761,426	5%	\$5,632,345	5%	\$6,883,977	5%	\$7,509,793
9. Graduate Employment Earnings	--	--	5%	\$4,380,713	5%	\$5,632,345	5%	\$6,883,977	5%	\$7,509,793
10. Skills & Competencies	--	--	--	--	5%	\$5,632,345	5%	\$6,883,977	5%	\$7,509,793

# 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**

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*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**

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*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**

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*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 McMaster 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
<b>Metric initiated in 2020-21</b>
Narrative

McMaster University is committed to contributing to Ontario’s economic growth by producing outstanding graduates who will become positive contributors to society.

We are dedicated to ensuring our students are well-prepared for a diverse range of professions and career paths, joining a highly skilled and well-educated workforce. Our consistently strong Graduate Employment Rates (as well as strong results in metric 9, “Graduate Employment Earnings”) testify to the quality and attractiveness of McMaster graduates to employers.

Over the past five years, McMaster has consistently outpaced our peers in industry-sponsored research collaborations, and we remain Canada’s top university for corporate research income. These partnerships act as magnets, attracting businesses to our region, incubating new companies, and creating jobs. Our students gain invaluable work experience from these industry collaborations, as well as from the many co-op and experiential learning opportunities that we offer to help expand their pathways to employment.

Work-integrated learning is an integral part of McMaster’s academic programming. For example, our Minor in Innovation — a joint initiative of the Faculty of Engineering and DeGroote School of Business — was launched in 2018/19. Students from any of our six Faculties can pursue this option to help them succeed in the fast-paced, innovation-driven marketplace. Although only its second year, the program has enrolled almost 800 students.

Other examples of McMaster programs that support our students in finding successful employment in fields relevant to their studies:

- “Hire McMaster” is a centralized web resource that connects prospective employers with our students across all six Faculties.

- In June 2019, McMaster became the first Canadian university to offer digital degrees, anchored by bitcoin blockchain technology. These portable, secure transactions allow employers anywhere to verify academic credentials.
- The Indigenous Undergraduate Summer Research Scholars program offers eight weeks of intensive research training that gives Indigenous undergraduates from across Canada a taste of life as a graduate student and support for their career choices.
- McMaster presents Connect to Careers, Hamilton’s largest job fair, in partnership with Mohawk College, Redeemer University College, and the City of Hamilton. More than 1,200 job seekers attended the 2018 event.
- McMaster’s Student Success Centre offers academic support, professional development, career coaching, and networking opportunities for all students and young alumni up to 10 years after graduation.
- The McMaster Alumni Association offers networking events, career counselling services, mentorships, and a blog with career advice.

Recent rankings regarding McMaster students’ employability:

- In September 2019, the QS World University Rankings: Graduate Employability Rankings placed McMaster 98th in the world and fourth in Canada.
- In November 2019, the Times Higher Education Global University Employability Ranking ranked McMaster 78th in the world and fifth in Canada.
- In the 2018 Ontario University Graduate Survey of McMaster graduates, 90.93 per cent of those in full-time employment indicated that they were in employment that was closely related or somewhat related to the skills they learned at university. The Ontario average is 88 per cent.

We expect to continue to be strong performers in this metric and are weighting this metric as such.

Source: Ministry of Colleges and Universities - Ontario University Graduate Survey

### Institutional Strength/Focus

*Leveraging our strengths to advance human and societal health and well-being through interdisciplinary learning*

Proportion of enrolment (FTEs, 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

A recognized world leader in the Health Sciences, McMaster University excels in the STEM disciplines, with substantive integration of the Humanities, Social Sciences and Business. We view all these subject areas as complementary and interdependent, and we concentrate our resources on only six Faculties: Business, Engineering, Health Sciences, Humanities, Science, and Social Sciences making McMaster highly focused and differentiated.

Over the years, we have carefully modified our programs in our unique areas of strength, based on student demand, labour market trends, and advances in leading-edge knowledge. Our current offerings and cost structure reflect this deliberate planning. Our top three most subscribed programming areas reflect our demonstrated strengths. They also support program areas that are in consistently high demand in the province – Health and

Society, Engineering and Business. In addition, exploring new areas of importance, such as data analytics, artificial intelligence and related fields, continues as we must also attend to evolving societal needs and demands.

At McMaster, our mission is to provide our students with a comprehensive and integrated education. Solving the world's "grand challenges" — such as antimicrobial resistance — requires the interdisciplinary strength in which McMaster has excelled for decades. For example, the Michael G. DeGroot Institute for Infectious Disease Research is a transdisciplinary research and learning powerhouse that spans four Faculties and 10 Departments. The integration of student learning across multiple disciplines will enable us to tackle emerging and pressing societal concerns, recognizing that even the most specialized problem, requires multifaceted perspectives and solutions. Our students develop innovation and business skills alongside ethics and communications, developing their capacity to enrich societal health and well-being.

McMaster has pioneered many innovative interdisciplinary programs, starting with our Arts & Science Program, established in 1981, followed by Integrated Science, Engineering and Management, Integrated Business and Humanities, and Integrated Biomedical Engineering and Health Sciences programs, as examples.

We see interdisciplinary programming as the future of higher education. Currently many of our offerings are not captured in the series code "interdisciplinary", as they are transcribed as minors or subsumed under a primary discipline code. We will continue to play to all our strengths by expanding these kinds of offerings.

Therefore, the high-level classification series summarizing our outlined focus and demands are below:

- 11: Computer and information sciences and support services
- 14: Engineering
- 27: Mathematics and Statistics
- 30: Multidisciplinary/interdisciplinary studies
- 51: Health professions and related programs
- 52: Business, management, marketing & related support services

While we anticipate continued strong demand in these areas, their combined proportion of our overall enrolment may decline in future as we make decisions about how best to respond to external factors that impact our enrolment profile, such as newly emerging demands in other existing fields of strength.

*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

McMaster University is a strong performer in this metric. We cultivate a world-class academic environment in which our students can flourish and excel, and which fosters innovative teaching and learning, community-engaged scholarship, and research excellence.

Over the past decade, McMaster has supported the province's goal of improving access to postsecondary education for Ontarians. As a result, we have seen a substantial increase in our domestic enrolments, and we have made significant investments in new infrastructure and student services. The Maclean's University Rankings published in October 2019 place McMaster first in the country for student services.

We have worked to update our application processes (for example, requiring personal essays and video statements) to ensure the best possible match between students and degree programs. We also provide numerous pathway programs that build on our collaborative, interdisciplinary culture to support students in exploring academic options and choosing the best path for their personal and career success.

Some examples of academic supports that McMaster provides to promote student success:

- The Student Navigator Project, organized by the Bachelor of Health Sciences Program, Arts & Science Program, School of Interdisciplinary Science and Faculty of Social Sciences, assists students in navigating the challenges of the undergraduate experience.
- The McMaster Academic Planner, an online tool, assists enrolled and prospective students in the Faculty of Science in their exploration of the many pathways open to them. Similar initiatives are underway for students in Humanities and Social Sciences.
- McMaster offers many bridging programs, such as the Venture Outreach Program for students from Six Nations of the Grand River and New Credit First Nations.
- Student Accessibility Services provides assistive technology, academic accommodations, and a transition program for new students with disabilities — to support students in the successful completion of their degrees.
- The Associate Director, Indigenous Services, provides academic guidance and support for Indigenous students.
- The McMaster Office for the Development of English Language Learners (MODEL) is a free service to help students develop their English language proficiency.

As well, McMaster strives to create a healthy environment to support our students in their journey to graduation. Some examples:

- The new Peter George Centre for Living and Learning houses student residences, as well as new classrooms and study spaces, the Student Wellness Centre, and the McMaster Childcare Centre.
- The Student Activity and Fitness Expansion will double the size of McMaster's fitness centre and include a new gym and more study, activity and prayer spaces.
- The Indigenous Studies Program's space in L.R. Wilson Hall includes a Ceremonial Room, an Elders Room, and an outdoor patio filled with native plants.

- The McMaster Wellness Centre provides many training programs for Mental Health, Nutrition and Fitness, Healthy Campus, and Sexual Health. More than 450 students participated during 2017-18.
- Student Mental Health Services offers a safeTALK program trainer, 187 trained student suicide-alert helpers, and a specialized caregiver for suicide prevention.

This metric is extremely important to McMaster, and we continue to focus on new and existing initiatives to improve graduation rates.

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**

At McMaster University, we foster our students’ creative and intellectual potential, while also preparing them for successful careers.

Our students gain invaluable practical experience through internships, co-ops, work placements, research experiences, and career planning workshops, which give them an early advantage in determining their career options and ambitions. More than 100 courses across our six Faculties (Business, Engineering, Health Sciences, Humanities, Science, and Social Sciences), as well as our Arts & Science Program, support these hands-on experiences.

Our students have many opportunities during their studies to interact with and build connections to prospective employers — for example, at the McMaster Innovation Park, the McMaster Automotive Resource Centre, the McMaster Manufacturing Research Institute, and The Forge. Another example is CityLAB, where McMaster students collaborate with researchers and community partners to co-create solutions that support the City of Hamilton’s strategic priorities.

Fostering such connections promotes an understanding of the work environment and an awareness of the skills needed to succeed in the workplace, and ultimately enhances employability.

This metric is tied to metric 1 (“Graduate Employment Rate in a Related Field”), in which we exhibit consistently strong results. This metric 9 is less under our control, as it is dependent on external factors such as the performance of the economy.

However, we can point to information published in the KPMG McMaster Economic Impact Study:

- Earnings as compared to graduates with only a high school diploma are 48 per cent, 74 per cent, and 159 per cent higher respectively for those who have earned a university undergraduate degree, a graduate degree, and a medical doctoral degree.
- The total impact of a McMaster education on alumni income in Ontario is more than \$2.6 billion.

Other ways in which McMaster supports our students’ employment success:

- McMaster has strong university/college partnerships. Some examples:
  - McMaster’s Bachelor of Technology program is a joint program between the Faculty of Engineering and Mohawk College.
  - McMaster and Mohawk College collaborate on the Medical Radiation Sciences program.

- McMaster’s Faculty of Social Sciences collaborates on joint McMaster-Mohawk Certificates in Business Studies; Leadership and Management in the Not-for-Profit Sector; and Applied Behavioural Analysis.
- McMaster’s Collaborative Nursing program works with Mohawk College and Conestoga College.
- McMaster’s W Booth School of Engineering Practice and Technology offers degree-completion programs for students who have completed an Advanced Technology Diploma through an accredited college; some of these programs also offer pathways to P.Eng. designation.
- McMaster students in the Faculty of Humanities can enhance their degrees with many options. For example:
  - A specialized Minor in Commerce allows Humanities students to complete the Master’s in Business Administration degree in one year instead of two.
  - An MSc in Speech Language Pathology in the Faculty of Health Sciences provides a career path for undergraduates in Linguistics and Cognitive Science of Language.

Although we support strong outcomes in this metric, our weighting for this metric is cautiously low, given the reliance on matching multiple source files and variable economic market factors outside our control.

*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

Experiential learning is deeply embedded into McMaster University’s renowned culture of teaching and learning. We strive to provide an innovative and enriching learning environment, which includes experiential, work-integrated, and self-directed learning, and which allows for interdisciplinary collaborations that promote multiple perspectives.

Experiential learning opportunities are an integral component of our students’ curricula at McMaster. Some examples:

- Our Commerce Internship Program provides students with 12 to 16 months of paid work experience with top employers.
- As of fall 2020, the Faculty of Engineering will transform its undergraduate curriculum with “The Pivot,” a ground-breaking initiative that will embed innovation, entrepreneurship and experiential learning in all courses.
- In 2018, McMaster launched a Minor in Innovation, open to all McMaster students keen to develop their problem-solving, leadership and entrepreneurial skills.
- Upper-year students work with the community in Social Sciences in Action, a student-driven capstone course.
- Students in McMaster’s School of Nursing hone their skills through simulation-based learning on campus, and with clinical placements in the Hamilton, Halton, Peel, Niagara, and Brant regions.
- More than 475 undergraduates, graduate students and postdoctoral fellows collaborate with industry partners at the McMaster Automotive Resource Centre, a state-of-the-art facility where the next generation of sustainable transportation is being developed.
- Students undertake applied research with industry partners at the McMaster Manufacturing Research Institute, one of Canada’s best-equipped research laboratories in the field of advanced manufacturing.

- The Faculty of Science offers many opportunities for field work in topics ranging from water research to climate change to the neurobiology of disease.
- Students in the Honours Bachelor of Health Sciences program participate in community-based course work, an intensive embedded-learning experience in the global health specialization and a practicum in the child health specialization.
- McMaster’s Office of Community Engagement and the MacPherson Institute have collaborated on a grant program to increase the experiential learning opportunities in existing courses. A total of 35 faculty members have received grants for 55 courses and created new experiential learning opportunities for 1,903 undergraduate and 142 graduate students.

Across campus, our students are offered many other kinds of experiential learning opportunities and career readiness initiatives. Some examples:

- The MakerSpace, available to all students, is an experiential learning facility equipped with 3D printers, laser cutters, and other state-of-the-art technologies and machinery.
- The MacChangers program brings together interdisciplinary teams of McMaster students to devote eight months to developing innovative solutions to local and global societal issues.
- Through the McMaster Institute for Research on Aging, students can pursue a certificate of completion that includes experiential learning with older adults.
- The Faculty of Humanities offers a number of certificate programs, such as the Concurrent Certificate in Leadership & Cross-Cultural Literacy, which includes a Leadership Capstone.
- The Gerald Hatch Centre for Engineering Experiential Learning is a LEED-certified hub for student exploration and a living laboratory for sustainable building technologies.
- The Forge works with 35 start-up clients, including McMaster students, alumni, and community members. More than 3,200 students participate in its programming each year.

McMaster is committed to continuing to offer expanded experiential learning opportunities.

Source: *Institutions*

## Skills & Competencies

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

**Metric initiated in 2022-23**

Narrative

McMaster University has a long track record of excellence in teaching and learning, and in pioneering innovative educational approaches that have been adopted around the world. As shown by our strong results in metric 1 (“Graduates Employed in a Related Field”), we provide our students with the skills for career and personal success.

The percentage of undergraduates registering at McMaster University with an admission average of 90 per cent and above has risen from 13.5 per cent in 2000 to 44.7 per cent in 2018.

The number of graduate applications from students who meet the provincial grant funding eligibility criteria more than doubled (from 2,850 to 7,351) between 2007-08 and 2018-19, in part because of McMaster’s international reputation for excellence.

In 2018, 11 McMaster graduate students were recipients of prestigious scholarships and fellowships: 10 were named Vanier scholars, placing McMaster second in Ontario, and one postdoctoral fellow was named a Banting Fellow. Our graduate students are also number one in Canada in “graduate student research intensity.”

McMaster supports a variety of initiatives intended to equip our students with the leadership skills needed to be engaged and successful global citizens, and to transition successfully from the academy to the workplace. Recent initiatives include:

- The Wilson Leadership Scholar Award, hosted by McMaster, supports the development of students who demonstrate exceptional leadership potential. This high-value award program has expanded to include graduate students. The first graduate Wilson Leaders joined their undergraduate peers in September 2019 for a year of mentorship, professional development, and community engagement opportunities.
- The Digital Leadership Summit held by McMaster's DeGroote School of Business considered the impact of digital innovation on business, with a focus on health care, finance and entertainment. The summit featured discussions with some of the school's top experts, along with thought leaders from industry and academia.
- McMaster Global Health provides a model of transdisciplinary higher education with cross-cultural learning opportunities. The program combines face-to-face classroom experiences with online collaboration in virtual teams. Lectures are delivered to students in the classroom at McMaster while broadcasting to students in the Netherlands, Norway, India, Thailand, Colombia, and Sudan.

McMaster is one of only two Canadian universities to pilot the McCall MacBain Foundation International Fellowships. This award program enables students to experience a year of cultural immersion, including language study, volunteering, academic study, and paid employment.

*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 McMaster 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

<b>Institutional enrolment share in the population of the city (cities)/town(s) in which the institution is located</b>
<b>Metric initiated in 2020-21</b>
<b>Narrative</b>
<p>McMaster University is proud to call Hamilton home, and we are deeply committed to serving our communities. We are equally dedicated to offering an affordable, high-quality postsecondary education to all qualified local applicants and we will continue to accommodate demand where possible.</p> <p>We measure “community impact” by the depth and breadth of our many outreach initiatives, our extensive community-based programming, and our fruitful collaborations with community partners. From our Mini-University Summer Camps to our CityLAB research initiative with the City of Hamilton to the compelling public events offered by the Socrates Project — McMaster fosters the intellectual, social, cultural and physical health and well-being of our local community.</p> <p>We collaborate with many neighbours and partners to build a vibrant region:</p> <ul style="list-style-type: none"><li>• McMaster recognizes we are located on the traditional territories of the Mississauga and Haudenosaunee nations, within the lands protected by the Dish With One Spoon wampum agreement. Our collaborations with Indigenous communities date back nearly 30 years, and include academic programming, scholarships, experiential learning opportunities, research projects, and the promotion of career paths.</li><li>• In November 2019, McMaster, Mohawk College, Redeemer University College, and the City of Hamilton re-affirmed the Postsecondary Principles of Cooperation, which promote access to education and the retention of local talent.</li><li>• The David Braley Health Sciences Centre in downtown Hamilton is a unique partnership with the City of Hamilton. Co-located with Hamilton Public Health, the Centre serves over 20,000 Hamilton patients.</li><li>• McMaster’s Centre for Continuing Education is located at One James North in downtown Hamilton, offering more than 300 programs.</li><li>• A new Graduate Student Residence for 600+ students is in the works for downtown Hamilton — another significant investment in a revitalized city centre.</li><li>• McMaster’s Office of Community Engagement Research Shop contributed nearly 5,000 student volunteer hours in 2018-19 to address community partners’ questions, from surveying foodbank users to identifying best practices for a wildlife corridor across Highway 6.</li><li>• The MAC H<sup>2</sup>OPE Clinic, a collaboration of McMaster’s School of Rehabilitation Sciences, the YMCA of Hamilton/Burlington/Brantford and Hamilton Health Sciences, provides free physiotherapy services to eligible adults in downtown Hamilton.</li></ul>

Other examples of McMaster’s commitment to community service:

- The McMaster Discovery Program, a free university-level course, offered to Hamilton adults who have experienced barriers to accessing higher learning.
- The McMaster Children and Youth University engages over 100 students (and their parents) in its experiential programming, and each year offers 200 events with 25 community partners.
- McMaster’s Faculty of Engineering offers annual programs for students from kindergarten to Grade 12. In 2018, these programs reached more than 19,800 students.
- The McMaster Museum of Art is collaborating with Hess Street Elementary School to use the museum’s significant collections to teach visual literacy skills.
- The Sport Fitness School, launched in 1977, is a world-class sports camp and one of the many community programs offered by McMaster Athletics & Recreation.

Barring any unforeseen global or economic factors we do not see this metric falling, given the high demand for a McMaster education, although we are now admitting students in excess of Ministry funded enrolments.

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

### Economic Impact (Institution-specific)

<i>Invention and Copyright Disclosures</i>
Number of annual invention and copyright disclosures submitted.
<b>Metric initiated in 2020-21</b>
Narrative

With exceptional academic programming, world-leading research capacity, a successful and expansive alumni network, and integration with the City of Hamilton and regional partners, McMaster University makes a significant contribution to the local, provincial and national economies.

McMaster’s institution-specific measurement for economic impact:

Disclosures – Inventions and Copyright:

- Scientific discoveries made through research activities which may include technologies or materials, improved processes, software, or written materials (e.g., questionnaires, surveys, or teaching materials).
- If commercialized, such discoveries could have the potential to generate social and economic impact through the eventual creation of products and services by existing or start-up companies, ultimately enhancing quality of life.

KPMG recently published an Economic Impact Study demonstrating McMaster’s strong economic impact. Key findings of the report include:

- An annual Gross Domestic Product impact of \$9.2 billion to the Canadian economy.
- \$3.5 billion in annual GDP in Ontario can be linked to the productivity gains made from research and development at McMaster since 1971.
- \$3.87 billion annual economic impact on Hamilton’s GDP.
- More than 14,000 jobs created as a result of McMaster’s annual operating expenditures in the economy.

- Alumni living in Ontario and Hamilton have a realized improvement in annual earnings of close to \$2.6 billion and \$890 million, respectively
- McMaster provides over \$100 million in direct spending to local Hamilton businesses and suppliers every year.
- Every \$1 invested in McMaster returns nearly \$8 to the economy.

Further examples of how McMaster contributes to the economic prosperity of our city, region and province:

- McMaster has been named a Hamilton-Niagara Top Employer for the past five years in a row.
- Our campuses in Burlington, Kitchener-Waterloo, Niagara, Halton and Brantford help build a knowledge economy and attract new investments to these communities.
- McMaster Innovation Park provides a range of office, lab, and specialized facilities to more than 65 companies with more than 800 people working onsite.
- The McMaster Industry Liaison Office (MILO) supports the commercialization of our researchers' work. More than 250 industry representatives, entrepreneurs, researchers and students attended MILO's 9th Annual Innovation Showcase, which focused on biomedical technologies.
- The Forge, McMaster's campus-linked accelerator, has created more than 300 jobs, incubated over 110 companies, raised more than \$21 million in funding, reaching 30 countries.
- McMaster's Centre for Probe Development and Commercialization (CPDC) translates research findings on medical isotopes into new diagnostic tests and cancer treatments. It has spun out several companies, including Fusion Pharmaceuticals, which has secured more than US\$150M in private financing to advance new approaches to cancer therapy. In 2018, Fusion was recognized as Ontario's Life Sciences Company of the Year.
- McMaster's Biomedical Discovery and Commercialization program is a multidisciplinary program that seeds the next generation of entrepreneurial, scientific and business leaders in the pharmaceutical, biotechnology and biomedical investment sectors.
- McMaster's 2018 Health Sciences Venture Fair attracted more than 100 investors, industry professionals, researchers and students. McMaster faculty and students showcased innovations with high commercialization potential to the investment and pharmaceutical communities.

As a research-intensive university, innovation is extremely important to McMaster and we have weighted as such.

*Source: Association of University Technology (AUTM) Licensing Survey*

### **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**

McMaster University is one of only two Ontario universities to be ranked in the Top 75 in the world, and we are Canada's most research-intensive university for the third year in a row.

McMaster is a member of the U15 Group of Canadian Research Universities, as well as the G6, the Ontario members of the U15. In 2018, McMaster joined Universitas 21 as the only Canadian member of this global network of research-intensive universities committed to collaboration and knowledge exchange.

Our researchers and graduate students continue to outpace their peers in attracting significantly more federal tri-agency and other research funding — a testament to the quality of our research and the confidence our partners place in us.

McMaster's research enterprise advances the economic, social and cultural prosperity of our local, provincial, national and global communities. From combating disease and reducing environmental pollutants to informing public policy, McMaster's researchers are addressing society's most urgent needs.

- Rankings results from "Canada's Top 50 Research Universities," Research Infosource, Nov. 7, 2019:
  - McMaster is Canada's most research-intensive university for the third consecutive year. "Research intensity" measures research income per full-time faculty member, with McMaster researchers averaging \$439,500 per faculty member, more than double the national average.
  - With a total sponsored research income of \$391.6 million McMaster maintained our first-place ranking in corporate research income.
  - McMaster also placed first among our peers for graduate student research intensity, averaging \$84,000 per graduate student and, again, well above the national average.
- McMaster maintained second place in the medical/doctoral category in the 2019 Research University of the Year ranking, which measures research income and intensity, along with publications in leading journals.
- McMaster is ranked 72nd in the world by the Times Higher Education World University Rankings; this ranking system is heavily weighted to citations and research reputation.
- 14 McMaster researchers are included in the Clarivate Analytics 2019 listing of the world's most highly cited researchers.
- With more than 70 research centres and institutes, McMaster is renowned for our interdisciplinary research enterprise, which supports the training of graduate and undergraduate students.
- McMaster is a leader in Indigenous knowledge and research by and with Indigenous peoples through units such as the McMaster Indigenous Research Institute and the McMaster Indigenous Studies Program
- McMaster is home to 114 endowed chairs, 70 Canada Research Chairs, 14 endowed professorships, six Natural Sciences and Engineering Research Council Industrial Research Chairs, two Canadian Institutes of Health Research Chairs, and two Ontario Research Chairs.
- McMaster continues to be a leader in nuclear science, housing a suite of research facilities that propel discoveries in medicine, clean energy, nuclear safety, materials and environmental science. For example, the McMaster Nuclear Reactor is one of the world's largest suppliers of the medical radioisotope Iodine-125, used in the treatment of prostate cancer.

A strong weighting has been assigned given that we are a demonstrated research-intensive university and continue to anticipate strong results.

*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

McMaster University is Canada's leading university for industry-sponsored research, receiving more than \$588 million over the past five years. Our private sector collaborations attract businesses to the region, incubate new companies, generate co-op opportunities, and create jobs.

McMaster is also a strong performer in giving from private foundations. For example, the Program on Ethics and Policy for Innovation receives multi-million-dollar funding from the Bill & Melinda Gates Foundation.

Like metric 9 ("Graduate Employment Earnings"), this metric is tied to the economy and is a variable revenue source. Nonetheless, our researchers consistently contribute to the productivity and global competitiveness of our region, province and country.

A few examples:

- "Canada's Top 50 Research Universities" rankings (Research Infosource, November 2019) named McMaster again as the top performer for corporate research income at more than \$142 million.
- In 2019, McMaster partnered with 291 non-governmental organizations (including 171 corporate entities) for research engagements. This is in addition to our private sector partners who fund service work using McMaster's research facilities.
- With more than 65 companies and more than 800 employees, McMaster Innovation Park (MIP) is integral to Hamilton's innovation ecosystem.
- At MIP, we are building space to accommodate six commercialization initiatives with McMaster researchers, funded by private investors. This new centre will be home to leading technology companies and will ensure that more than 100 jobs remain in Hamilton.
- The McMaster Nuclear Reactor, the world's only self-funded research reactor, provides service to nearly 30 commercial entities nationally and internationally.
- The McMaster Automotive Resource Centre, one of the world's leading academic research centres for transportation electrification, partners with companies such as Fiat Chrysler, Ford, GM, and ArcelorMittal Dofasco.
- McMaster is a partner in the Centre for Integrated Transportation and Mobility, along with Nokia Canada, Canada Cartage, Geotab, IBM Canada, Ontario Centres of Excellence, the City of Hamilton, Mohawk College, and Innovation Factory.
- McMaster researchers are also working with companies such as General Dynamics, Thales, PatriotOne Technologies, Bombardier, Eaton Aerospace, and Honda to develop a critical mass of expertise and design industry-relevant courses, workshops and events.
- The Canadian Centre for Electron Microscopy, which engages more than 400 undergraduates, graduate students and postdoctoral fellows, partners with 170 research groups and supports more than 100 companies.
- The McMaster Manufacturing Research Institute is the only university partner in the Southern Ontario Network for Advanced Manufacturing Innovation.
- McMaster is a key partner in Next Generation Manufacturing, the national supercluster network designed to bring industry, academia and not-for-profits together to develop Canada's next generation of manufacturing capabilities.
- McMaster is one of three Ontario universities leading the Advanced Manufacturing Consortium, which provides businesses with access to our technical expertise and world-class assets.

- According to the KPMG McMaster Economic Impact Study, in 2015-16 McMaster had 521 third-party contracts with 273 businesses and non-profit organizations, with an installment value of over \$36 million to McMaster.

As a research-intensive and innovative university, this metric is very important to McMaster. Our cautious weighting is due to the variability related to external factors outside our control.

*Source: Council of Ontario Finance Officers (COFO)*

# 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 McMaster University Faculty Activity will be made publicly available in Year 3 (2022-23).*

### Faculty Compensation

*Information regarding McMaster 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 enrolment-related 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 **75,662.24** Weighted Grant Units (WGUs) will be the corridor midpoint value for the five-year period from 2020-25 for McMaster University. Enrolment-related funding will be 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)
74,245.29	617.27	799.67	-	<b>75,662.24</b>

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

### Projected Funding-Eligible Enrolments

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

	2020-21	2021-22	2022-23	2023-24	2024-25
Undergraduate FFTE	22,727.03	22,878.61	23,104.82	23,301.32	23,427.60
Master's FFTE	1,875.45	1,905.83	1,941.09	1,947.93	1,958.41
Doctoral FFTE	979.48	982.42	987.38	993.51	997.28
<b>Total FFTE</b>	<b>25,581.96</b>	<b>25,766.86</b>	<b>26,033.29</b>	<b>26,242.76</b>	<b>26,383.28</b>

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 McMaster 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	4,095.86	4,594.55	5,058.37	5,423.17	5,686.85
Master's FFTE	844.54	839.70	857.57	861.08	862.98
Doctoral FFTE	504.58	528.46	538.97	543.25	547.25
<b>Total FFTE</b>	<b>5,444.99</b>	<b>5,962.71</b>	<b>6,454.91</b>	<b>6,827.50</b>	<b>7,097.07</b>

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



# Federated and Affiliated Institutions

SMA3s are established with the colleges and universities in Ontario receiving direct operating funding support from the Ministry of Colleges and Universities.

For the purposes of these agreements the 27 federated/affiliated institutions in Ontario are considered part of the primary institution and will not have their own standalone agreement.

As part of this agreement, the ministry encourages all primary institutions to discuss the impacts of the 2020-25 Strategic Mandate Agreement and performance-based funding with federated and affiliated institutions.

The ministry is requesting that institutions confirm that they have discussed SMA3 with affiliated/federated institutions:

## Attestation Signature

*Information regarding the Strategic Mandate Agreement (2020-25) has been discussed with applicable affiliated or federated institutions:*

**McMaster Divinity College**



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Dr. David Farrar, President

August 31, 2020

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Date

## 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.

McMaster University													
SMA3 Metric	Historical Data			SMA3 Performance									
				2020-21		2021-22		2022-23		2023-24		2024-25	
				APT	Actual	APT	Actual	APT	Actual	APT	Actual	APT	Actual
<b>1. Graduate Employment in a Related Field</b>	2016-17	2017-18	2018-19	90.21%									
	91.35%	91.07%	90.93%										
<b>2. Institutional Strength/ Focus</b>	2016-17	2017-18	2018-19	50.42%									
	51.46%	51.22%	52.04%										
<b>3. Graduation Rate</b>	2016-17	2017-18	2018-19	80.06%									
	80.85%	78.83%	80.78%										
<b>4. Community/ Local Impact of Student Enrolment</b>	2016-17	2017-18	2018-19	8.38%									
	8.21%	8.41%	8.76%										
<b>5. Economic Impact (Institution-specific)</b>	2016-17	2017-18	2018-19	78									
	81	81	94										
<b>6. Research Funding &amp; Capacity: Federal Tri-Agency Funding Secured</b>	2016-17	2017-18	2018-19										
	\$66,947,518	\$70,167,132	\$70,469,233										
	10.50%	10.54%	10.38%	10.06%									
<b>7. Experiential Learning</b>	2016-17	2017-18	2018-19										
	#	#	#										
	%	%	%										
<b>8. Research Revenue Attracted from Private Sector Sources</b>	2016-17	2017-18	2018-19										
	\$	\$	\$										
<b>9. Graduate Employment Earnings</b>	2016-17	2017-18	2018-19										
	\$	\$	\$										
<b>10. Skills &amp; Competencies</b>							Survey initiated	E.g. Yes					