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2022-2023 Consolidated Budget

University Planning Committee (for approval)
May 11 2022

BRIGHTER WORLD

McMaster
University 

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1 QUICK FACTS

History

Founded in **1887** in Toronto.

Relocated from Toronto to Hamilton in **1930**.

Institutional Leadership

Chancellor: **Santee Smith**

President, Vice-Chancellor and Chair of the Senate: **Dr. David Farrar**

Provost and Vice-President Academic: Dr. **Susan Tighe**

McMaster Model

Student-centred, research-intensive, problem-based, interdisciplinary approach to learning

Degrees Granted (in 2020/21)

8,082

Student Enrolment Headcount (as of fall 2021)

Undergraduate: **32,119**

Graduate: **5,251**

Domestic: **30,943**

International: **6,427**

Average Entering Grade (in fall 2021)

91.93%

Faculties

6 (DeGroote School of Business, Faculty of Engineering, Faculty of Health Sciences, Faculty of Humanities, Faculty of Science, Faculty of Social Sciences)

Full-Time Faculty (excluding Clinicians, 2020)

932

Staff (2021)

13,783

Alumni (2021)

213,192

Research Funding

\$374.6 million awarded in estimated research funding in 2020/2021 (McMaster and affiliated hospitals)

World Ranking

Shanghai Ranking (2021): **92nd**

Times Higher Education (2021): **80th**

QS World Ranking (2021): **140th**

Times Higher Education Global Impact Rankings (2022): **37th**, including:

1st in Canada for Good Health and Well-being,

2nd in Canada for Working to Reduce Inequality, Decent Work and Economic Growth

2021 – Canada's most graduate student research-intensive university – Research Infosource Rankings

Campus

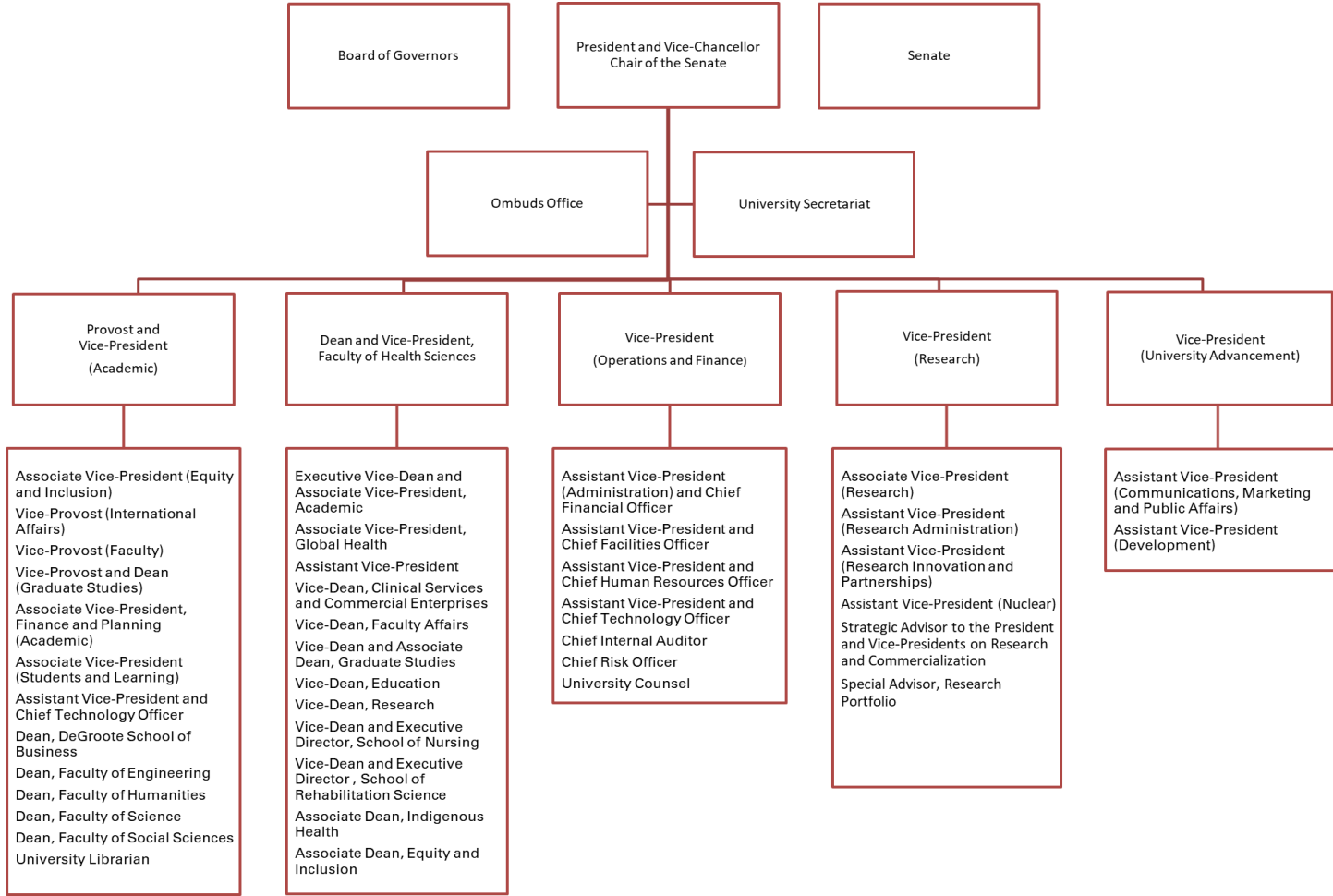
152.4 hectares of property

4 libraries, **13** residence buildings, **1** athletic complex

Nuclear Reactor, WJ McCallion Planetarium, McMaster Museum of Art

5 campuses (Main campus in West Hamilton, and 4 additional campuses in Burlington, Waterloo, Niagara, and downtown Hamilton)

2 ORGANIZATIONAL CHART



Organizational Chart

3 MESSAGE FROM THE PRESIDENT



Over the past two years we have been focused on responding to the global pandemic, and have been working to continue our operations and advance the mission of our University whether in a virtual, hybrid, or in-person format. Despite the challenges we have all experienced, the pandemic has driven stronger collaborations across the University and beyond as we worked together on issues ranging from the design of personal protective equipment, viral gene sequencing, developing novel approaches to effective vaccine responses, and more. We have been able to further advance Canada's Global Nexus for Pandemics and Biological Threats, which enables researchers from

across the campus to develop new generations of biological expertise and work in partnership with system leaders, decision makers, and commercial enterprises to ensure that we are well prepared for any future viral threats. All of this work is consistent with our broader vision of advancing human and societal health and well-being.

McMaster's operating and overall consolidated budgets are structurally balanced with one-time investments to support strategic initiatives and expand and improve our academic and research infrastructure.

The 2022/23 budget reflects our strategic objectives and priorities: Inclusive Excellence; Teaching and Learning; Research and Scholarship; Engaging Local, National, Indigenous, and Global communities; and Operational Excellence. Investments have been made to advance the University's EDI strategy through targeted recruitment strategies, enhanced training, programming, and community building; we continue to support and advance the student experience with our focus on the Teaching and Learning strategy, including partnered and inter-disciplinary learning experiences, and active and flexible learning spaces; additional support has been made available for our research enterprise in a variety of areas including in support of commercialization, innovation, and entrepreneurial activities, and to foster interdisciplinary collaborations; our work to develop and expand our network of respectful partnerships with communities, partners, research collaborators, and supporters continues, with a particular focus on supporting the implementation and advancement of the Indigenous Education and Research Strategy; and we continue to seek operational enhancements and innovations, with a particular focus on advancing our work on sustainability and climate change.

I would like to thank each department and unit for their extraordinary contributions during these challenging times to advance our vision, mission, and strategy. I am optimistic about the future and am looking forward to everything we can accomplish as a University community in the year ahead.

Sincerely,

David Farrar
President and Vice-Chancellor

4 MESSAGE FROM THE PROVOST



I would like to thank everyone who was part of McMaster's budget process. Your contributions are valued by the university and the Budget Committee and resulted in a forward-looking financial plan that supports our mission, institutional priorities and student success. I'm confident that McMaster University's 2022/23 budget positions the university well to continue our pursuit of excellence as a global university.

As a research-intensive, student-centred institution, McMaster is best positioned to make a meaningful difference when we equip our increasingly diverse student body with the knowledge and skills needed to make a transformative impact on our world. This budget serves our students by supporting a personalized, engaging and sustainable student experience that builds on the success of our most creative and innovative programs.

The budget also strengthens the excellence of our research, our graduate education and training through opportunities to integrate research more purposefully into our academic mission. It aims to enhance engagement with the local, national, Indigenous and global communities we serve, which allows for greater understanding and consideration of the issues identified as priorities so they can be integrated fully and meaningfully into the work of the academy.

As we emerge from the COVID-19 pandemic, we are optimistic about the future, while continuing to prepare for shifting circumstances and risks. The upcoming academic year will see a focus on intensifying and diversifying international recruitment. Under the current enrolment corridor mandated by the Ministry of Colleges and Universities, McMaster has exceeded the upper limit for our enrolment of domestic undergraduate and graduate students. Therefore, any increases in enrolment will need to be international as these student spaces are not limited by the Ministry's funding cap.

The budget recognizes that demand for McMaster programs remains strong. However, there are risks that may impact the current financial plan. These include changes in government priorities and funding; our ability to attract and retain a diversified international student base; and other legislative changes. We are well-prepared as a university, and we are pursuing additional strategically aligned initiatives intended to broaden our revenues. These include forming new international partnership programs, increased summer use of our campus, new professional graduate programs and a life-long learning focus including micro-credentials.

Ultimately, I hope that McMaster University's 2022/23 budget empowers each of us to further our ambition as we continue to strive for excellence in all we do.

Sincerely,

Susan Tighe
Provost and Vice-President (Academic)

5 EXECUTIVE SUMMARY

From Deidre Henne, Assistant Vice-President (Administration) and Chief Financial Officer.

McMaster's operating fund, inclusive of Faculty and support operations, has an ongoing projected surplus of \$43.6 million in 2021/22. However, after strategic and capital investments on a one-time basis the net loss is projected as \$26.4 million. Similarly, in 2022/23 the operating results have a structural surplus of \$40.2 million and a net loss after one-time strategic investments of \$4.7 million.

McMaster's projected consolidated results for 2021/22 are structurally balanced with net surplus across all funds of \$108.1 million after capital and accrual basis adjustments of \$134.9 million. The consolidated budget for 2022/23 is also in a surplus position on an accrual basis of \$137.3 million after capital and other adjustments totaling \$142.3 million.

On a cash basis both the operating fund and the consolidated results are in deficit positions due mainly to capital investments. Adjustments are required to report accrual basis accounting results which translate capital spending into long term assets expensed over capital use periods. McMaster's ability to structurally balance and fund strategic and capital priorities demonstrates prudent financial management instilled by McMaster's transparent budget model that places fiscal accountabilities with area leaders who initiate one-time investments to advance the University mission and vision. McMaster's budget approach continues to serve the University decision making particularly as the pandemic has required substantial one-time investments and limited provincial funding growth opportunities.

In 2022/23 the University continues to advance McMaster's greatest strategic priority the **Global Nexus for Pandemics and Biological Threats** at McMaster's Innovation Park (MIP). McMaster will also progress MIPs major supercluster development initiative providing an additional 2.8 million square feet of new and renovated life sciences and biomanufacturing space. Major initiatives will be mindful of strategic ambitions relative to sustaining McMaster's strong financial credit rating of AA (Stable). Overall capital plans are budgeted to resume at pre-COVID levels with several Faculty driven strategically aligned initiatives.

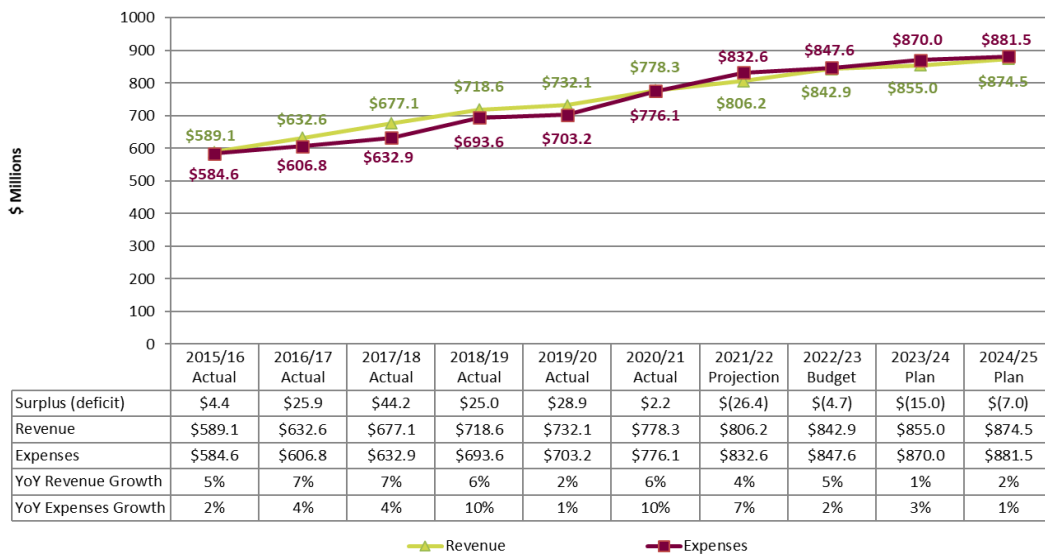
Ancillary operations were hardest hit by pandemic related campus closures and have a 2021/22 projected loss of \$3.4 million with total cumulative losses of \$7.8 million arising over the pandemic period. All ancillaries have planned for the resumption of normal pre-COVID activities fall 2022. In 2022/23 ancillaries have a net budgeted surplus of \$3.3 million, reducing the net deficit to \$4.4 million. Ancillaries, taken together, will fully address the cumulative deficits by 2024/25.

All other funds have sound financial plans to advance McMaster's strategic priorities, including a significant focus projects aligned to the United Nations Sustainable Development Goals.

McMaster's enrolment demand has remained strong despite the pandemic. Global reputation and rankings have continued to assist in attracting the best and brightest students. Overall, McMaster's evidence-based approach to medicine and the advancement of knowledge supporting health and societal issues, including mental-health, remain a key strength to the student-centered research-intensive experience McMaster uniquely offers. This budget and its planning years are supported by McMaster's strength.

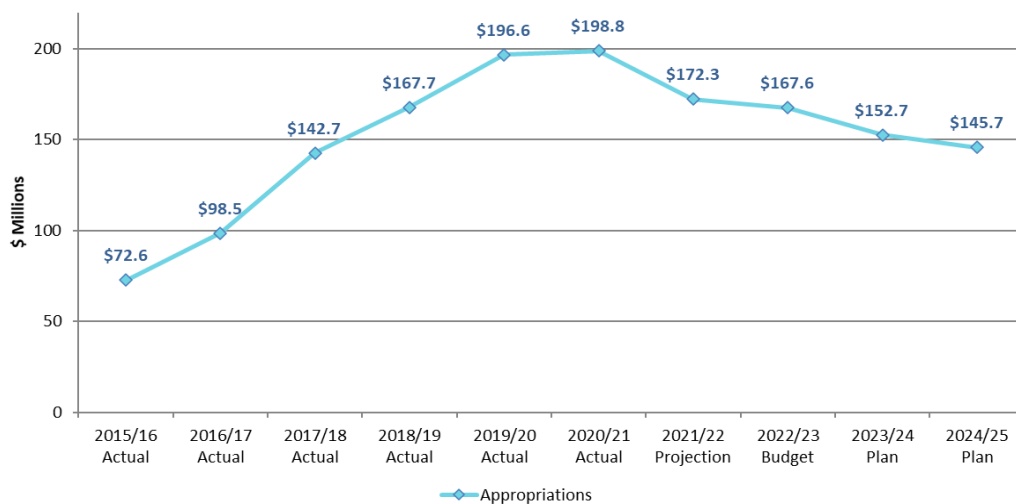
A summary of the University's operating fund net revenues and expenses is shown below in Figure 1. Net operating revenues have historically exceeded expense growth, due mainly to enrolment growth and international student participation increases. The projected trend reduces the net enrolment growth to 0.5% per year, which translates to structurally balanced annually results and a net loss after one-time investments.

Figure 1: Operating Fund Outlook



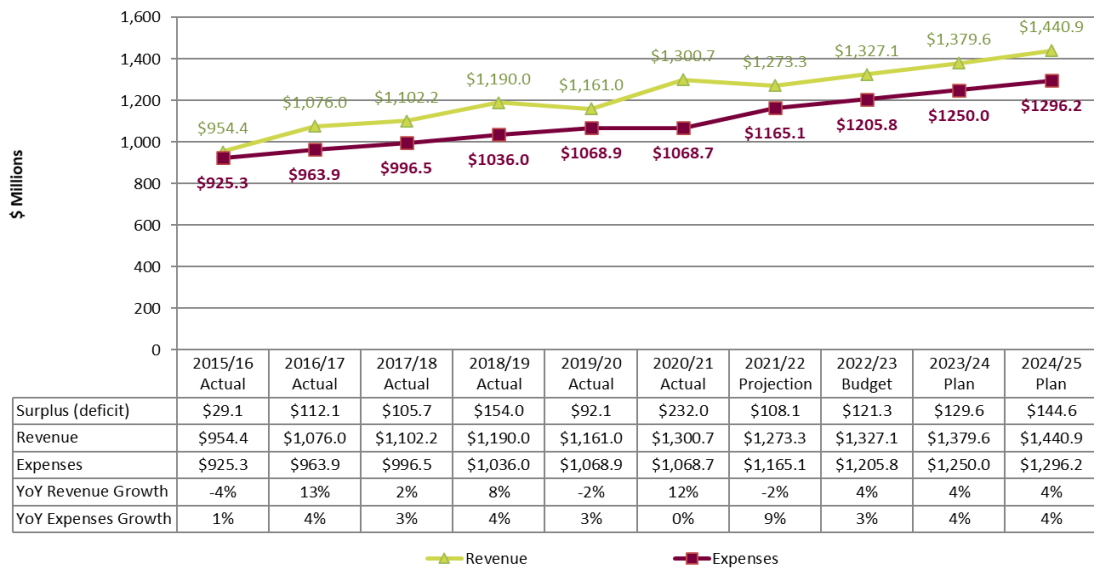
One-time investments in the budget and planning years are supported by McMaster's accumulated appropriations balances reflected in Figure 2 below.

Figure 2: Operating Fund Appropriations



On a consolidated basis net revenues are projected to remain above net expenses on an accrual basis as shown in Figure 3 below. The consolidated results before accrual adjustments are balanced. Accrual adjustments add back annual capital expenditures and amortize assets over useful life periods, as well as, adjust for pension and non-pension year-end market close values.

Figure 3: Consolidated Outlook



6 McMASTER'S KEY STRATEGIC HIGHLIGHTS

6.1 VISION STATEMENT AND STRATEGIC PLAN

McMaster's vision and strategic plan capture collective aspirations for positive impact serving the global community to advance human and societal health and well-being. Our vision is to use our collective skills, knowledge, and understanding to improve the world, addressing broad issues, including health matters, environmental sustainability, and social justice. The 2021 refreshed vision statement and strategic plan followed a consultative community approach. Five clear institutional priorities emerged that shape strategic spending in the budget and planning in the years ahead.

McMaster University's Strategic Priorities

1. **Inclusive Excellence:** aspire to embed an inclusive approach that intentionally engages and respects a diversity of peoples, perspectives, and ways of knowing.
2. **Teaching and Learning:** advance innovations, within and beyond the classroom, and across disciplines and Faculties, to elevate teaching as a professional discipline, and equip students with knowledge and skills to make a transformative global impact.
3. **Research and Scholarship:** the go-to place for world-class collaborative researchers with shared values to work across disciplines, sectors, and borders to develop knowledge, tackle global issues, and advance human understanding.
4. **Engaging Local, National, Indigenous, and Global Communities:** develop and expand our network of longstanding respectful partnerships with communities, partners, research collaborators, and supporters for the benefit of all.
5. **Operational Excellence:** enable operations to support McMaster's vision and aspirations of our community of researchers, scholars, teachers, and learners most effectively.

6.2 STRATEGIC MANDATE AGREEMENT

The Strategic Mandate Agreement (SMA) 2021-2025 aligns with McMaster's vision and strategic plan capturing areas of strength, growth, and direction. The SMA is an agreement with the Ministry of Colleges and Universities (MCU) that includes annual performance metrics. The achievement of SMA metrics within acceptable ranges will affect future funding allocations beginning in 2023/24, reflecting a three-year pandemic-related delay. The delay results in operating grant certainty for 2020/21, 2021/22, and 2022/23. Planning years assume SMA targets will be achieved to retain current funding levels, which are materially unchanged from McMaster's 2016/17 grant.

6.3 RESEARCH

The Research for a Brighter World strategic plan 2018-2023 guided McMaster's refreshed vision and strategic priorities setting out research objectives to further advance human and societal health and well-being. The research strategy nurtures McMaster's culture of collaboration with hospitals, government, and industry partners; draws upon and advances our dynamic research enterprise; and guides future initiatives of local, national, and global importance. McMaster's focus builds on our strengths ensuring our knowledge reaches those who can put it to its best use, through translation and mobilization, technology transfer, and commercialization.

The pandemic brought sharp focus to the importance of research innovation and interdisciplinary approaches. McMaster is world-renowned for its evidence-based transformative approach to medicine and can deliver positive wide-ranging impact in areas of physical and mental health, pandemic preparedness, Indigenous Ways of Knowing, and advanced manufacturing, to name a few.

A key area of focus for McMaster is the impacts we can make through our research and scholarship, particularly as it relates to the United Nations’ (UN) 17 Sustainable Development Goals. McMaster’s most pressing priority aims to deliver Canada’s **Global Nexus for Pandemics and Biological Threats**, which is a truly interdisciplinary facility engaging all six Faculties and providing undergraduate and graduate learning opportunities to support the next generation of professionals needed to tackle the world’s greatest problems driven by population growth, drug resistance, and more. Nexus provides a path to deliver global impact drawing upon work across labs, libraries, and offices, in collaboration with partners, while growing diversified revenues to further invest in research that tackles key societal challenges.

6.4 CAMPUS MASTER PLAN

McMaster’s campus master plan (2017-2022) guides strategically aligned priority-setting. In 2022/23 a community consultative approach will inform the next five-year outlook. Infrastructure priorities will draw on learnings from the pandemic, and focus on sustainability goals, infrastructure resiliency, carbon neutrality, land reconciliation, and the campus and community interrelationship. Additional supplementary plans are publicly available examining capacity, accessibility, energy, and asset management¹.

The consolidated budget includes capital priorities informed by academic enrolment and strategic priorities. Capital spending is integrated with budget and multi-year financial projections to assess financing strategies summarized into an annual debt strategy report, which determines whether internal and/or additional external financing is needed. The 2022/23 budget includes \$150 million in additional debt secured June 2021 (see Section 12) to support strategic capital priorities.

6.5 ENTERPRISE RISK MANAGEMENT (ERM)

The Enterprise Risk Management Program involves a collaborative approach to identifying and assessing risks associated with McMaster’s mission, vision, and strategic plan. The Enterprise Risk Steering Committee monitors key risks, mitigation strategies, and residual net risk.

Multi-year financial projections incorporate material risk scenarios associated with government policy, pandemic, climate change and resiliency, financial, and geopolitical risks for discussion with senior leaders and Board governance committees.

This approach reflects an intergrated reporting framework aligned with McMaster’s adoption of the Task Force Recommendations on Climate-Related Financial Disclosures which requires, at minimum, an annual assessment of potentially material climate-related risks.

McMaster’s Key Risks	
Attract Graduate Students	Pandemic
Climate Change & Resiliency	Partnership
Change Readiness	People
Financial	Physical Infrastructure
Geopolitical	Reputation and Brand
Government Policy	Research
Information Availability & Quality	Research Infrastructure
Information Security	Student Experience,
Information Technology	Satisfaction & Retention
Leadership	Undergraduate Student
Mental Wellness	Enrolment

¹ <https://facilities.mcmaster.ca/>

7 CONTEXT

7.1 COVID-19

The COVID-19 pandemic has impacted normal operations over the last two years. The 2022/23 consolidated budget reflects a hybrid student learning experience that blends online and in person curriculum. An evolving hybrid pedagogical approach has lowered net expenses and received positive interim feedback, while the long-term approach will likely leverage some hybrid opportunities.

Ancillary operations were significantly impacted by the pandemic, with material losses to revenues and deemed essential support for housing, food, and course and lab materials supply. Ancillary operations received temporary rent relief during campus closures and the 2022/23 budget has all ancillaries structurally balanced with deficits incurred during COVID-19 repaid within four years.

7.2 FINANCIAL HEALTH POSITION

McMaster's financial health position going into the pandemic was among the strongest in Ontario, with the strongest AA (stable) credit rating shared with only two other university peers. McMaster's enrolment, domestic and international, remained strong throughout the pandemic and prudent financial management to ensure pension, post retirement plans, and infrastructure obligations are funded has served McMaster well. McMaster monitors plans against financial health metrics embedded in policy thresholds to ensure strategic investments do not impair long term financial resiliency.

Financial health strength is not equal across Ontario higher education institutions. Universities with a reliance on inflation-linked tuition and special purpose grants, with low and/or stable international participation, low appropriations, and that are highly debt-financed have struggled far more, with one Ontario university entering creditor protection in 2021. Regardless, McMaster is optimistic that independent credit ratings and strong financial health frameworks can be drawn upon to provide assurance to MCU and other stakeholders in their assessments across universities.

McMaster remains financially resilient, undertaking financial scenario planning of potentially material enterprise risks, and routinely monitoring financial health metrics. McMaster routinely reconciles and reports restricted funds and even though funds are co-mingled across cash and investment holdings, restricted funds remain wholly available for intended purposes.

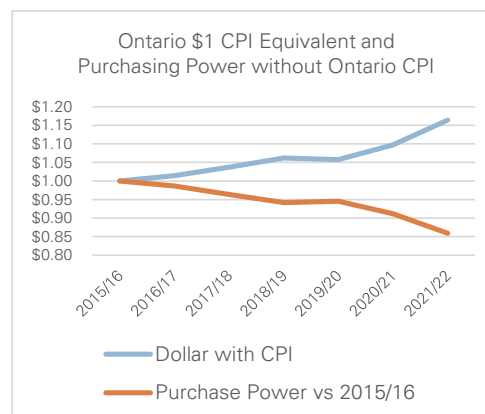
7.3 PROVINCIAL FUNDING ENVIRONMENT

7.3.1 PROVINCIAL OPERATING GRANT

McMaster's operating grant includes (i) domestic enrolment-based funding based on weighted grant units, (ii) performance-based SMA metric-linked funding, and (iii) special purpose grants. MCU has delayed SMA metric-linked funding to threshold achievement until 2023/24 due to COVID-19 impacts, however most metrics involve three-year trends and may create difficulties into future years where 2020/21 and 2021/22 results are included in calculations. McMaster continues to report on its SMA results annually. McMaster is preparing scenario-based budget calculations in the event the performance metrics are activated in 2023/24. The budget model is being reviewed for minor refinements as MCU's metric drivers are activated, adjustments relate to research related metrics.

The operating grant has remained frozen without inflation since 2016/17, based on 2015/16 enrolment (25,723 domestic students). Domestic enrolment growth is funded up to a 3% corridor ceiling. McMaster's domestic enrolment is budgeted at 28,993, which is over the funded corridor by 2,500 students resulting in ~\$22 million in unfunded domestic participation.

The frozen operating grant against inflation has meant the \$1 received in 2015/16 today is worth approximately 84 cents based on Ontario's consumer price index.



7.3.2 PROVINCIAL TUITION FRAMEWORK

MCU has confirmed the in-province domestic tuition fee framework for 2022/23 is held frozen at 0% inflation, this follows a 10% tuition reduction in 2019/20 and two subsequent years of 0% inflation. Out-of-province domestic tuition fees are eligible for an up to 5% tuition fee increase in 2022/23 (compared to 2021/22 MCU allowed an up to 3% increase). McMaster will adopt this increased framework for undergraduates in 2022/23. The system administration costs to implement out-of-province domestic graduate tuition increases of 5% exceed the revenue benefit and will be reassessed in future years.

An international student participation tax of \$750 per international student enrolled is deducted from McMaster's operating grants and transferred to the Ministry of Finance's general revenues. This tax was introduced in 2014/15 when McMaster's international participation was 8.6% resulting in a \$0.4 million grant reduction. The 2022/23 international participation is budgeted at 17.5% resulting in a \$3.9 million reduction to McMaster's operating grant.

Domestic student enrolment is supported by the combination of domestic tuition plus the provincial operating grants. International student enrolment is supported solely by tuition fees without provincial support.

7.3.3 ONTARIO'S A PLAN TO STAY OPEN

On March 29, 2022 the *Pandemic and Preparedness Act, 2022* was proposed, if passed Ontario will focus investments and tuition reimbursement incentives toward increasing Ontario's health resources, including expanding clinical education programs. Ontario's *A Plan to Stay Open* aligns well to McMaster's strengths, vision and strategy.

Ontario will also advance its life sciences strategy focusing on early-stage companies that deliver Ontario-made hospital and/or health system innovations. Additionally, Ontario will leverage manufacturing capacity to invest in personal protective equipment (PPE) stockpiles and other critical supplies and equipment (CSE) for future preparedness.

7.3.4 ONTARIO'S LIFE SCIENCES STRATEGY

Ontario's vision is to establish the province as a global biomanufacturing and life sciences hub leading to the development, commercialization, and early adoption of innovative health products and services.

McMaster is well poised to support this strategy with existing strengths in life sciences, biomanufacturing, partnerships with domestic supply chain manufacturers for PPE and CSE, its research seed investments to boost start-ups, and promotion of Ontario made solutions.

McMaster's partnerships with the Province, healthcare systems, industry, and its commitment toward delivering Canada's **Global Nexus for Pandemics and Biological Threats** supports Ontario's vision. Further, the McMaster Innovation Park is progressing plans to deliver an additional 2.8 million built square feet in research commercialization and biomanufacturing infrastructure aligned with delivering on McMaster's societal health and Ontario's life sciences strategy.

7.4 FEDERAL BUDGET HIGHLIGHTS

The 2022 Federal Budget have several post-secondary support implications with key highlights focused on pandemic and public health, developing a national emergency stockpile, research support for net-zero emissions transition and low-carbon solutions, nuclear energy and small modular reactors, accessibility scholarships targets to Black student researchers, and accelerated innovations in brain health and aging. Additional investments include innovation superclusters to expand national presence on key government priorities, such as climate change, supply chain disruption, and lab-to-market intellectual property platforms for graduate students and researchers, and other commercialization opportunities.

The Federal budget also has a focus on talent, reviewing and investing in attracting more leading researchers through Canada Excellence Research Chairs and expanding the Foreign Credential Recognition Program.

7.5 RESEARCH FUNDING

McMaster is well-positioned to advance the federal and provincial government's efforts to strengthen Canada's life sciences and biomanufacturing capacity. The McMaster Innovation Park (MIP) has secured a new anchor tenant OmniaBio, a commercialization spin-out of the Centre for Commercialization of Regenerative Medicine (CCRM), a leader in developing and commercializing regenerative medicine-based technologies and cell and gene therapies. In addition, MIP is working with developers to provide an additional 2.8 million build square feet of commercialization space aligned to support McMaster, Ontario, and Federal strategies focused on life sciences and biotechnology.

McMaster's research programs in nuclear science and engineering (across automotive, aerospace, and agriculture sectors), as well as the Net Zero Accelerator program supports the Federal government's green transition plans that focus on net-zero, nuclear clean energy alternatives, and climate change solutions.

While McMaster is poised to advance national priorities in several areas, the greatest priority remains advancing **Global Nexus** as antimicrobial resistance among populations grows and the risk of future pandemics threatens societal health and global economic systems.

7.6 CITY OF HAMILTON AND ECONOMIC DEVELOPMENT

McMaster's activities drive over \$9.2 billion in economic impact each year. Much of this impact occurs locally as one of the largest employers in Hamilton and attracting over 34,000 undergraduate and graduate students to its campus each year. McMaster's operations consume over \$100 million in

supplies each year in addition to annual capital investments ranging from \$100 to \$150 million per year. With such deep impact on the community McMaster recognize the critical importance of working together with the surrounding communities and the City of Hamilton and other jurisdictional partners when developing strategies and acting on its priorities.

Housing plans have not kept pace with enrolment growth and McMaster has partnered with private developers to enable two additional residence projects. In 2022/23, the Main Street West undergraduate residence will launch offering an additional 1,440 residence beds when opened. Further, the graduate residence at 10 Bay Street will progress near completion providing 560 residence beds downtown next to the David Braley Health Sciences Centre. McMaster will continue to assess residence needs and work proactively with neighbourhood community associations and local councilors to share plans on effective housing strategies where community neighbours, students, staff, and faculty co-reside.

7.7 OTHER KEY REVENUE AND EXPENSE CONSIDERATIONS

7.7.1 INVESTMENT RETURNS

McMaster performance objective is to achieve 5.0% returns after inflation, the budget is 5.6% returns based on historical trends. For each 1% return difference to budget there is a \$8.2 million impact to the surplus/deficit. Investments follow the United Nations' Principles for Responsible Investing which promotes accelerated decarbonization strategies toward net zero carbon emission investment portfolios.

McMaster achieved its inaugural decarbonization strategy to reduce weighted average carbon emissions² by 45% by 2030 (compared to the April 30, 2018 baseline measure). The investment pool lowered its carbon measure by over 50% at April 30, 2021 and is now targeting accelerated decarbonization plans to reduce weighted average carbon emissions by 65% by 2025 and 75% by 2030, with the rest (net-zero) as soon as possible thereafter for the investment pool.

Companies held align with globally accepted carbon reduction strategies and energy transition timelines supported by the United Nations, this will include some direct and pooled fossil fuel assets. Clean technology investments reflect ~24% of the investment pool and are planned to grow over the 2022/23 budget cycle. Clean technology investments include energy efficiency, alternative energy, sustainable water, pollution prevention, and green buildings.

McMaster administers salaried pension plan assets of over \$2.5 billion with performance objectives to outperform benchmark and a decarbonization strategy to reduce weighted carbon intensity by 30% by 2030 (compared to the June 30, 2019 measure). Finally, McMaster administers the hourly pension plan assets of over \$70 million and its carbon baseline measure is planned for 2022/23.

7.7.2 INFLATIONARY IMPACTS

Canada inflation has hit record 30-year highs driven by pandemic supply and demand, labour market shortages, foreign investment, and more. Most revenue sources are frozen or deflationary affecting

² As defined by the globally accepted Task force recommendations for Climate-related Financial Disclosures (TCFD) the weighted average carbon intensity is greenhouse gas emissions converted to carbon dioxide (CO2) and reflected as CO2 tons emitted per \$1 million invested (written as CO2e/\$1M)

inflationary funding decisions. The consumer price index inflation for Ontario approximated 6.1% in fiscal 2021/22 to February close. To address inflation the Bank of Canada has raised interest rates twice in 2022 to 1%, up 0.75% over prior year.

Inflation creates compensation pressure to keep pace while constrained by three-year pay moderation period required by Bill-124 limiting increases to 1% per year. Employee groups are aligned with pay moderation requirements at the expense of several job opportunities going unfilled straining existing staff.

Supplies and equipment inflation has been defrayed by the MacBuy (contract buying) initiative that has delivered over \$30 million in savings to date. Library inflation exceeds 5% per year impacting purchasing decisions in recent years with a library budget review underway in 2022 to explore solutions.

Utility prices are volatile with electricity rates affected by the Global Adjustment for provincial infrastructure and changes to the market. Options are being explored to mitigate projected electricity inflation, however pandemic-driven closures will deliver a 2021/22 budget surplus. McMaster's peak shaver project will reduce net energy costs while an electric boilers project will reduce future campus carbon emissions and assist in mitigating co-generation fuel needs.

The Raw Materials Price index rose 29.8% year over year. Increases in the costs to construct are driven by metal fabrication prices and concrete elements (including steel reinforcement). Higher costs are also attributed to rising labour costs resulting from skilled labour shortages.

7.7.3 CURRENCY EXCHANGE RATES

McMaster's imported goods and services are mainly in US dollars (USD). The Canadian dollar has fluctuated in value, from trading at par in January 2013 to \$0.80 USD at end of March 2022. To mitigate the financial impacts of currency exchange Financial Affairs retains USD deposits to settle USD expenditures minimizing exchange risk. Deposit accounting for research projects or departmental accounts in USD are given the Canadian equivalent using a daily exchange rate. For some areas, such as the library expenditures, the exchange rate is fixed at \$1.25 CDN for \$1 USD supporting cost certainty to the unit.

Among other economic factors, the direction of the Canadian dollar will be impacted by the level of interest rates in Canada relative to the US. As the global economy improves, or if the US Federal Reserve raises interest rates at a faster pace than the Bank of Canada, the Canadian dollar is expected to weaken.

7.7.4 FACULTY RENEWAL

The Faculty renewal plans aim to increase the faculty complement over 2021/22 to 2023/24 by 15% to address enrolment growth and additional programming. Initiatives are in process, EDI strategy aligned, with a focus on tenure-track and teaching-track appointments. Interest in teaching-track appointments is to address teaching demands and enable other research-focused appointments.

7.7.5 PENSION PLANS

McMaster University maintains salaried and hourly defined benefit (DB) plans and group Registered Retirement Savings Plan (RRSP) pension plans for full-time employees. The DB valuations measure

going concern pension assets, a provision for adverse deviation, and liabilities to determine annual funding requirements. Interest rates, demographic changes, funding rules, and valuation timing create measurement fluctuations. Budgeted benefit rates are set annually using a ten-year actuarial outlook to smooth fluctuations.

The employer's DB pension costs are allocated to departments as 125% of employee contributions for 2022/23 and planning years, which is adequate based on projections. The Ontario Pension Benefits Act (PBA) requires actuarial valuations no later than every three years. The Salaried Plans were measured on July 1, 2021, with the next required filing date on July 1, 2024. The smaller Hourly Plan was measured on January 1, 2020, with the next filing date planned on July 1, 2022.

The DB plans include a solvency ratio³ measurement requiring an over 85% funded ratio. Based on solvency measures the plans do not require special solvency payments. Pension ratios are monitored quarterly with actions taken to maintain solvency ratios above 85% and transfer ratios above 90%.

Table 1: Pension Plan Status

\$ millions	Plan 2000		Hourly Plan	
	Valuation date		Valuation date	
	July 1, 2021		January 1, 2020	
Going concern surplus (deficit)	\$	128.2	\$	3.0
Solvency surplus (deficit)	\$	(147.6)	\$	(8.1)
Solvency ratio		102%		90%

7.7.6 NON-PENSION OBLIGATIONS

McMaster offers non-pension retirement benefits (PRB) including extended health, dental and life insurance for several full-time employees. In 2011/12, the University worked with its actuaries to quantify the impact of plan changes on the unfunded liability⁴. Since that time, employee groups agreed to changes to mitigate liability growth and management has developed a funding plan.

The funding reserve approximated 1% of the funding requirements in 2011/12, ten years later 2020/21 the reserve has 70% of the projected costs funded. The plan is projected to be fully funded by 2030. The PRB funding base allocation reduced from \$7.9 million to \$5.0 million in 2022/23.

7.7.7 ASSET MANAGEMENT AND MAINTENANCE

Many of McMaster's buildings are over 50 years old, the deferred maintenance backlog is estimated at \$724.52 million. The 2022/23 deferred maintenance and facility renewal program budget is \$16.97 million, which includes operating funds of \$10.7 million, \$5.06 million from MCU, \$0.87 million in emergency fund, and \$0.34 million for Campus Accessibility upgrades. Additionally, residence deferred maintenance is funded by Housing and Conference Services (HCS) with approximately \$3 million set aside for deferred maintenance for 2022/23.

³ Solvency basis refers to the pension plan asset and liability gap measurement methodology whereby the key assumption is that the University will cease to continue operating and must immediately settle pension obligations.

⁴ As of April 30, 2021, non-pension obligations are estimated at \$287.3 million, with reserves of \$193.5 million.

Based on current funding sources, the backlog of critical priorities is forecast to decrease 6% over the next ten years. Within HSC, the Bates residence will require the most substantial investment and retrofit over future years.

8 BUDGET CREATION

8.1 ACCOUNTABILITY

The effective management of the budget is a responsibility of the President assigned by the Board of Governors and defined in the 1976 McMaster University Act. The University's budgets are prepared on a modified cash basis and pursuant to the concepts of fund accounting. Fund accounting enhances accountability and budgetary control by assuring that restricted grants and contributions are segregated to designated funds and spent for the purposes intended.

The President delegates budget accountability to the Budget Committee, a sub-committee of the University Planning Committee, to oversee the development of budgets for both the operating and ancillary funds. The operating and ancillary funds together account for two thirds of McMaster's annual expenditures. The Budget Committee recommends the annual budget to the President. In addition, specifically externally funded programs, such as those funded by the Ministry of Health and Long-Term Care, are included in each envelope's submission to the Budget Committee. The funds not overseen by the Budget Committee have restricted uses and other governance and/or committee oversight.

8.2 BUDGETING PRINCIPLES

The 2022/23 budget and following two-year plans are developed using principles and priorities aligned to our refreshed vision and strategic priorities and embedded in the Strategic Mandate Agreement:

- The academic and research mission of the University is foremost in the development of budget guidelines for envelope managers. This includes student experience and support.
- Revenue must be strategically allocated in support of the University mission.
- Ongoing and one-time costs need to be identified to develop a clear picture of McMaster's overall financial position.
- Envelopes must be structurally balanced within each Vice-President's area of responsibility, with ongoing expenditures less than or equal to ongoing revenues.

Allocations of funding to priorities are decided using a process that is strategic, fair, and equitable across the University, and avoids a piecemeal approach.

8.3 BUDGET DESIGN

Separate funds are set up for activities, with each fund comprised of its own revenue and expenses. The following funds are used:

1. **Operating Fund:** Unrestricted general revenues and expenses that are directly related to the mission of the University, education and activities supporting research (i.e. not restricted by an agreement or contract). The Board of Governors has approved a policy of permitting envelopes to carry forward unexpended budgets into the subsequent fiscal year.

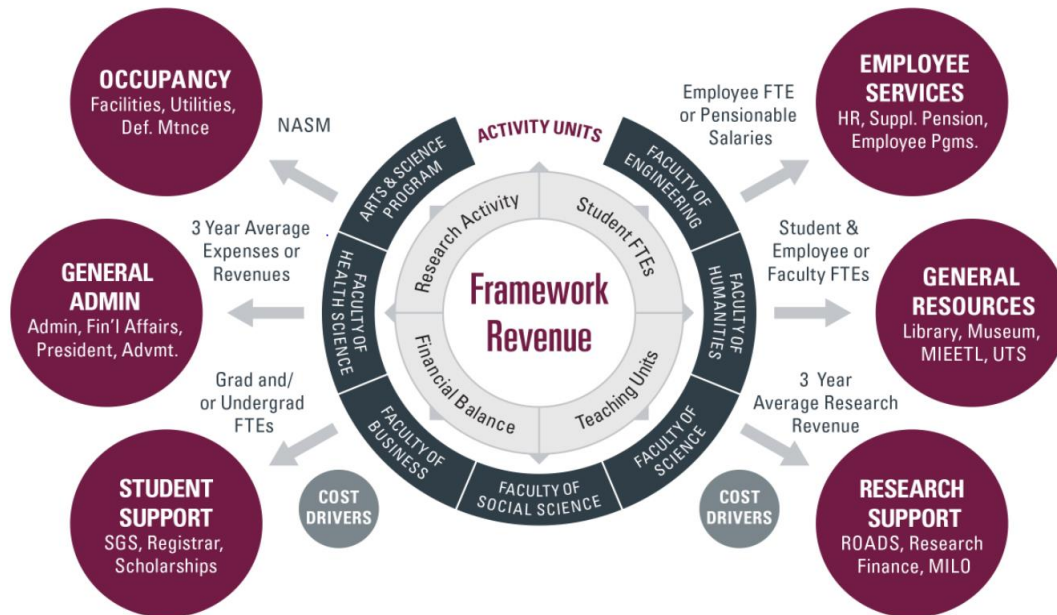
2. **Research Funds:** Research-related funds externally restricted by an agreement or contract for specific research purposes. The use of these funds is restricted by the donor or granting agency.
3. **Capital Fund:** Funding and expenditures for capital projects.
4. **External Endowments:** Donations or bequests received by the University that have a non-expendable requirement as well as other legal requirements for use as agreed upon by the donor and the University.
5. **Internal Endowments:** Unrestricted donations and bequests, and other monies which have been endowed by action of the Board of Governors.
6. **Ancillary Fund:** Sales of goods and services by departments that are defined as being supplementary to the University's primary operating activities of education and research. Such sales may be made to the University community and/or to external clients. Ancillary operations are self-sustaining.
7. **Specifically Funded:** Funding provided by an external entity, restricted by an agreement outlining expenditure of the funds and a requirement to return unspent funds at the end of the term.

8.4 BUDGET MODEL

To allocate Operating Fund resources, McMaster uses a hybrid between a full activity-based model and an incremental model. Implemented in 2014/15, the model aims to strike a balance between providing transparent activity-based funding to the Faculties while maintaining financial flexibility to address strategic goals. Funding to support units is fixed aside from salary inflation where any further incremental allocations are annual decisions based on funding availability and unit-level requests considered a priority. Support unit funding does not increase with changes to enrolment or research.

The figure (4) below identifies sources of revenues in the center allocated to activity units (Faculties) based on enrolment, teaching, or other drivers. Further, six expense types are identified and allocated to the Faculties based on volume, space, utilization or average revenue or expense drivers.

Figure 4: Operating Fund Budget Model Revenue Streams



The model mostly matches provincial funding flows. However, two strategic envelopes are created as a percentage of Operating Fund revenue: i) the Research Discretionary Fund to be used by the Vice-President (Research) for strategic research initiatives, and ii) the University Fund to be allocated by the Provost to support the University's mission, vision, and strategic priorities.

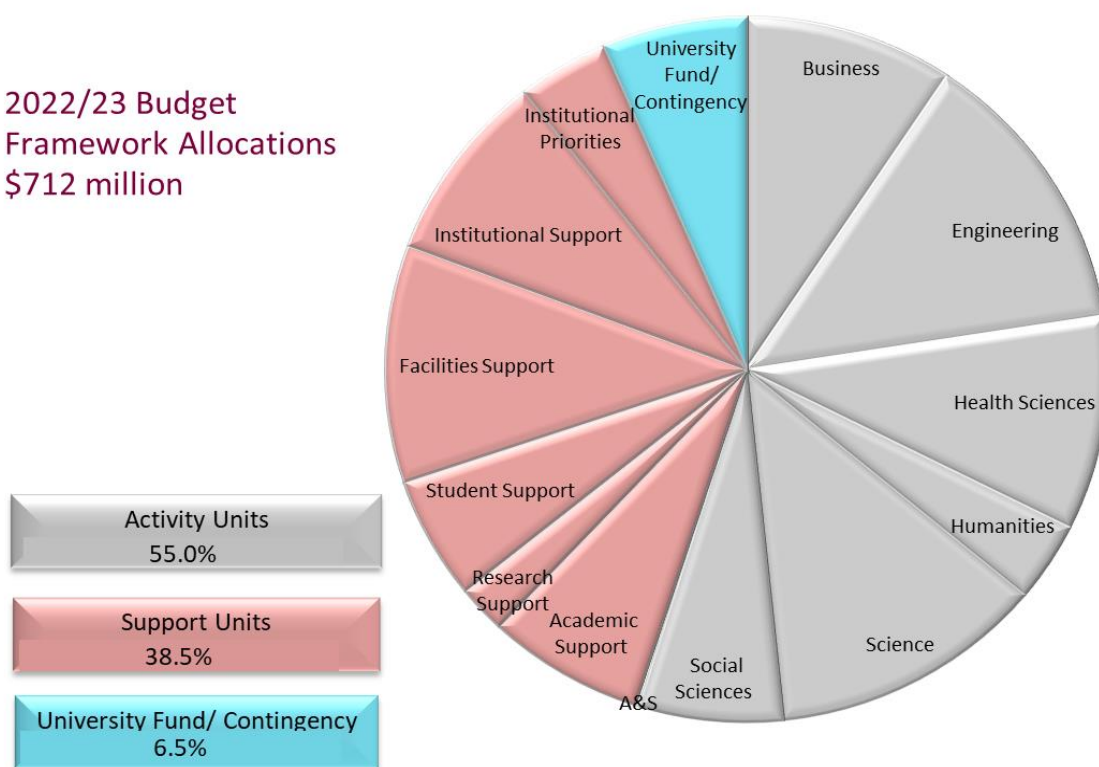
Recognizing that the indirect costs of research are not fully covered by overhead revenue, the Research Infrastructure Fund and Research Excellence Fund redistribute a portion of revenues to support the most research-intensive Faculties. Additionally, occupancy costs are charged out to a research host Faculty using an overall average cost per square meter without distinction to the higher cost of research labs.

After all revenue allocations are made to the Faculties and strategic funds, allocations of central support unit costs are charged to Faculties based on cost drivers, for example Human Resources costs are charged out based on employee full-time equivalents.

All Faculties or activity unit allocations are adjusted based on actual revenues and cost driver results after year-end.

Figure 5: Operating Fund 2022/23 Budget Framework Allocations by Area

**2022/23 Budget
Framework Allocations
\$712 million**

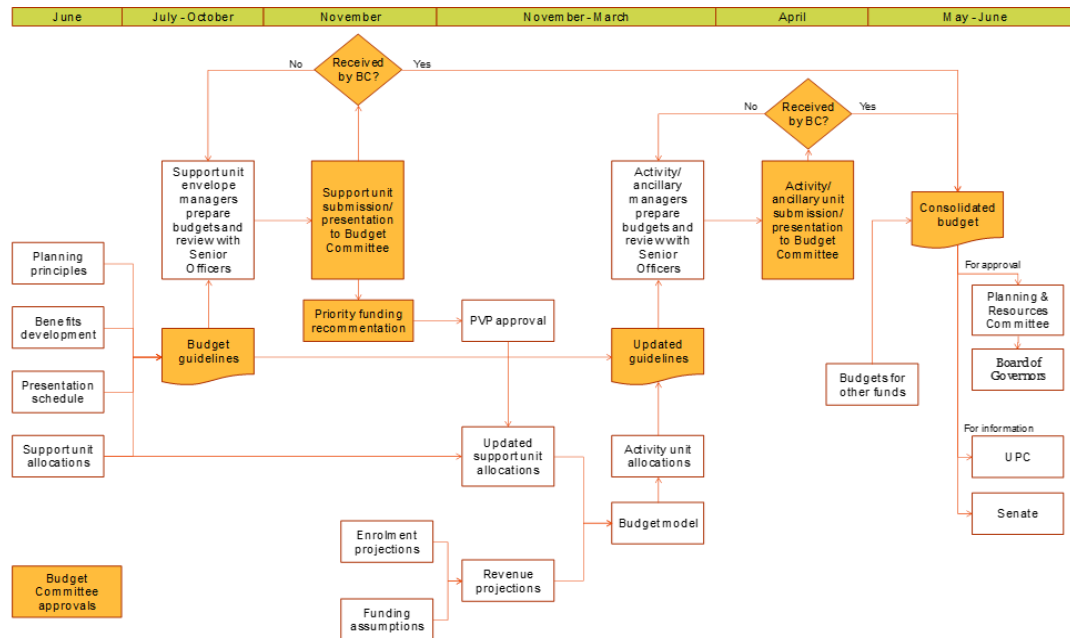


The budget approach has been continually assessed and evaluated both internally and externally, the latter involving the sharing of best practices with other Canadian and U.S. universities, as well as participating in research undertaken by the Education Advisory Board.

Review feedback and ongoing input and analysis has resulted in some changes to the budget to either address concerns or enhance incentives aligned to strategic priorities. The budget adjustments mostly alter values of the parameters and not the underlying principles. The last full budget model review occurred in 2017. In 2022, the Provost initiated a budget review due to impending SMA metric linked funding. The current review draws on the budget principles and 2017 review. Some refinements to the budget model in future years may be introduced to ensure incentives are optimally aligned to support McMaster's academic and research mission. Additional information on the budget model currently in place at McMaster is available at <https://provost.mcmaster.ca/budget-planning/>

8.5 BUDGET CYCLE

Figure 6: Budget Cycle



June: The budget cycle for the Operating Fund and Specifically Funded Programs begins as the Budget Committee reviews and approves the assumptions and guidelines that will apply to all units across the University. Submissions include a projection for the current year, budget for next year, and plans for the following two years. The Budget Committee requests the submissions on a standard template, identifying:

- Strategic objectives and their relationship to the vision and the Strategic Mandate Agreement
- Key metrics and benchmarks, including enrolment trends, ratio of students to faculty, staffing levels, and space requirements
- New initiatives and cost pressures, the actions taken to achieve a balanced budget, effects on the University community, and the related risks
- All one-time costs and the related funding sources
- Capital and/or renovation plans, including funding sources or internal financing capacity

Benefit rates are set to cover statutory deductions, pension costs, post-retirement benefits, and other benefit costs associated with employer plans offered to employee groups. Assumptions for salary and wage increases by employee group are reviewed, incorporating information from collective agreements.

July to October: Budget allocations to activity units follow both the total level of funding and the allocations made to support units. The budget cycle is divided into two stages, with support units preparing their budgets first from July through October, so that any funding for any recommended priorities may be incorporated into the activity unit allocations.

November: Support units present budgets during a three-day Budget Committee conference, attended by additional guests including the Vice-Presidents, Faculty Deans and Directors of Faculty Administration. This allows the Faculty or activity unit leaders to consider and comment on the budget priorities and expenditures of all support units before the Budget Committee votes to receive each budget.

While receiving budget submissions, the Budget Committee identifies unfunded priorities and potentially unacceptable cost-cutting actions. The Committee explicitly prioritizes these items for review by the President, recommending some for funding. In consultation with the Vice-Presidents, as many of these important items as possible are funded.

November to March: Activity units begin budget preparation. Reasonable estimates of future enrolment and revenues based on provincial regulations, strategic objectives, historical demand, and other commitments are prepared. The activity unit allocations are updated in the budget model using the revenue estimates and the final support unit allocations, and the Operating Fund Guidelines are released with the updated allocations.

Ancillaries are self-funded and not dependent on support unit allocations, but may use enrolment assumptions in their revenue estimates. Ancillary Fund Guidelines are issued using the same salary and benefit cost assumptions as the Operating Fund, including rent charges and amounts to be contributed to the Operating Fund.

April: Activity units and ancillaries present their budgets during a two-day Budget Committee conference, attended by additional guests including the Vice-Presidents, Faculty Deans and Directors of Faculty Administration. The Budget Committee votes to receive each budget and reviews the final total.

Budgeted consolidated financial statements are prepared incorporating plans for the remaining funds. To finalize the budget, senior management reviews the financial position over the three-year planning horizon and makes adjustments, where necessary, to ensure reasonableness of the consolidated position and continued financial sustainability while promoting the academic mission.

May to June: The budget is presented to the University Planning Committee and the Senate for information and comment before presentation to the Planning and Resources Committee and Board of Governors for approval.

8.6 REVENUE ASSUMPTIONS

8.6.1 ENROLMENT

McMaster's domestic enrolment is above the funded corridor and objectives aim to bring this over-enrolment down in the budget and planning years. International enrolment continues to surpass prior year targets despite sector-wide declines in international applications for 2022/23.

The undergraduate enrolment projection model uses the Enrolment Management Team's level 1 targets to forecast each Faculty's annual intake. For movement between levels 2 and above, within each Faculty and between Faculties, the model applies a flow-through methodology that incorporates each Faculty's historical three-year transition rate.

To project graduate enrolment, since no level 1 intake targets are set at the graduate level, the graduate enrolment projection model is a flow-through model based on the following two elements:

- Each Faculty's historical level 1 intake unless a specific target was provided by a program.
- The transition probabilities of students from levels 2 and above. Like the undergraduate projection, for movement between levels 2 and above within each Faculty, the graduate model applies a flow-through methodology that incorporates each Faculty's historical three-year transition rate, adjusted for mid-year graduation rates.

For both undergraduate and graduate enrolment projection models, actual enrolment data at the student level are used to simulate the projections. The projection data includes FTEs, headcount and WGU counts by Faculty, level, registration status, immigration status, and fee category.

Table 2: Enrolment Assumptions

		2021/22 Budget	2021/22 Projection	2022/23 Budget	2023/24 Plan	2024/25 Plan
Undergraduate FTEs	Domestic	26,264 +1.5%	25,861 -0.8%	25,835 -0.1%	25,217 -2.4%	24,559 -2.6%
	International	4,451 +6.0%	4,728 +9.3%	4,774 +1.0%	4,842 +1.4%	4,907 +1.4%
	Total	30,715 +2.1%	30,833 +1.5%	30,609 -0.7%	30,059 -1.8%	29,466 -2.0%
	Domestic	3,306 +2.7%	3,128 -2.8%	3,317 +6.0%	3,347 +0.9%	3,359 +0.4%
Graduate FTEs	International	1,145 +2.8%	1,365 +22.6%	1,358 -0.6%	1,367 +0.6%	1,384 +1.3%
	Total	4,451 +2.7%	4,606 +6.3%	4,675 +1.5%	4,714 +0.8%	4,743 +0.6%

8.6.2 TUITION RATES

The domestic in-province tuition rate increase is budgeted as flat (0%), with a budgeted 3% inflation for out-of-province domestic undergraduate students. Out-of-province increases of up to 5% have been announced and will be initiated causing an immaterial favourable variance to the initial budget.

International tuition rates include market inflation and demand considerations. The 2022/23 rates are budgeted to increase by 10% per year for level 1 and 6% for level 2 and above, with exceptions to specific programs. Beginning in 2023/24, international rates are assumed to increased by 6% for level 1 and 4% for level 2 and above. Note that international PhD tuition will mirror that of the domestic PhD in accordance with McMaster's decision to harmonize the international and domestic PhD tuition starting 2018/19 (Table 3).

Table 3: Tuition Rate Assumptions

			2021/22 Budget		2021/22 Projection		2022/23 Budget		2023/24 Plan		2024/25 Plan	
			Level 1	Level 2 +	Level 1	Level 2 +	Level 1	Level 2 +	Level 1	Level 2 +	Level 1	Level 2 +
Domestic - Ontario	Undergraduate	Arts & Science or other	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Professional	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Graduate	Research (with thesis component)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Professional (course work only)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic - Out of province	Undergraduate	Arts & Science or other	3%	0%	3%	3%	3%	3%	3%	3%	3%	3%
		Professional	3%	0%	3%	3%	3%	3%	3%	3%	3%	3%
	Graduate	Research (with thesis component)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Professional (course work only)	3%	0%	3%	3%	3%	3%	3%	3%	3%	3%
International	Undergraduate	Arts & Science or other	10%	6%	10%	6%	10%	6%	6%	4%	6%	4%
		Professional	10%	6%	10%	6%	10%	6%	6%	4%	6%	4%
	Graduate	Research (with thesis component)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Professional (course work only)	10%	6%	10%	6%	10%	6%	6%	4%	6%	4%

8.6.3 OPERATING GRANTS

Operating grants are held flat with adjustments for graduate expansion achieved in 2019/20. Despite fixed grant figures for 2022/23 a net decline in the operating grant is budgeted to account for the incremental \$750 per international student tax charged to universities.

Table 4: Operating Grant Assumptions

	2021/22 Budget	2021/22 Projection	2022/23 Budget	2023/24 Plan	2024/25 Plan
Core Operating Grant (COG)	\$2,017/WGU based on WGU midpoint 2019/20	\$2,017/WGU based on WGU midpoint 2019/20	\$1,693/WGU based on WGU midpoint 2019/20	\$1,358/WGU based on WGU midpoint 2019/20	\$1,191/WGU based on WGU midpoint 2019/20
Performance Based*	Up to 35% of Total Operating Grants	Up to 35% of Total Operating Grants	Up to 45% of Total Operating Grants	Up to 10% of Total Operating Grants	Up to 25% of Total Operating Grants
Differentiation Grant	Remaining funds from the result of reduced WGU value in excess of 35%	Remaining funds from the result of reduced WGU value in excess of 35%	Remaining funds from the result of reduced WGU value in excess of 45%	Remaining funds from the result of reduced WGU value in excess of 10%	Remaining funds from the result of reduced WGU value in excess of 25%
Other DE					
International student reduction	Flat	Flat	Flat	Flat	Flat

* Funding was moved into the performance based funding grant, but linking the funding to the performance metrics has been delayed until at least 2023/24

Metric-linked performance funding allocations are delayed until 2023/24. While the differentiation funding as a percentage of total operating grants grows incrementally each year to approximately 60% by 2024/25, the performance based funding portion will now only form 25% of total operating grants. Metrics involving three-year historical trends will continue to be impacted beyond the current SMA which may affect MCU's actual metric activation timing.

8.7 ACTIONS TAKEN TO ACHIEVE THE STRATEGIC PLAN

McMaster's community has budgeted initiatives to support and achieve the strategic plan priorities. Investments to advance McMaster are funded from current revenues and appropriations⁵. New initiatives are either funded from appropriations or a request is made to the Budget Committee to fund priority items. Most strategic initiatives are identified in the sections that follow by strategic plan priority. Further, the 2022/23 budget includes additional priority allocations to:

- The McMaster Okanagan Committee
- The Sustainability Office
- International student recruitment and enhanced support services to international students

⁵ Appropriations are the accumulated surpluses or deficits from prior years, also known as reserves. In accordance with the Operating and Ancillary Budgets Policy, these balances are carried forward to future years. Surplus appropriations may be used to provide funds to offset one-time spending and investments in deficit-reducing strategies. Envelope managers must present plans to eliminate deficit appropriations with their budget submissions.

- Further support for the Archway program (online student community initiative)
- Graduate scholarship funding
- Increased ventilation energy costs and filter changing
- Research administration support
- Human Resources strategic implementation initiatives
- IT investments in cyber security, licensing, and relationship management tools
- Branding and marketing

In addition to the above, smaller base or one-time investments have been made in the 2022/23 budget and planning years to support the strategic plan with a series of administrative support reviews and benchmarking activities, including UniForum. UniForum is a global benchmarking initiative to understand academic and administrative support efficiency involving 40 participating post-secondary institutions worldwide – 16 universities in Australia and New Zealand, 16 in the United Kingdom and 8 others in Canada.

8.7.1 INCLUSIVE EXCELLENCE

Key initiatives affecting the diversity of peoples, perspectives, knowledges, and ways of knowing, in the budget year are:

Equity Diversity and Inclusion:

- Equity Diversity and Inclusion (EDI) Advisory Committees embedded across departments.
- Implementation of the Triennial review of the University Aid & Awards policy to strengthen EDI in the creation and distribution of awards.
- Promote integrated Student Diversity Census and develop a communication plan and campaign to increase the response rate.
- Incorporate EDI workshops into ongoing educator development programming.

Black Lives Matter:

- Black Student Success Centre launched as a safe space where students can meet, share, socialize, and access specialized supports and services.
- Athletics and Recreation Black students and staff inclusion initiatives.
- School of Rehabilitation Science Black equity inclusion focus.

Indigenous Reconciliation:

- Faculty of Engineering Indigenous outreach community of practice.
- Faculty of Health Sciences departments developing partnerships with the Faculty's Indigenous Health Learning Lodge.
- Conversion of the Indigenous Studies Program into an academic department, expansion of the undergraduate Indigenous Studies Program, and the development of a graduate program in Indigenous Studies.

- McMaster Indigenous Research Institute (MIRI) visioning with Indigenous faculty, staff, students, community members and stakeholders to rejuvenate MIRI's mission and priorities.
- Indigenous Student Services (ISS) to increase McMaster as a university of choice for Indigenous learners and improving Indigenous student experience and success approaches.
- Curriculum reform to increase presence of scholars and scholarship from equity-deserving and Indigenous peoples.
- Design and implementation of Indigenous knowledge stewardship strategy in partnership with Indigenous health leaders on campus and the community.

Other underrepresented peoples:

- Afghani scholar-at-risk employment initiative.
- Implementation of Mental Health Task Force recommendations.
- The Student Urgent Response Team (SURT) to address sensitivities related to Security responses to mental health calls on campus.
- Expand the Campus Accessible Tech Space (CATS) lab to improve technology support for students with disabilities.
- Advancement of priorities within the Campus Accessibility Action Plan (CAAP).
- Finalize McMaster Building Standards and contractor direction on accessibility standards.
- BIPOC (Black, Indigenous, and People of Colour) Cultural Administrators Mentorship Program at McMaster Museum of Art, first of its kind in the Canadian cultural sector.

8.7.2 TEACHING AND LEARNING

Innovation in teaching and learning excellence will help McMaster to maintain high student demand for programs. Key initiatives include:

Expansion or Revised Programs:

- School of Nursing expansion of 50 accelerated stream students to support the Ministry of Health (MOH) capacity mandate with growth in graduates by spring 2023.
- Faculty of Health Sciences Biochemistry undergraduate program transition from Faculty of Science.
- Faculty of Engineering combine Levels 2 and 3 to encourage design thinking, creativity, reflection, and integrated learning called The Pivot, including capital renovations for interdisciplinary, open-design, multi-floor teaching, research and innovation hub.
- Expansion of the ultrasound training program in partnership with Mohawk College to physicians in practice and other areas of Medicine.
- The McLean Centre for Collaborative Discovery curriculum changes to ensure students learn from, and with, other students, across Faculties, and with community partners through discovery-based learning "hubs" or "labs".
- Commerce curriculum redesign to emphasize cross-disciplinary, project-based learning. The curriculum needs to be in place for Fall 2024 when McLean Centre is ready for occupancy.
- Curricular revisions to the Global Peace and Social Justice BA and Gender and Social Justice minor supported by the allocation of new teaching resources.

Introduction of new programs:

- Faculties of Engineering and Humanities, with the Office of Community Engagement, are developing a new interdisciplinary undergraduate program, Bachelor of Arts and Technology.
- Humanities and Rehabilitation Interdisciplinary undergraduate degree.
- Faculties of Social Sciences and Health Sciences new Master's of Mental Health.
- Indigenous Studies graduate program development.
- New Integrated Arts (iArts) undergraduate program, replacing three existing programs, offers students the chance to learn across disciplinary boundaries.
- Health Physics will work with the Physics & Astronomy department to develop an Occupational Health Physics Masters programme and support development of 2 graduate level courses.
- Planning for programming and implementing of the Marnix E. Heersink School of Biomedical Innovation and Entrepreneurship.
- Develop learning resources to support "transferable" research skills training of PhD (including skills assessment, individual develop plan, self-paced learning, mentoring protocols and upskilling for supervisors) in partnership with The/La Collaborative.

Other support initiatives:

- Student Activities and Fitness Expansion project completion providing 100,000 square feet of fitness, study, event, lounge, prayer and meeting space.
- Library content integration with curriculum online modules, videos, blogs, Virtual Reality, etc.
- Continuing to enhance remote teaching supports in order to be responsive to the unique needs of the Faculties and instructors.
- Development of a course outline portal with goals of creating consistent course outlines in line with University policies, creating efficiencies students and support for instructors.

8.7.3 RESEARCH AND SCHOLARSHIP

McMaster's commitment to world-class research and interdisciplinary collaboration is one of the key differentiating factors contributing to its global reputation. Key initiatives the advance the Brighter World Research Initiatives include:

Global Nexus for Pandemics and Biological Threats and Life Sciences Ecosystem Development:

- University and McMaster Innovation Park (MIP) academic and research program planning and capital development initiative.
- Application to the Canada First Research Excellence Fund (CFREF) to support Nexus team.
- Central Animal Facility renovation plan and expanded facilities funding application to support MIP and Nexus research.
- Research commercialization of McMaster research spin-off companies' campus relocations into expanded, renovated, and new facilities at MIP.
- MIP development initiative to deliver an additional 2.8 million build square feet of life sciences and biomanufacturing ecosystem and innovation hub.

Research expansions:

- Expand Health Sciences Library virtual support services for research units and institutes in response to growing demand from health researchers from all Faculties.
- Global Science Initiative.

Research establishments:

- Establishment of a Pasteur Centre in Hamilton.
- Establishment of a joint research, educational and clinical MRI program in partnership with Mohawk College.
- Centre or Digital Society and Centre for Advanced Research in Mental Health and Society.
- Canada Foundation for Innovation (CFI) funding to create Indigenous research hub.

Other research and support initiatives:

- Contributing digitized content from McMaster's collections to the HathiTrust repository for use by scholars around the world.
- Production of original research collections and exhibitions, contributing to the broader Canadian arts community milieu, with respect to the work of Black and Indigenous artists in Canada.
- McMaster collaboration to create guidance and resources for researchers pertaining to cybersecurity and data management.
- Research Office for Administration & Developments Support (ROADS) applications support from complex and potentially high-impact programs such as CFI Major Science Initiatives Fund, CFREF and Canada Research Excellence Chairs (CERC).
- Codify tools and resources to support EDI capacity-building among researcher, and complete Tri-agency funded project to enhance CRC Program processes and outcomes
- Expand Research Data Management (RDM) resources and services to support Tri-Agency needs.
- Launch the Residence Faculty (RF) Fellowship program to engage faculty on continuous improvements to student residence experiences and advancing the students learning and living.

8.7.4 ENGAGING LOCAL, PROVINCIAL, NATIONAL, INDIGENOUS, AND GLOBAL COMMUNITIES

McMaster is a major contributor to across all communities. Key initiatives include:

Indigenous:

- Canadian Centre for Electron Microscopy (CCEM) will implement an outreach program to high schools with a specific focus on Indigenous Communities.
- Develop collaborative opportunities with Indigenous Council on the integration of indigenous principals in campus design.
- Partner with Canadian Medical School Libraries as they re-imagine service priorities in response to the Truth and Reconciliation Commission.
- Launch workshops in partnership with Indigenous Education Council to pair with the Indigenous Education Primer.
- Develop Indigenous Language Revitalization Diploma.

Local and Provincial:

- Strengthening relationships with a diversity of racialized communities/groups in the City, to enhance support/service.
- Engaging City and Metrolinx staff on the Hamilton Light Rail Transit (LRT) alignment to McMaster's priorities, with the transit hub on campus with parking and commercial space.
- Continued advancements of the Watershed Trust initiative.
- Increase student participation in the Career Apprenticeship program in partnership with City of Hamilton.
- With McMaster leadership, McMaster Institute for Research on Aging (MIRA) is developing an intergenerational space within the main street residence which will become a platform for initiatives involving the community and older adults
- Continuing to work with the City and community on needs matching strategic importance to the University. As well, further develop and grow relationships with existing partners within the Hamilton community and continue collaborative efforts to grow and enhance existing programs.
- Progressing the decarbonization of campus and investments aimed at delivering net-zero emissions.

Global:

- Global Health increasing trans-national university participation in Global health graduate consortium by adding two more universities.
- The McMaster Museum of Art actively partnering with Black and Indigenous art institutions and arts service organizations on program development and delivery.
- Global Health program adding the University of Alabama at Birmingham to its consortium of seven international universities.
- University sustainability plan and report; engaging community in learning about and setting goals linked to sustainability; includes measurable sustainable development goals.
- Leverage University Library Jamaican and Barbadian collections and relationships to support the University's expanded African & African Diaspora Studies program.
- Launch McMaster Global Community of Practice Hub to connect McMaster international education staff, relevant student groups and Faculty administration.

8.7.5 OPERATIONAL EXCELLENCE

Effective and efficient operations to McMaster's mission are essential. Key initiatives include:

Campus Operations:

- Back to Mac campus planning community on pandemic safety policies and procedures.
- Development of a Green Procurement Policy to ensure the adoption and integration of Corporate Social Responsibility principles into procurement processes and decisions.
- Reimagine the Campus Store business model as physical locations re-open, blending the physical and the virtual.
- Consolidate support for all Senate and Board committees under the University Secretariat.
- Energy initiatives to reduce the energy consumption at McMaster.
- Parking Strategy and lot replacement.

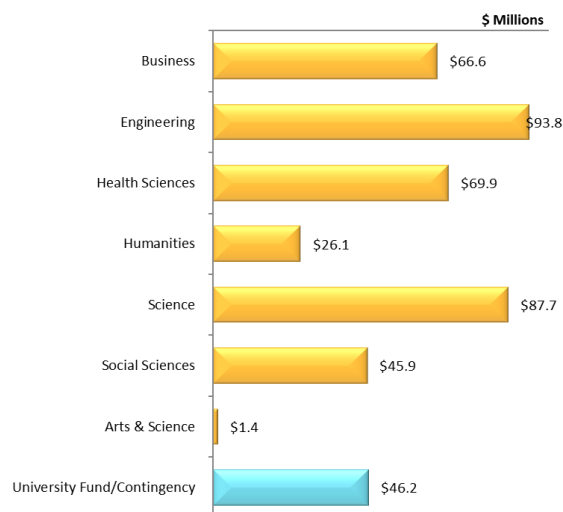
Systems:

- Implementation of a new streamlined Graduate Admissions Application process in Slate.
- Implementation of new student administration and registration system for McMaster Continuing Education
- Launch a new province-wide library services platform to support shared collection management and user discovery.
- University Library working with the University Secretariat to identify and preserve McMaster's corporate records with enduring importance as the foundations of a University Archives program.
- McLean Centre technological enhancements, such as integrated classroom technology and environmental controls based on Instructor requirements, online reservation system for student and meeting spaces accessed through mobile applications.
- Establish archiving mandate with local health care providers to create a historical record of Health Care Innovation and Care in Hamilton.
- Development of Faculty benchmarks dashboard, Customer Relationship Management system, document management system initiative, and budgeting system replacement project.
- One Card software project with phased ancillary capabilities to connect third-party support systems onto one backbone system so that student and staff transactional information is connected to one card (virtual and/or physical).
- Veterinary Services and Compliance department will implement an Animal Use Protocol database and an animal management software program for Animal Research Ethics Board (AREB).
- Research Finance restructuring to create teams of 'experts' that will increase efficiencies while ensuring high levels of service to the research community.

9 ENVELOPE HIGHLIGHTS

9.1 ACTIVITY UNITS (FACULTIES)

Figure 7: Operating Fund 2022/23 Budget Activity Unit Allocations



9.1.1 FACULTY OF HUMANITIES

The education provided by Humanities prioritizes skills employers value with communication, collaboration, and critical thinking skills. Humanities initiatives expand career-planning activities with experiential interdisciplinary programming, such as the new Integrated Rehab Science and Humanities and the Bachelor of Arts and Technology programs.

Revenue growth has been limited by tuition fee frameworks affecting inflationary expense support. However, the English-language programs Humanities provides to international enrolment has created new revenues, which are dependent on foreign student enrolment.

9.1.2 FACULTY OF BUSINESS

Business continues to experience strong enrolment demand across its programs. In 2022/23, Business will refresh the aligned Faculty supporting strategic plan. Further, plans are underway to advance new curriculum elements for Fall 2024. Faculty renewal within Business is focused on recruiting the best academic talent to support McMaster and Business' strategic priorities and ensuring new members are well-supported across teaching and research.

Business does not anticipate any short-term budget challenges and has sufficient resources to invest in approved strategic and capital initiatives. However, the frozen domestic tuition fee framework is expected to create cost pressures within two to three years, if unchanged without inflation. Cost pressures could worsen with geopolitical instability and any impacts to international recruitment.

9.1.3 FACULTY OF HEALTH SCIENCES

Health Sciences continues to lead in research and educational innovation. All programs include experiential learning and community training or research to enhance competency and growth. The Faculty's focus on COVID-19 secured \$43M in 2020/21 for related research which quickly impacted national policy and clinical pandemic guidelines. The Faculty also recently attracted philanthropic support of \$32M to grow health innovation and entrepreneurship, including its newest focused on rehabilitation science and humanities.

The Faculty is committed to a culture change regarding equity, diversity and inclusion (EDI), as well as its responsibilities for Indigenous reconciliation. An Indigenous Health Learning Lodge has opened, and several departments have created EDI and Indigenous leadership roles. The Faculty is recruiting an associate dean, EDI and an Indigenous health research lead.

A focused on operational support efficiencies across finance, human resources, IT, and communications reviews has helped to limit expense growth. The Faculty's 2022/23 budget is supported by a University Fund supplement. Budget balancing strategies include sunseting some research centres and institutes, merging some lab facilities with similar central facilities, and shifting some faculty members from one department to another for efficiency. Opportunities for international enrolment growth are under review, along with philanthropic donations to support strategic initiatives. The Faculty embraces a culture of continuous improvement several initiatives aimed at enhancing performance and service while reducing cost.

9.1.4 FACULTY OF ENGINEERING

Engineering continues to implement the transformation of undergraduate curriculum, The Pivot. Further, the Faculty has expanded the Undergraduate Summer Research Experience Program, with more than 250 undergraduate students actively engaged in research activities on campus throughout the year. The Faculty is launching a joint interdisciplinary program with the Faculty of Humanities, Bachelor of Arts and Technology.

Engineering is in a solid financial position with faculty renewal aimed at reducing student-to-faculty ratios and increase Faculty diversity, with a focus in computer science. Engineering has an additional focus on international recruitment to diversify enrolment. The Faculty is in the second year of major renovations to the John Hodgins Engineering building, with additional capital investments in the McMaster Bridge to Impact project, in partnership across other University areas.

9.1.5 FACULTY OF SOCIAL SCIENCES

Social Sciences is engaged in improving skills and job outcomes for students and is investing in key initiatives to enhance experiential education and career readiness programming. The Faculty is focused on growing enrolment in priority areas, such as international students, health programs, and interdisciplinary programming, including a new professional MA and programming in social innovation. The Faculty is focused on improving retention rates by investing in a student experience coordinator. Community and economic impact is a priority for the Faculty, and initiatives such as increased community engagement through the community research platform and its activities will assist in moving this priority area forward.

Social Sciences enrolments are stable and expected to grow over the budget and planning years. However, the uncertainty regarding operating grant stability and tuition fee setting with inflation has increased dependencies on international enrolment to address compensation inflation.

9.1.6 FACULTY OF SCIENCE

Science continues to make strategic investments in faculty renewal, support staff, and infrastructure to advance strategic priorities, achieve metric targets, and enhance the student experience. The Faculty's plans include increasing diversity across faculty and staff to support high impact practices in learning, discovery, and engagement.

Future revenue uncertainties associated with performance grants, domestic fee constraints, and an increased reliance on international enrolment, research revenue, and fundraising capacity drive strategic priority setting. Efforts to balance innovation investments in faculty renewal and reinvigoration drive a greater emphasis to ensure all plans closely align with strategic plans.

Science partnered on a coordinated approach across campus drawing on information to assess key priorities that support SMA metrics, the Faculty of Science strategic plan 2020-2025, and University priorities. Investments in unique academic programming, excellence in all spheres, advancement, innovation, commercialization, and international strategy focus on achieving the Faculty's mission and vision while mitigating risk.

9.1.7 ARTS & SCIENCE PROGRAM

Arts & Science priorities include diversified faculty renewal, creative development of student research and experiential learning opportunities, responsibility for the McMaster Discovery Program, development of innovative interdisciplinary collaborations, development of communications strategies, and enhancement of national and international profile. Further, Arts & Science alumni involvement includes learning opportunities with current students within a culture of scholarly challenge and social responsibility.

Essential to the success of the Arts & Science Program is a strong, well-planned, and sustainable faculty complement, which entails the negotiation of teaching release agreements with the Faculties of Humanities, Science, and Social Sciences. A new Manager, Communications in collaboration with Public Affairs will focus on Intersession programming. Intersession is a condensed May term of courses, with interdisciplinary, experiential and community-engaged content.

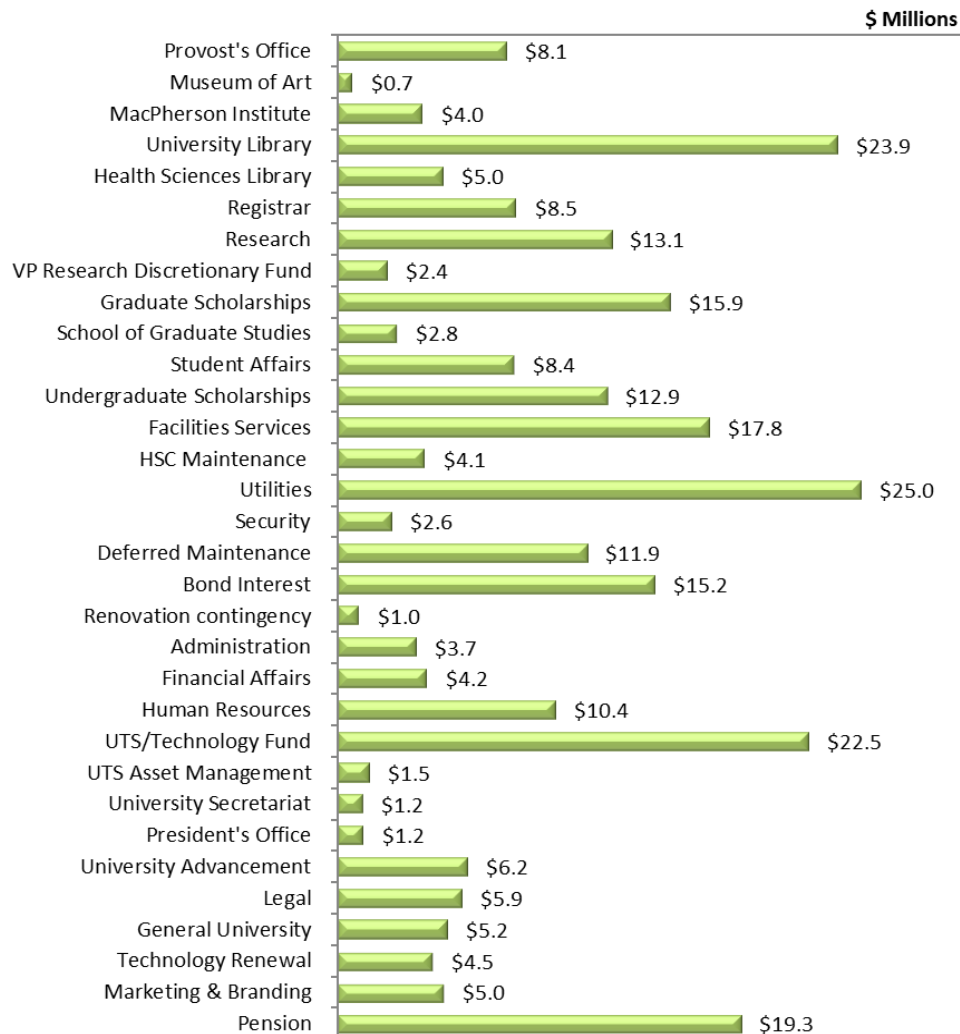
9.1.8 UNIVERSITY FUND

The University Fund supports excellence, innovation, and renewal across all areas of the university. By design, projects supported are allocated funding for specific short-term purposes with successful innovations intended to be permanently funded by different means. The University Fund enables greater flexibility toward advancing strategic priorities in support of McMaster's mission.

The Office of the Provost is responsible for developing appropriate mechanisms to allocate the University Fund as a strategic tool for the University. This fund also supports sometimes unforeseen priorities. Overall, the Provost actively supports strategic initiatives from the University Fund. Many existing ongoing commitments have been shifted to permanent allocations in the relevant areas as intended, and the Provost will continue to apply this lens to all future projects.

9.2 SUPPORT UNITS

Figure 8: Operating Fund 2022/23 Budget Support Unit Allocations



9.2.1 STUDENT AFFAIRS

Student Affairs focuses efforts to support every student to reach their full potential. Initiatives include the Black Student Success, Spiritual Care and Learning Centres, first year transition and mentoring through the Archway program, international students support, and accessibility initiatives for students with disabilities, new spaces for employment, entrepreneurship, and additional mental health support through the new Student Urgent Response Team.

Many initiatives are funded on soft non-permanent sources. Programs and services are in response to identified student needs. Appropriations are used to fund budget pressures. In 2022/23 the Archway program has received additional funding support as an essential part of the first-year transition programming, plans are focused on securing ongoing support funding for this initiative.

9.2.2 LIBRARIES

University Libraries are focused on enhancements to McMaster Experts (for showcasing faculty research), digitization of unique content, research data management, and classroom technology. The Libraries received funding to cover the cost of the new LinkedIn Learning campus license, however other inflationary budget pressures remain, including funding for continued classroom upgrades.

Several cost-savings measures have occurred over past years, including complement review, trimming low impact, low use journal subscriptions (where possible), and implementation of an exchange rate mitigation program. A review of Library funding is underway in 2022/23 to more sustainably address ongoing budget pressures.

9.2.3 OFFICE OF THE REGISTRAR

The Registrar's Office (RO) supports student administration from recruitment and admissions through to convocation. The RO is committed to providing timely, relevant, efficient service to students and to supporting faculties and administrative functions across the University aligned with strategic priorities embedded in the SMA. In 2022/23, focused initiatives include: 1) the Slate recruitment and admissions project, 2) the document management project, 3) continued enhancements to Student Services support, and 4) recruitment and admissions activities to achieve increasing diversified International Student Recruitment.

Staffing resources are limited compared to support expectations and priorities. Further expense inflation creates budget pressures across McMaster's growing enrolment base. Systems initiatives aim to deliver efficiencies where staffing growth is not possible. Funding constraints have increased the RO's reliance on student self-service options, online chat features, a chatbot, automated service requests, and e-transcripts. The increased use of virtual service delivery while not always ideal, saves significant resource time.

9.2.4 SCHOOL OF GRADUATE STUDIES

The School of Graduate Studies (SGS) works in concert with the Faculties to deliver on priorities, such as development of new graduate programs aligned with Council and Ministry guidelines and University strategy.

Staffing remains SGS's biggest challenge amid frozen support unit budgets. Further, policy developments (internal and external) require increased support eroding graduate scholarship and bursary funds each year while living costs in Hamilton have dramatically increased. SGS applies a critical evaluation to resources needs often redesigning staff responsibilities when turnover occurs. SGS has a focus on modifying and re-engineer processes and roles to ensure service levels are not compromised.

9.2.5 PAUL R. MACPHERSON INSTITUTE FOR LEADERSHIP, INNOVATION AND EXCELLENCE IN TEACHING

MacPherson's strategic priorities focus on teaching and learning, and inclusive excellence in support of SMA linked initiatives. MacPherson's collaborative leadership in the development of mandatory paid TA training will see the launch of both required and optional workshops for TAs. Additionally, in partnership with the Equity and Inclusion Office, McMaster's quality assurance policy and the introduction of new grants collectively encourage content considerations addressing inclusion equity, diversity, accessibility, and sustainability.

MacPherson, like many support units, faces operating budget pressures with a fixed allocation, annual expense inflation and increased reliance on contract staff to deliver core services in the areas of learning technologies and educational development. Steps have been taken to manage budget risks, however the needs of the campus community extend beyond current resource capabilities. MacPherson is committed to responding to service demands and has upskilled staff on blended and online pedagogies, while temporary staff fill pandemic resource gaps. Prudent use of MacPherson's appropriations will help sustain current operational activities.

9.2.6 RESEARCH ENVELOPE (INCLUDES NUCLEAR OPERATIONS AND FACILITIES)

The Vice-President Research (VPR) envelope invests resources to advance McMaster's mission and strategic priorities including delivering support for increased Tri-Agency funding, a SMA metric. The VPR supports McMaster's competitive grant applications processes ensuring grant compliance, financial oversight, protection of researchers and research subjects, and ensuring that McMaster remains in good standing with institutional eligibility requirements. Additionally, the VPR supports private sector partnerships, protection of IP, licensing, patents, and start-ups, which contribute to McMaster's increased research funding from the private sector sources SMA metric. Current initiatives include increased support for core research facilities, enhancing effective operation of research infrastructure, and further supporting research and partnerships.

As Canada's sole major neutron source, the McMaster Nuclear Reactor (MNR) is the only University in Canada capable of hosting several types of specific research facilities. New investments will further increase research outcomes at MNR. Nuclear Operations and Facilities will continue to enable nuclear research while planned expansion will facilitate greater life sciences research and development, including commercial opportunities around medical isotopes.

The pandemic has highlighted the importance of pivoting support to emerging issues and opportunities while maintaining excellence across other traditional areas. In 2022/23 the VPR plans to engage in additional activity to attract further Tri-Agency and private sector funding, increase commercialization and knowledge translation activities, and develop new collaborations both nationally and internationally. McMaster's expanded nuclear operations and capabilities will increase research activity across all nuclear fields and allow McMaster increase radiopharmaceutical research capabilities, including additional opportunities for commercialization and spin-off success

9.2.7 UNIVERSITY TECHNOLOGY SERVICES (UTS)

The McMaster IT Strategic Plan launched in 2019 continues to focus on creating a stable and secure technology environment to enhance the student experience while implementing systems,

technologies, and processes to improve operational excellence, support teaching and learning, and advance research support systems. Working as a connected community, McMaster will deliver a seamless foundation of core information technologies and services.

Technology initiatives that deliver transformative technologies and services in support of McMaster's mission continue to be prioritized and initiated with budget support. In 2022/23, an increased focus on operational excellence across IT services will aim to deliver improved decision making, workflows, and efficiencies. In parallel other initiatives will advance technology deferred maintenance planning, enhancing IT Security capabilities, developing partnerships and collaborations, and 'right sizing' IT services.

9.2.8 FINANCIAL AFFAIRS

Financial Affairs provides support to the University on a broad range of strategic objectives. The portfolio integrates strategic and capital directions with enrolment planning, infrastructure capacity, financial health management and debt strategy, while supporting enterprise and unit-level continuous improvement initiatives.

Financial Affairs maintains a balanced budget with recoveries for affiliated parties support covering over 40% of annual expenditures. Appropriation savings are reinvested to deliver enterprise support projects and operational efficiency reviews. Initiatives are prioritized annually based on stakeholder community consultations with an emphasis on supporting McMaster's strategic priorities, evolving needs, and SMA metrics. Additionally, the unit is informed by McMaster strategic plans, employee and customer surveys, and benchmarking results to broad alignment regarding priorities. In 2022/23 key initiatives include continuous systems and process improvement projects with Faculties and research partners, the One Card software implementation, and the budgeting system replacement project.

9.2.9 FACILITY SERVICES

Facilities Services continues to look at new ways to improve the day-to-day campus operations. In 2022/23, Custodial Services will participate in a pilot through the UniForum project to determine if there are effective ways to reduce costs and/or improve campus community satisfaction.

Deferred maintenance continues to grow despite fixed support funding. Maintenance staff are increasingly challenged to work on tasks outside the critical items identified.

Several plans are in place to prioritize and progress strategic initiatives, these include:

- Energy Management Plan
- Capital Plan
- Asset Management Plan
- Project Management Methodology
- Space Management Plan
- Campus Accessibility Plan
- Campus Plan
- Campus Capacity Study

For more information refer to the Facilities Services website.

9.2.10 HUMAN RESOURCES (HR)

HR is focused on delivering operational strategic and improved transactional support and promoting inclusive excellence. The HR Service Model aims to deliver end-to-end support services to recruit, retain, and develop skilled talent. HR has some short- and long-term budget challenges, with

investments focused on transactional support, continuous improvement plans, and HR technology priorities.

HR services continue to evolve in response to the University's needs. The portfolio annually reviews its strategic priorities to align with McMaster's directions and to respond to community feedback. In 2022/23 projects include process optimization, pay and technology improvements, and HR Governance. HR's vision is for One HR, eliminating non-value-added steps within other activities. HR will also continue to support the University's pandemic response, providing expert health and safety guidance, supporting the vaccine mandate, and supporting the future of work planning.

9.2.11 UNIVERSITY ADVANCEMENT (UA)

The University's vision and strategic plan, as embedded in the SMA will guide UA priorities. UA works to enable the priorities of the broader University and performance goals are focused on serving and supporting these goals. Given the service and support for institutional priorities, our activities touch on all areas outlined in the SMA, and our achievements and goals cut across its various categories.

Appropriations are being invested to support positions and resources for BWRII (Brighter World Re-Imagined: Innovation and Impact) in partnership with Faculties and units. A request for additional funding in support of this priority will be coming forward via the BWRI Steering Committee within the next budget year.

Key success factors for UA focus on building McMaster's relationships, reputation, and resources. UA will continue to play a lead role in the University's marketing and branding exercise as McMaster recognizes that the strength of its brand is integral to the achievements of its institutional objectives in the increasingly competitive post-secondary environment. Public Affairs (formerly Government Relations) continues to be a priority at both the provincial and federal levels in working to influence policy and secure investment.

9.2.12 UNIVERSITY BRANDING AND MARKETING

McMaster's Brighter World brand platform and marketing has helped to advance the University's digital presence contributing to reputation. In 2022/23 initiatives will broaden to align and integrate with the UN Sustainable Development Goals (SDGs). Differentiating McMaster in an increasingly competitive national and international environment underpins the current evidence-based marketing strategy. Investments focus on strengthening McMaster's international ranking profile which contributes to diversified international recruitment. Marketing efforts focus on priorities established by the Marketing Steering Committee. Investments focus on delivering efficient, effective, and innovative marketing strategies.

10 BUDGET BY FUND

10.1 OPERATING FUND

Table 5: Operating Fund Summary

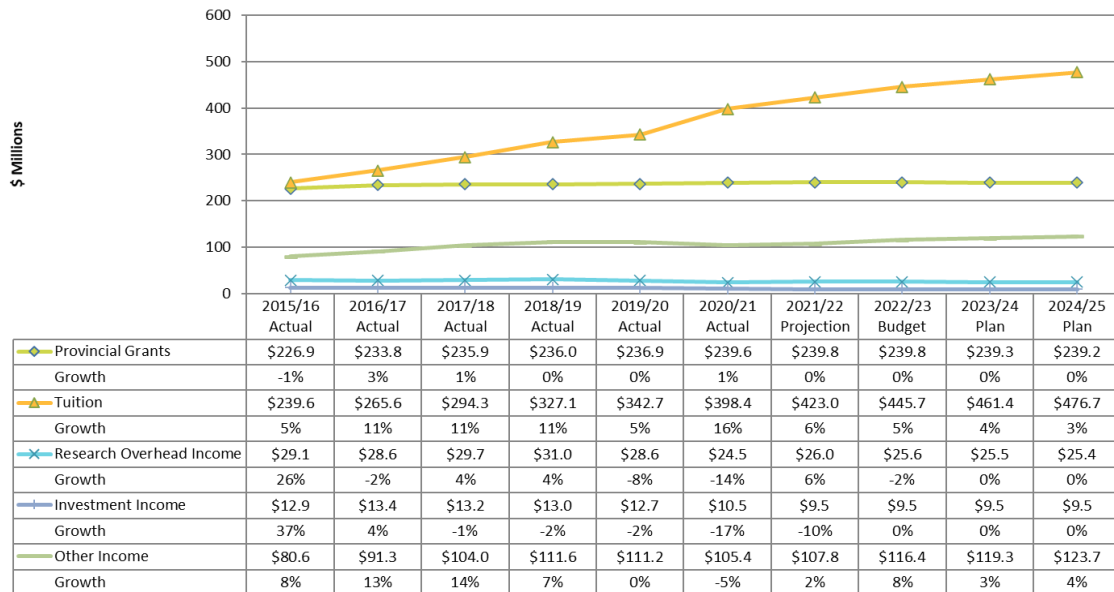
(\$ thousands)							
	2021/22 Budget	2021/22 Projection	2020/21 Variance		2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues							
Provincial grants	236,158	239,843	3,685	1.6%	239,816	239,300	239,246
Tuition	418,215	423,000	4,785	1.1%	445,672	461,424	476,677
Research overhead income	28,459	26,014	(2,445)	-8.6%	25,562	25,489	25,443
Investment income	9,467	9,467	-	0.0%	9,467	9,467	9,467
Other income	107,132	107,848	715	0.7%	122,382	119,350	123,676
Total revenues	799,431	806,172	6,741	0.8%	842,899	855,030	874,508
Expenses							
Salaries, wages and benefits	531,369	544,269	(12,899)	-2.4%	565,034	594,605	610,675
Utilities and maintenance	45,066	43,543	1,523	3.4%	45,261	46,957	47,743
Equipment and renovations	68,157	102,299	(34,142)	-50.1%	77,081	63,964	52,304
Scholarships, bursaries and work study	31,619	33,199	(1,580)	-5.0%	34,534	34,006	33,787
Library acquisitions	15,193	14,306	887	5.8%	14,614	14,841	15,331
Debt and financing charges	26,401	22,763	3,637	13.8%	26,001	25,355	25,355
All other expenses	86,447	72,234	14,213	16.4%	85,058	90,268	96,270
Total expenses	804,253	832,613	(28,360)	-3.5%	847,584	869,995	881,465
Excess of revenues over expenses	(4,822)	(26,441)	(21,619)	-448.4%	(4,685)	(14,966)	(6,956)
Fund balance, beginning of year	159,197	198,752	39,555	24.8%	172,311	167,626	152,660
Fund balance, end of year	154,375	172,311	17,936	11.6%	167,626	152,660	145,704

The 2021/22 operating fund projected deficit is larger than budgeted due to larger capital fund transfers than originally budgeted from Business for the McLean Centre for Collaborative Discovery and for future building projects associated with Engineering (The PIVOT and Bridge) and Science (Greenhouse and Life Sciences) capital initiatives.

For 2022/23, the operating fund budget and planning years are structurally balanced. Faculty capital initiatives are supported by one-time permanent capital project allocations aligned with McMaster's Capital Plan and in support of McMaster's vision and strategic priorities. Variances between the 2021/22 budget and projection are available in Appendix 1.

10.1.1 REVENUE

Figure 9: Operating Fund Budget Revenue Trend by Type



10.1.1.1 PROVINCIAL GRANTS

Provincial grants remain relatively frozen since 2016/17 based on 2014/15 enrolment. Performance linked funding is delayed to 2023/24 resulting in greater funding certainty in 2022/23. The International Student Reduction (\$750 tax per international student enrolled) has increased since its introduction in 2014/15 as international participation grows. During recent inflationary periods the fixed grant allocation's purchasing power continues to diminish (\$1 in 2014/15 approximates \$0.84 today).

10.1.1.2 TUITION

Based on the overall enrolment targets and the assumed flat domestic in-province tuition framework, 2022/23 net overall tuition income is projected to increase by \$22.7 million (+5.3%) from the 2021/22 projection mainly due to international enrolment. Out-of-province domestic tuition fee increases are budgeted at 3%, however the MCU recently announced up to 5% fee increases. McMaster will adopt MCU's out-of-province tuition cap in future projections, resulting in an immaterial favourable variance.

The following chart (Figure 10) reflects the enrolment and tuition trends in the framework tuition revenue, while Figure 11 reflects the mix between enrolment, tuition, and factors in the domestic provincial grants revenue. Funding for domestic students includes both provincial grants and tuition, while no grants are received for international students who are funded through tuition fees only.

Figure 10: Tuition and Enrolment Trend (excludes domestic provincial grants revenue)

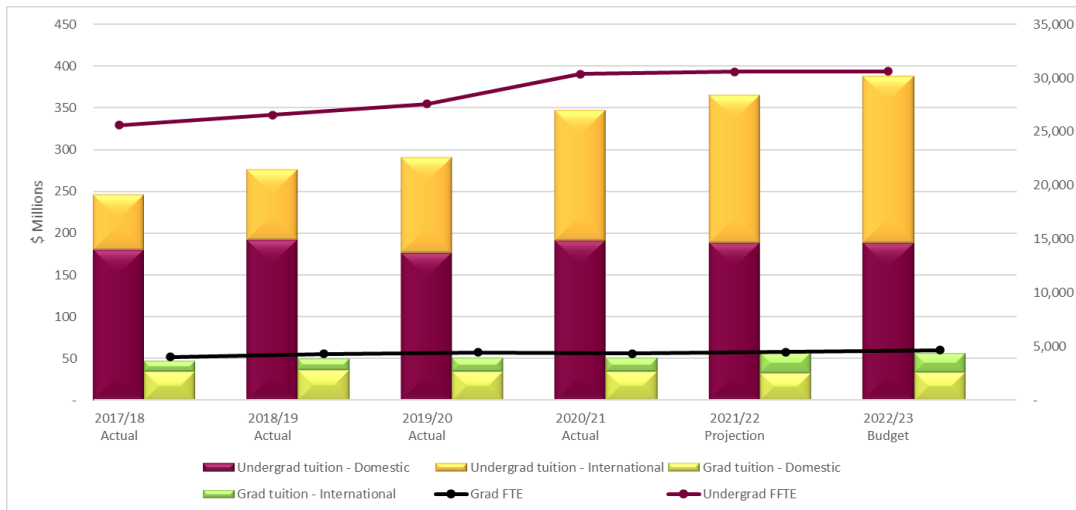
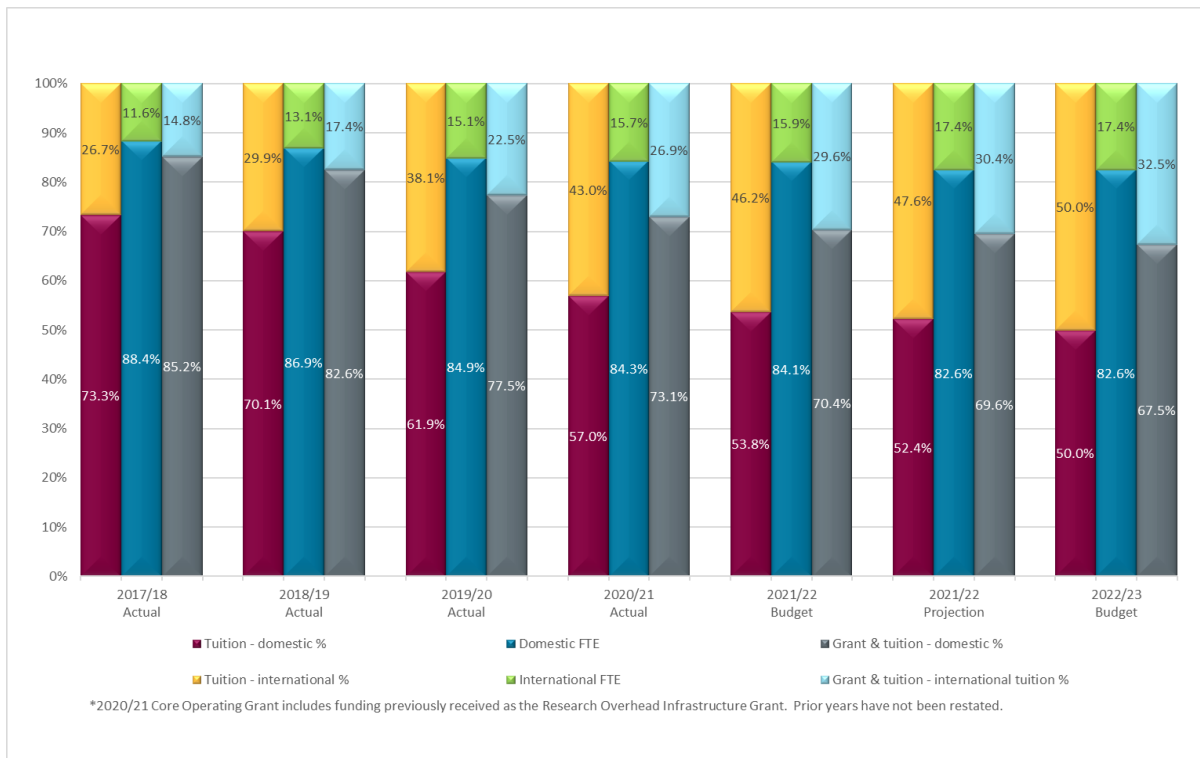
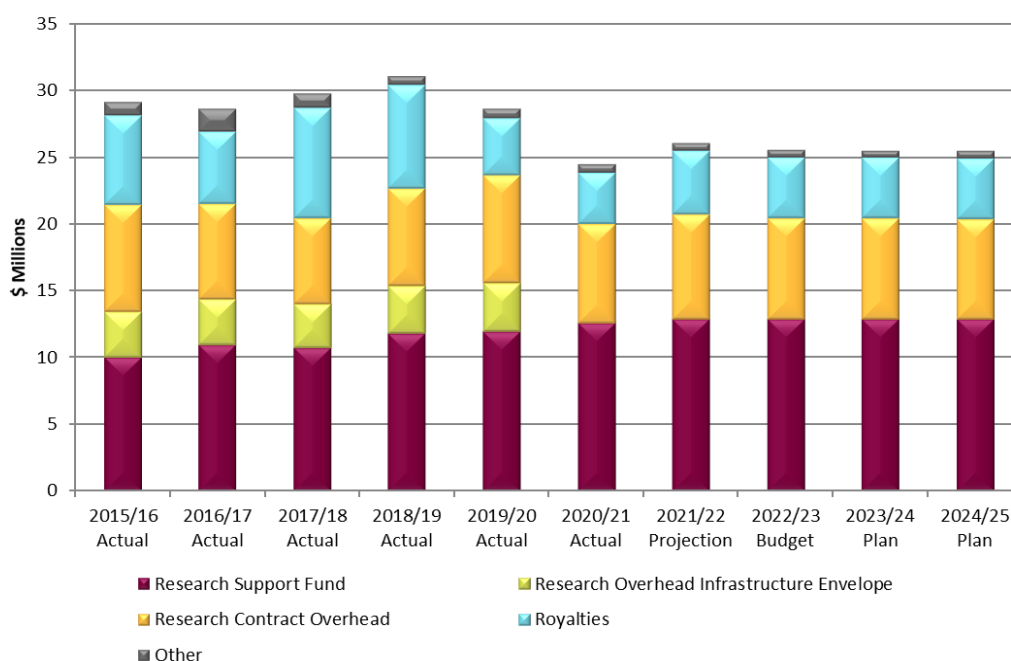


Figure 11: Operating Fund Framework Domestic Vs. International



10.1.1.3 RESEARCH OVERHEAD INCOME

Figure 12: Operating Fund Research Overhead Income Trend



Research overhead income is conservatively budgeted. Research overhead is intended to defray central and departmental support and infrastructure costs related to conducting research. The federal Research Support Fund and the Research Overhead Infrastructure Envelope (ROIE) is based on Tri-Agency research funding the University receives. In 2020/21, the ROIE was rolled into the MCU performance funding grants linked to SMA metrics beginning in 2023/24. For 2022/23 these grants are distributed to activity units through the budget model.

Research contract overhead is levied on research grants and contracts from the private sector and other agencies where allowed. Overheads are normally calculated as a percentage of direct research costs, with the objective of recovering the full amount of indirect support costs. Budgets are based on historical results. Overhead income is credited directly to activity units, where it may be further distributed to departments or reinvested in research.

Royalties are payments for commercial use of McMaster intellectual property associated with research discoveries. Like research contract overhead, royalties fluctuate depending on usage, budgets are based on historical trends. This income is credited directly to activity units, with a share going to inventors.

Other research overhead income may be earned on funding from Centres of Excellence, Canada Research Chairs, and Early Researcher Awards.

10.1.1.4 INVESTMENT INCOME

The operating fund is allocated \$9.5 million per year from investment pool interest revenue derived from two primary sources. First, the H. Lyman Hooker Endowment Fund, which is a gift directed to “provide a steady annual flow of funds to support programs that will enrich the academic achievements of the University and to provide a suitable memorial to Dr. Hooker”. Second, the employer portion of the pension surplus payout in 2003. Annual interest from these two funds approximates \$6.3 million per year. The difference is funded from the specific purpose reserve as an approach to stabilize interest revenues allocated to Faculties through the budget model framework. Unspent capital transfers are included in the Faculty interest allocation of the \$9.5 million.

10.1.1.5 OTHER INCOME

Other income includes Ministry of Health and Long-Term Care grants, Post-graduate medical training, tuition from non-Ministry funded programs, nuclear reactor sales, ancillary sales contributions (reflecting 4.5% on sales), athletics and recreation facility expansion contributions, registration and service fees, and utility recoveries from partners.

10.1.2 EXPENSE

Figure 13: Operating Fund Expense Trend

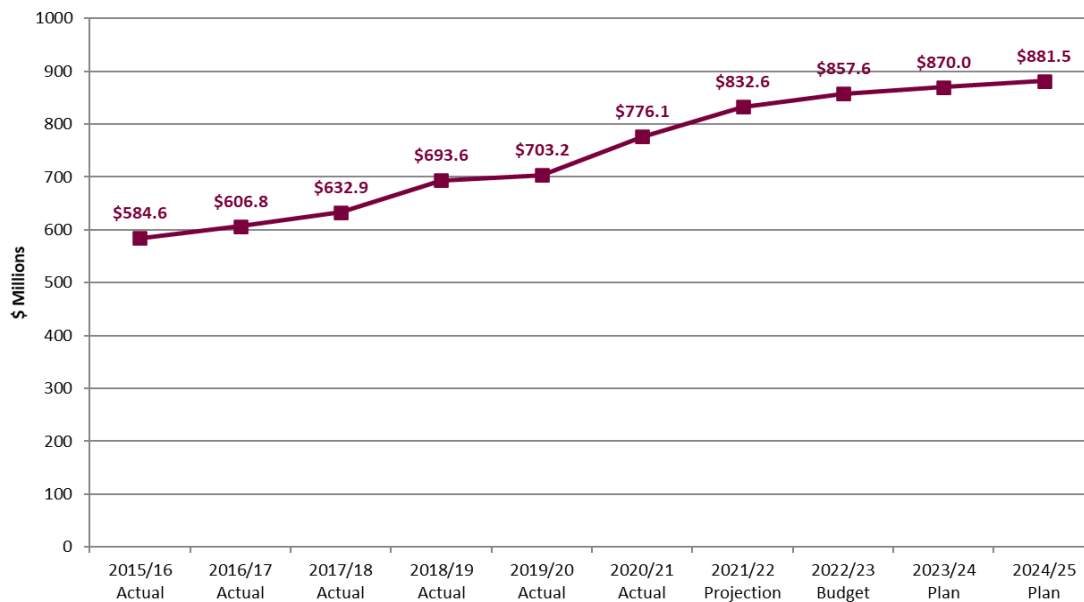


Figure 14: Operating Fund 2022/23 Budget Expense by Type

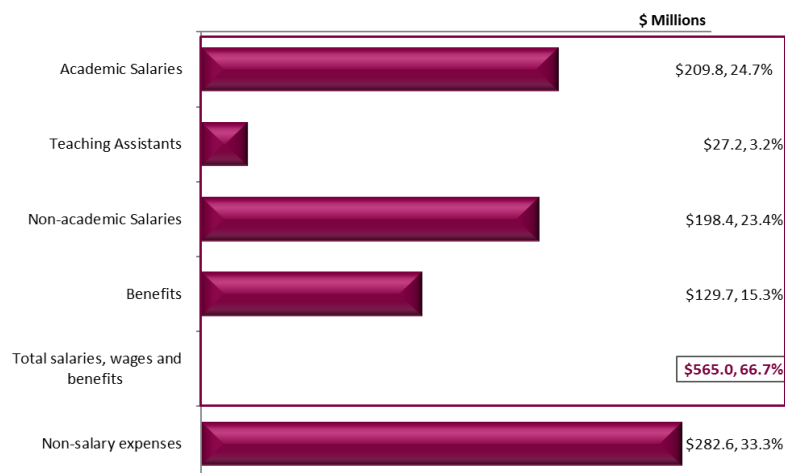
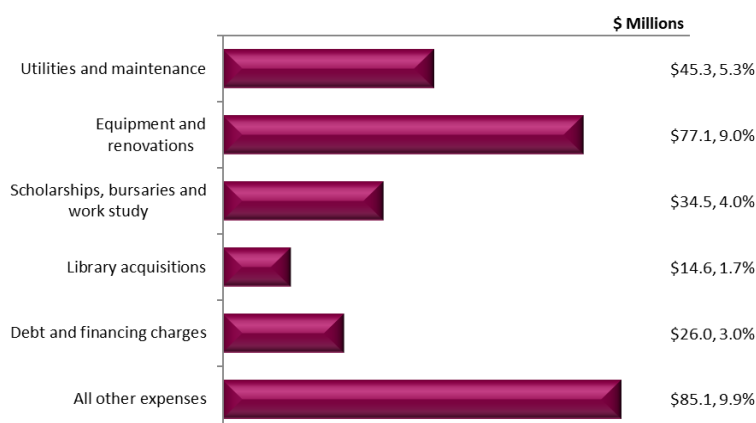


Figure 15: Operating Fund 2022/23 Budget Non-salary Expenses by Type



10.1.2.1 SALARIES, WAGES AND BENEFITS

Salaries, wages, and benefits are the largest component of the operating expense budget. The high quality of McMaster's faculty leading the academic and research mission is a key success factor making faculty renewal initiatives underway critically important. Additional University staff to facilitate, administer and support academic, research, and the student experience are just as important to McMaster's community.

To address enrolment growth, accommodate new programs, and prepare for upcoming retirements, McMaster's faculty renewal focus is on tenure-track or teaching-track faculty to reduce student-to-faculty ratios and improve research focused academic time. In parallel, operational excellence initiatives draw on benchmarking data to streamline processes and mitigate support staff growth.

McMaster's labour negotiations deliver on legislative compensation restraint requirements limiting annual increases to 1% over three years, while being mindful of market competition for employment. In contrast, the *Fair Workplaces, Better Jobs Act, 2017* impact on minimum wage has addressed pay equity. Taken together, compensation legislation has created new pressures for recruitment.

Budgeted benefit rates use ten year actuarial and five-year historical costing models to set smoothed rates to collect cash requirements. A benefit reserve is used to address variable cash outflows. Benefit rate continuity schedules are reviewed annually with the Budget Committee to ensure rates are reflective of projected cash requirements. McMaster's recent July 1, 2021 Salaried Plans valuations provide payment certainty until July 1, 2024, no special payments are required under the current filings.

All factors considered the total compensation growth approximates 4% per year over the budget and planning horizon.

10.1.2.2 UTILITIES AND MAINTENANCE

Utilities and maintenance represent 5.3% of annual operating expenses, including annual contributions of \$11.9 million to deferred maintenance. Utility expenses are market rate and consumption driven by environmental factors. Further, unplanned maintenance failures and campus behavior contribute to variability in expense budgets. McMaster also supports the hospital's energy backup, which can lead to increased costs (fully recovered within other income) driven by back-up supply requirements during high-cost periods.

Utility rates are budgeted at \$0.05 for 2022/23 and the planning years. The budget is net of Ontario Global Adjustment rate savings as a class A consumer and other energy reduction initiatives. The budget reduces the use of cogeneration energy to minimize carbon emissions.

McMaster tracks the Ontario Association of Physical Plant Administrators (OAPPA) numbers for benchmarking purposes. The most recent OAPPA G6 benchmark average for energy was \$2.47 per square foot (/SF), this was not updated due to the COVID pandemic. McMaster University Medical Centre and Michael DeGroote Centre for Learning and Discovery have a significantly higher energy cost index due to the energy-intensive nature of health research and the heating/cooling requirements of the hospital with in-patient beds and emergency rooms/operating rooms. Excluding these two facilities, the energy cost index for the McMaster campus was \$2.15/SF.

10.1.2.3 EQUIPMENT AND RENOVATIONS

Physical and technical infrastructure is essential to achieving McMaster's strategic priorities while delivering an optimal student experience. The operating budget includes capital transfers approximating \$40 million per year for new and upgraded physical facilities, including new community spaces. Capital transfers are permanent one-time transfers to capital priorities identified in the annual Capital Plan. Capital allocations are held reserved for specific projects with spending allowed once business cases are approved based on Board by-laws. Major items over the planning period include:

- \$50.5 million for the McLean Centre for Collaborative Discovery and the existing building renovations – DeGroote School of Business
- \$10 million to support the new Bridge to Impact building – Faculty of Engineering

- \$12.6 million for the John Hodgins Engineering building to Burke Science Building project and other building improvements – Faculty of Science
- \$3.6 million for general renovations in occupied buildings – Faculty of Social Sciences
- Other investments in renovations, equipment, software, and systems projects to improve the student experience, document management, and customer relationship management

10.1.2.4 SCHOLARSHIPS, BURSARIES AND WORK STUDY

Scholarships, bursaries, and other supports enhance McMaster's recruitment and admission goals, recognize student achievement, and aid in retention. Support incentives are imperative to recruit high calibre students and depending on exceptional high-cost program support additional support is available through the Student Access Guarantee (SAG). To ensure that sufficient funding is available to meet SAG obligations, the funding provided through the budget model varies with actual amounts required. The budget incorporates estimated expenses given the enrolment assumptions.

McMaster issues net estimates and net bills to students aligned with provincial transparency objectives. Net bills detail all education costs less Ontario Student Access Program and other student aid or support reductions. Net bills build off the net estimates provided with offers of admission. McMaster's entrance awards are low compared to other Ontario universities, however these initiatives total support from multiple sources for more informed decisions.

10.1.2.5 LIBRARY ACQUISITIONS

To achieve the University's mission, access to the journals with the highest profile and impact must be maintained. The cost of purchasing library collections of core titles inflates roughly \$0.5 million annually. Serial subscriptions purchased through the Canadian Research Knowledge Network (CRKN) consortium reflects a multi-year buying collaboration for large publisher journal packages. Consortiums reduce flexibility however the approach increasing purchasing power mitigating some inflation. The CRKN subscription fees are linked to a University's research-intensity factor, meaning McMaster's research success contributes to higher fees than other peers with larger enrolments.

Several actions have been taken to contain costs, including cost per use data analysis to support subscription cancellation decisions. Results from cost containment initiatives explore additional alternatives to maintain access to the world's most high-profile and high-impact journals.

The budget reflects the combined impacts of inflation and expected exchange rates. In order to reduce pressure on the library envelopes, the US exchange rate has been internally fixed at the long-term rate, with any gain or loss covered centrally.

10.1.2.6 DEBT AND FINANCING CHARGES

McMaster uses debt financing to support strategic and capital priorities. Total debenture financing is \$390 million with a weighted average capital cost approximating 4.75%. Each debenture has a repayment reserve (or sinking fund) for the principal amounts when due. Sinking funds are held in the investment pool and monitored annually for repayment adequacy. Annual Board oversight and financial statement note disclosure transparently describe each debentures annual interest rate, maturity date, and reserve balance. See Section 12 Overall Borrowing and Debt Position for additional details.

10.1.2.7 ALL OTHER EXPENSES

Other expenses approximate 10.0% of total operating costs and includes a range of supplies and other expenses not categorized elsewhere. The expense is net of recoveries including transfers from trust funds, contributions of ancillaries to occupancy costs, and internal services.

10.1.3 OPERATING FUND APPROPRIATIONS

With the budgeted deficit of \$4.7 million, Operating Fund appropriations are expected to decline to \$167.6 million by the end of 2022/23 (see Appendix 3 Operating Fund Unit Level Tables). Each envelope must present a structurally balanced budget where appropriations can be utilized to fund strategic and capital initiatives, including one-time projects. McMaster's appropriation balances are budgeted and planned to decline; however a reasonable level of funding is prudent to address unforeseen events and contingencies. The table below shows a breakdown by Faculty of the opening appropriations, surplus/ (deficit) prior to capital transfers for the budget and plan years, capital transfers and closing appropriation balance for the planning period.

Table 6: Faculty Budget Appropriations and Capital Transfers

(\$ thousands)

	Opening Appropriations, prior to capital transfers	Surplus (deficit) prior to capital transfers			Closing Appropriations, prior to capital transfers	Planned capital transfers in 2022/23, 2023/24, and 2024/25	Closing Appropriations
		2022/23 Budget	2023/24 Plan	2024/25 Plan			
Faculties							
Business	3,431	14,158	13,354	11,118	42,060	(25,000)	17,060
Engineering	24,105	3,097	1,631	721	29,555	-	29,555
Health Sciences	47,432	(4,110)	(14,228)	(17,983)	11,112	(5,125)	5,987
Humanities	11,454	(2,496)	(5,058)	(2,691)	1,208	-	1,208
Science	15,068	(1,430)	1,185	1,570	16,393	(2,000)	14,393
Social Sciences	19,874	846	(847)	(2,010)	17,863	(3,635)	14,228
Arts & Science	1,552	(840)	(676)	(683)	(648)	-	(648)
Faculties total	122,917	9,224	(4,640)	(9,959)	117,543	(35,760)	81,783

10.1.4 ONE-TIME EXPENDITURES

Table 7: Operating Fund Ongoing and One-time Summary

(\$ thousands)							
	2021/22 Budget	2021/22 Projection	2020/21 Variance		2022/23 Budget	2023/24 Plan	2024/25 Plan
Ongoing:							
Allocated income	686,443	691,961	5,518	0.8%	711,591	729,774	745,703
Other income	112,639	111,060	(1,579)	-1.4%	129,979	124,037	127,587
Total revenues	799,082	803,021	3,939	0.5%	841,570	853,811	873,290
Expenses	756,762	759,448	(2,686)	-0.4%	801,344	838,820	860,501
Excess of revenues over expenses	42,320	43,572	1,253	3.0%	40,226	14,991	12,789
% of revenue	5.3%	5.4%			4.8%	1.8%	1.5%
One-time:							
Allocated income	(0)	-	0	n/a	-	-	-
Other income	350	3,151	2,802	801.6%	1,328	1,218	1,218
Total revenues	349	3,151	2,802	801.6%	1,328	1,218	1,218
Expenses	47,491	73,164	(25,673)	-54.1%	46,239	31,175	20,964
Excess of revenues over expenses	(47,141)	(70,013)	(22,872)	48.5%	(44,911)	(29,957)	(19,745)
Excess of revenues over expenses	(4,822)	(26,441)	(21,619)	448.4%	(4,685)	(14,966)	(6,956)
Fund balance, beginning of year	159,197	198,752	39,555	24.8%	172,311	167,626	152,660
Fund balance, end of year	154,375	172,311	17,936	11.6%	167,626	152,660	145,704

The operating fund is structural balanced due to an emphasis on cost containment efforts to enable strategic priority investments captured under one-time expenses. Ongoing expense growth is aligned to faculty renewal initiatives and other inflationary pressures. One-time investments include:

- \$27.9 million for renovation and expansion of facilities
- \$14.9 million for University Fund strategic investments, such as: post-COVID return to campus initiatives, systems projects, rejuvenating core research platforms, policy reforms, and other capital priorities.
- \$1.6 million for branding and marketing activities

10.1.5 OPERATING FUND BUDGET CONCLUSIONS

The operating fund supports McMaster's refreshed vision and strategic priorities with a focus on limiting ongoing expenditure growth to enable one-time initiatives to advance inclusive excellence, learning and teaching, research and scholarship, community engagement across local, national, Indigenous, and global communities, and projects that drive operational excellence. The 2022/23 operating fund is structurally based with a \$40.2 million surplus. One-time expenditures of \$44.9 million include strategic and capital priorities resulting in a net deficit of \$4.7 million. The net surplus position is driven by international enrolment growth and numerous cost containment strategies along with limited strategic ongoing investments in faculty renewal.

10.2 RESEARCH FUND

Table 8: Research Fund Summary

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Research grants and contracts	186,000	218,000	32,000	220,000	222,000	224,000
Total revenues	186,000	218,000	32,000	220,000	222,000	224,000
Expenses						
Salaries, wages and benefits	119,000	138,200	(19,200)	140,400	142,600	144,800
All other expenses*	63,000	101,400	(38,400)	100,600	100,300	101,200
Transfers to (from) other funds	(16,414)	(20,587)	4,173	(18,977)	(17,933)	(17,998)
Total expenses	165,586	219,013	(53,427)	222,023	224,967	228,002
Excess of revenues over expenses	20,414	(1,013)	(21,427)	(2,023)	(2,967)	(4,002)
Fund balance, beginning of year	302,376	277,177	(25,199)	276,164	274,141	271,174
Fund balance, end of year	322,790	276,164	(46,626)	274,141	271,174	267,172

The 2021/22 Research Fund revenue projection is \$218.0 million, which is based on research revenue receipted, including revenue received for future periods, net of hospital research. The projection is \$32.0 million higher than budget due to several research grants and contracts related to COVID-19. Expenses are higher associated with spending on new awards and unspent funding from prior years as activity increases with the return to campus.

In 2022/23 some COVID-19 funding is anticipated to decline compared to 2021/22. Expenditures are expected to reflect 2021/22 levels. Industry research revenue will depend on the recovery of the general economy. McMaster is actively pursuing some large government sponsored programs (CFREF, CFI, etc.), some to support progressing **Global Nexus** initiatives, however results will not be known for months and will be reflected in updated 2022/23 projections.

10.3 CAPITAL FUND

Table 9: Capital Fund Summary

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2020/21 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Operating grants	5,000	5,000	-	5,970	5,330	5,330
Other revenues	22,610	5,400	(17,210)	9,400	126,150	131,020
Total revenues	27,610	10,400	(17,210)	15,370	131,480	136,350
Expenses						
All other expenses, including capital	164,487	130,979	33,508	226,281	288,340	259,143
Transfers to (from) other funds	(35,655)	(79,657)	44,002	(44,775)	(34,101)	(23,800)
Debt and financing charges	(11,058)	(10,640)	(418)	(12,680)	(19,485)	(19,490)
Total expenses	117,774	40,682	77,092	168,826	234,754	215,853
Excess of revenues over expenses	(90,164)	(30,282)	59,882	(153,456)	(103,274)	(79,503)
Fund balance, beginning of year	91,396	133,975	42,579	103,693	(49,764)	(153,038)
Fund balance, end of year	1,232	103,693	102,461	(49,764)	(153,038)	(232,541)

The capital fund includes major building and renovation projects temporarily reflected as expenses (before consolidating accrual adjustments covered later), transfers from the operating fund mainly to support Faculty strategic capital priorities, and unit repayments of internal capital loans. The information in the table aligns with the approved Capital Plan (see also Section 6.4), as well as the prior year's budget updated with current spending.⁶

Table 10 below summarizes total expected capital funding and spending by project for fiscal 2021/22 to 2024/25. Projected capital spending of \$131.0 million is lower than budget due to slower spending and supply delays on some key projects, largely due to COVID-19. For 2022/23 spending is expected to resume pre-pandemic levels.

⁶ Capital expenditures used in operations and to support ancillary departments are budgeted through the Operating and Ancillary Funds within the same envelope system, and using the same priority-setting, monitoring and control process as operating expenses. Capital expenditures budgeted within the Operating and Ancillary Funds include equipment, renovations, faculty start-up costs, and deferred maintenance. Internally led projects that require financing borrow from McMaster's central bank approach at the weighted average cost of capital plus a stabilization factor, which is currently 4.75%.

Table 10: Capital Spending by Project

(\$ thousands)

	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Plan	2023/24 Plan	2024/25 Plan
Approved projects						
ABB 5th Floor Fit Out	273	935	(662)	-	-	-
Advanced Manufacturing Centre	5,000	5,048	(48)	3,450	-	-
Athletic and Recreation - Pulse and Student Space Expansion	24,000	21,583	2,417	8,092	-	-
CCEM CALM Lab Renovation	1,394	1,679	(285)	-	-	-
Classroom Reconfiguration Plan	2,938	2,938	-	-	-	-
Deferred Maintenance Projects	16,654	16,654	-	16,593	16,593	16,593
Greenhouse and LSB Phase One	10,000	5,000	5,000	14,713	1,662	-
GSR Parking Garage	-	-	-	6,000	10,000	4,093
Lot K Parking Structure	10,000	-	10,000	5,000	11,823	-
McLean Center For Collaborative Discovery	25,000	25,000	-	35,000	35,000	25,000
One-Stop Shop	2,329	1,987	342	-	-	-
Parking and Security Relocation	1,242	900	342	1,252	-	-
PeakShavers and Boilers	5,000	7,000	(2,000)	22,600	2,000	-
Peter George Center for Living and Learning	-	2,953	(2,953)	-	-	-
Psychology Building Atrium Addition	-	3,000	(3,000)	3,630	-	-
Research Commercialization Project	24,000	24,000	-	23,969	-	-
Residence Renewal Program	2,000	2,000	-	2,000	2,000	2,000
Other	737	737	-	737	(1,188)	737
Total approved projects	130,567	121,414	9,153	143,036	77,890	48,423
Estimate of planned projects - not yet approved	33,920	9,565	24,355	83,245	210,450	210,720
Total capital spending	164,487	130,979	33,508	226,281	288,340	259,143

Table 10 identifies approved capital projects and estimated total projects net yet approved. Projects pending approval are in various stages of planning and business case development. Capital approvals occur in accordance with University by-laws.

Where projects proceed in advance of some internal and/or external funding receipts interim bridge loans or long-term loans are arranged through the University's Central Bank, which is funded by debt financing outlined in Section 12 Overall Borrowing and Debt Position.

10.4 EXTERNAL ENDOWMENT

Table 11: External Endowment Summary

(\$ thousands)

	2021/22 Budget	2021/22 Projection	2020/21 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Other revenues	2,637	2,637	-	2,559	4,000	4,000
Investment income (loss)	26,995	26,883	(112)	32,973	33,488	34,049
Total revenues	29,632	29,520	(112)	35,532	37,488	38,049
Expenses						
All other expenses	4,820	4,822	(2)	4,741	6,681	8,252
Transfers to (from) other funds	19,985	20,293	(308)	21,593	20,799	20,300
Total expenses	24,805	25,115	(310)	26,334	27,480	28,552
Excess of revenues over expenses	4,827	4,405	(422)	9,198	10,008	9,497
Fund balance, beginning of year	482,060	584,403	102,344	588,808	598,006	608,014
Fund balance, end of year	486,886	588,808	101,922	598,006	608,014	617,511

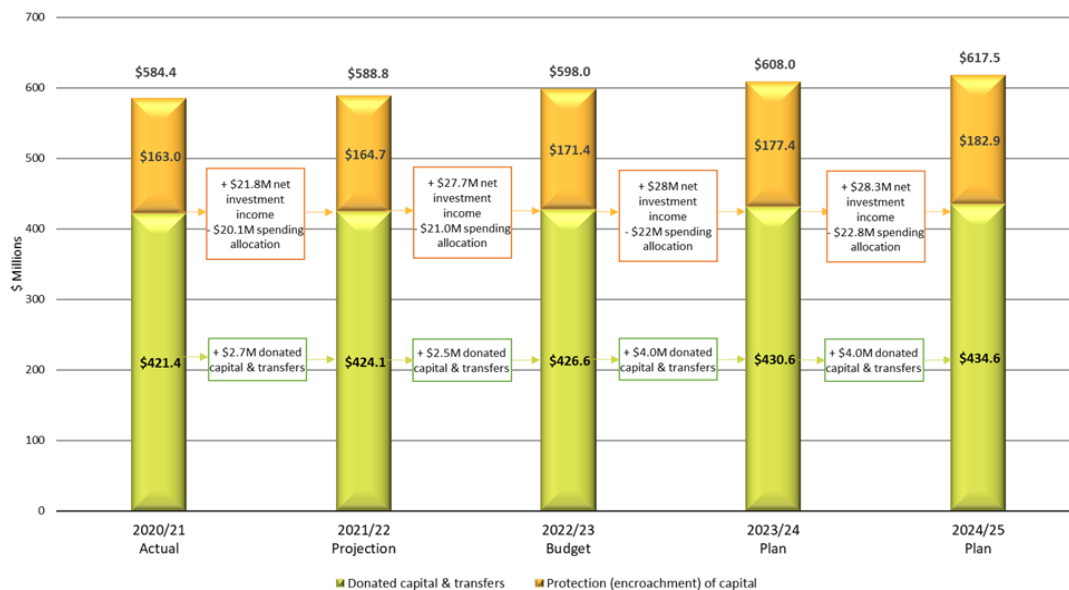
Budget by Fund

The external endowment holds donations or bequests received by the University with restricted use conditions or legal requirements agreed by the donor and the University. Endowed donations are invested in the long-term investment pool to preserve purchasing power in perpetuity.

The projected long-term rate of return on endowed trust funds net of investment management fees is 5.6%, however in 2021/22 projected returns have been adjusted to 4.6% due to post-COVID and other market impacts. Investment income in 2020/21 was extraordinary (net 26.1%) resulting in a considerably more favourable fund balance at the beginning of 2021/22.

Annual spending allocations are monitored to ensure endowment capital preservation. The University's spending policy limits the amount of investment income allocated for spending across each holding and administration⁷. Excess interest earnings, above spending limits, are allocated to holdings capital value to protect endowment spending from future inflationary impacts.

Figure 16: External Endowment Fund Balance Trend



At April 30, 2021, the University's external endowment was \$584.4 million. Applying budgeted and planning year returns project growth in excess of spending. Underwater trusts occur where original donated values are less than current holding values, underwater holdings occur from time to time due to market fluctuations, timing of donations, and duration of holdings.

⁷ The current spending limit is 5% (4% for spending and 1% for University Advancement).

10.5 INTERNAL ENDOWMENT

Table 12: Internal Endowment Summary

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2020/21 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Other revenues	100	100	-	100	100	100
Investment income (loss)	8,007	7,904	(103)	9,685	9,835	9,978
Investment income transfer	(5,631)	(6,022)	(391)	(6,258)	(6,497)	(6,719)
Total revenues	2,476	1,982	(494)	3,527	3,437	3,359
Expenses						
All other expenses	160	-	160	-	-	-
Transfers to (from) other funds	715	859	(144)	865	878	891
Total expenses	875	859	16	865	878	891
Excess of revenues over expenses	1,601	1,123	(478)	2,662	2,559	2,468
Fund balance, beginning of year	142,970	171,831	28,861	172,954	175,616	178,175
Fund balance, end of year	144,571	172,954	28,383	175,616	178,175	180,643

The internal endowment includes unrestricted donations, bequests and other allocations set aside for future obligations and restricted by the Board of Governors. The funds are invested in the University's long-term investment pool with the same annual returns profile as the external endowment. The largest internal endowment is the Dr. H. L. Hooker Endowment donated to advance the University's mission. Of the \$9.5 million allocated annually to the operating fund, \$6.3 million comes from the Dr. Hooker gift.

10.6 ANCILLARY FUND

Table 13: Ancillary Fund Summary

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2020/21 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Ancillary sales and services	78,182	66,146	(12,036)	91,869	105,726	135,285
Total revenues	78,182	66,146	(12,036)	91,869	105,726	135,285
Expenses						
Salaries, wages and benefits	30,494	27,080	3,414	34,223	36,478	42,343
All other expenses	30,637	26,030	4,607	37,003	43,748	62,786
Transfers to (from) other funds*	7,968	9,768	(1,800)	10,496	13,794	14,676
Debt and financing charges	6,347	6,347	(0)	6,815	6,802	8,146
Total expenses	75,446	69,225	6,221	88,537	100,822	127,951
Excess of revenues over expenses	2,736	(3,079)	(5,816)	3,332	4,904	7,334
Fund balance, beginning of year	(8,245)	(4,677)	3,567	(7,757)	(4,425)	479
Fund balance, end of year	(5,508)	(7,757)	(2,248)	(4,425)	479	7,814

*Including transfers to capital

Budget by Fund

Ancillary operations provide essential academic and student support services across the University. Ancillaries enhance the student experience and contribute 4.5% of sales to advance student support services and the University Fund.

Pandemic campus closures had the most significant impact on ancillaries except for adult continuing education. The 2021/22 original budget assumed a full campus re-opening early in the fiscal year, however continued restrictions limited resumption of services with impacts incorporated into the updated projection. Ancillary projected deficits for 2021/22 approximate \$3.1 million for total cumulative deficits of \$7.7 million. Extraordinary essential service extension steps and cost containment strategies minimized net losses driven by the pandemic with most ancillaries able to repay deficits within four or less years. The 2022/23 budget and planning years assume resumption of full campus activities. Projections by ancillary unit are available in Appendix 4.

10.6.1 CAMPUS STORE

In person learning continues to evolve as new tools for teaching and assessments are introduced. Materials selected to facilitate learning are available in a variety of formats, each supporting a different learning style. The Campus Store works with faculty to provide students with course material options to optimize student learning capabilities. With an ability to deliver dynamic digital content in addition to traditional textbooks and material supplies including both paid and free content the Campus Store supports faculty members content needs.

While dynamic content and eBook sales grow, print materials continue to decline. Course materials revenues no longer offset support expenses, nor does general reference materials, alumni and faculty publications, and general reading materials cover costs, these services are provided by offsetting losses through the sale of crested merchandise.

In 2022/23 the Campus Store is focused on outreach and community engagement, working with community partners to achieve strategic objectives while exploring new business opportunities.

10.6.2 McMASTER CONTINUING EDUCATION (MCE)

MCE delivers career-focused education to adult learners, supports corporate training mandates, and promotes partnerships within the community. Adult learners new to Canada comprise approximately 20% of MCE's enrolment. In 2021/22 learners and graduates reflect participation across 16 countries. MCE also serves undergraduates who blend degree work with career-focused learning.

Experiential learning opportunities exist in a wide cross-section of MCE courses and involve partnerships with medium and large national corporations. MCE is actively increasing the career development services and enhancing the partnerships with the City of Hamilton and Chamber of Commerce.

Budget challenges are associated with staff inflation and other costs related to the design, delivery, and marketing. Enrolment trends in 2021/22 have affected by the competitive and crowded marketplace. In 2022/23 budgeted initiatives include two large systems projects: completion of a new website and implementation of a new student administration and registration system. While these initiatives are included in the budget, they involve substantive financial, time, and human resources investments.

10.6.3 HOSPITALITY SERVICES (HS)

HS delivers a critical sustainability and operational excellence support role aligned with enhancing the student experience. HS focus on efficiency, flexibility and adaptability allows contribution to McMaster's mission, vision and strategy while results directly support the operating fund. HS three-year strategic plan focuses on sustainability, diversity, equity, access, Indigenous and international menu options, food transparency, social media outreach, mobile options, and financial stability.

Budget challenges associated with the pandemic have led to labour shortages, supplier cost inflation, supply chain disruptions, a decline in consumer spending habits, and delays in capital initiatives, such as the Main Street Residence. In 2022/23 initiatives include strategies covering: compensation, recruitment, retention, purchasing and inventory, and meal-plan pricing reviews.

10.6.4 HOUSING AND CONFERENCE SERVICES (HCS)

HCS directly supports the University's overriding vision and educating for capability. HCS provides a distinctive living and learning experience for 4,100 students focused on key educational priorities including community development, personal growth and wellness, academic excellence, and inclusion. The residence experience is a critical success factor supporting student retention between Year 1 and Year 2, aligned with SMA metrics. Capital expansion plans, including a 550 bed graduate residence in 2023/24 and a 1,440 bed undergraduate residence in 2024/25.

Future residence occupancy levels are less certain than pre-COVID, with the risk of new variants and waning vaccinations. Residence demand risk presents a significant budget challenge. HCS contained operational deficits in 2020/21 by redirecting \$13.6M in savings from the Bates Residence Re-development Project. In 2022/23 plans focus on re-establishing 98% occupancy rates, while mitigating COVID risks and other cost pressures.

10.6.5 MEDIA PRODUCTION SERVICES (MPS)

MPS provides web development and delivery, graphic design, signage, printing and other creative services to support McMaster's community. Customer satisfaction results (currently 96%) are high and external awards for web, digital content, and print have been received provincially, nationally and internationally. In 2022/23 investments focus on resources, technologies, equipment, and in-house capacity to support University service demands.

McMaster's branding and accessible MacSites web solution has delivered over 100 University sites with the most recent large initiative supporting the FHS web strategy. Other traditional revenue streams such as fleet, exams production, and marking were impacted by the pandemic and campus closures. In 2022/23 normal operations resumption is budgeted along with initiatives to deliver on MPS 5-year supporting strategic plan.

10.6.6 PARKING SERVICES (PS)

PS continues to invest in physical spaces aligned with the capital plan while maintaining existing parking infrastructure. PS will be new parking demands when the graduate student residence opens downtown in 2023/24. PS supports student parking demand and student employment opportunities, where possible.

In 2021/22 outstanding parking loans were consolidated and refinanced after incurring operating losses associated with the pandemic. Gradual returns to campus began in September 2021 allowing some revenues, however lower than budget. Loan payments along with constrained revenues leave minimal funds available for maintenance and new capital projects. Further, other construction on campus impacts parking for construction staging. Although the loss of space due to construction is temporary, multiple projects taking place simultaneously create significant logistical challenges.

In 2022/23 PS will focus on a refreshed parking strategy to address capacity needs and giving consideration to improving parking access for visitors and special event guests.

10.7 SPECIFICALLY EXTERNALLY FUNDED

Table 14: Specifically Externally Funded Summary

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2020/21 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Other revenues	31,980	34,497	2,518	33,610	32,612	32,406
Total revenues	31,980	34,497	2,518	33,610	32,612	32,406
Expenses						
Salaries, wages and benefits	22,730	24,375	(1,645)	24,349	24,104	24,237
All other expenses	9,822	10,422	601	8,995	9,645	9,381
Transfers to (from) other funds	(179)	(177)	(3)	(137)	(141)	(143)
Total expenses	32,372	34,621	(2,249)	33,207	33,608	33,475
Excess of revenues over expenses	(393)	(124)	269	403	(996)	(1,069)
Fund balance, beginning of year	6,557	6,387	(170)	6,263	6,666	5,671
Fund balance, end of year	6,164	6,263	99	6,666	5,671	4,601

Externally restricted funds other than research, trust or capital, are tracked in a separate fund. Programs managed in this fund involve external sponsors such as the Ministry of Health and Long-Term Care and the Ontario Online Initiative, and meet the following criteria:

- The funding is provided by an external entity
- There is an agreement with the sponsor to spend the funding for a specified purpose on specified items
- Unspent funding must be returned to the sponsor

Departments are responsible for administering this funding, ensuring that it is used for the intended purpose and not overdrawn. Specifically externally funded programs are included within budget submissions to Budget Committee.

10.8 INTERNAL RESERVES

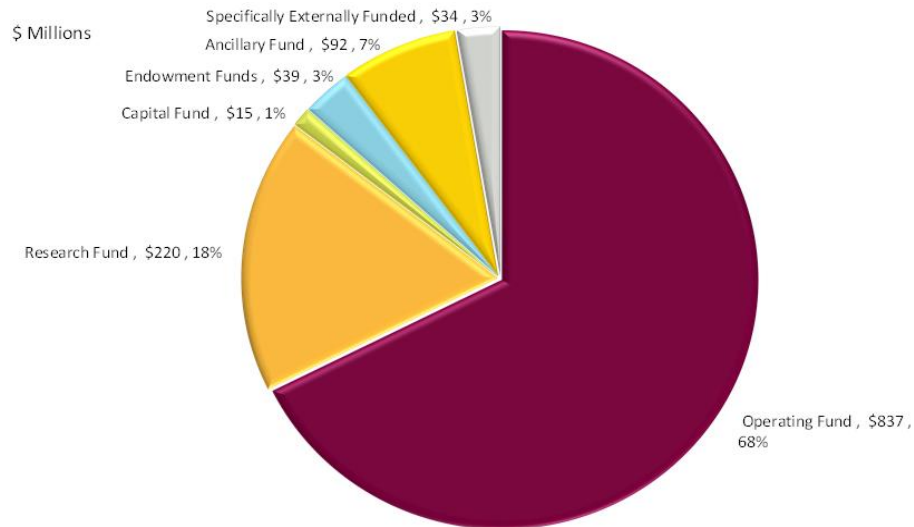
Internal reserve strategies are used to settle future obligations associated with current faculty, staff or other activities. The balance in 2021/22 is projected to be \$706.1 million, significantly higher than the original budget of \$201.1 million due to extraordinary investment income (26.1%) and slower capital spending due to COVID delays. In 2022/23 internal reserves are projected to decline to \$658.4 million in 2022/23 as capital reserves are utilized as capital spending returns to post-pandemic levels.

Internal reserves include two categories of funding. First, operating and ancillary fund reserves are balances carried forward into future years. Faculties and departments are required to develop structurally balanced budgets each year and additionally are expected to save reserves for new capital investments or renovations or other large strategic initiatives. Combined operating and ancillary reserves are projected to be \$164.2 million in 2021/22, falling to \$146.5 million in 2022/23, with increases in the Ancillary Fund as a result of returning to normal activities offset by the planned use of reserves for strategic projects. Ancillary appropriations are expected to return to a surplus in 2023/24 as operations recover from COVID-19 losses, while operating fund appropriations are drawn down to \$128.3 million at the end of 2024/25 by one-time expenditures for strategic initiatives.

The second category of reserves relate to funding obligation settlement needs. The settlement-related balances appear as part of internal reserves on the University’s Statement of Financial Position and could be misinterpreted as funding available for other uses. Redeploying obligation settlement reserves would pass current liabilities onto future University generations as well as impair financial health metrics and credit ratings. Each reserve balance and purpose is disclosed the Annual Financial Report note 11. All internal reserves are monitored annually for sufficiency of the reserve compared to the future liability or third-party projected obligation.

11 CONSOLIDATED RESULTS

Figure 17: Consolidated 2022/23 Budget Revenue by Fund



As outlined in Section 8.3 Budget Design, the budget process results in a revenue and expense budget for each fund. The Annual Financial Report includes the audited financial statements that are prepared on a full accrual basis using the deferral method of accounting for revenue (see Appendix 6 Significant Accounting Policies for more details). Under this method, all funds are consolidated into a single column for the Statement of Operations, Statement of Financial Position and the Statement of Cash Flows. In order to complete the Consolidated Budget document on the same basis as the Annual Financial Report accounting adjustments are made to each fund.

Table 15: Reconciliation of Operating Fund Budget to Accrual-Based Budget

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Excess (deficiency) of Operating Fund revenues over expenses	(4,822)	(26,441)	(21,619)	(4,685)	(14,966)	(6,956)
Capital expenditures net of amortization	79,538	75,435	(4,103)	151,585	72,598	123,736
Investment income (loss) on internal endowments	1,600	1,123	(477)	2,662	2,559	2,468
Pension and non-pension adjustments	13,714	3,921	(9,793)	3,038	4,161	5,360
Changes in other reserves	(11,191)	54,095	65,286	(31,313)	65,222	20,028
Total accrual adjustment	83,661	134,574	50,913	125,972	144,541	151,592
Excess (deficiency) of revenues over expenses	78,839	108,133	29,294	121,286	129,575	144,636

Table 15 shows the summary adjustments required to reconcile the Operating Fund's net income from the fund and cash accounting basis to the full accrual basis for all funds, the adjustments include:

- Capital expenditures treated as immediate cash basis expenses are added back and only the net amortization expense is deducted, reflecting the useful life of the capital asset over time.

- Investment income earned or (lost) on internal endowments, net of funds not already transferred to the Operating Fund, are added back or (subtracted).
- Actuarial adjustments (excluding re-measurements) for pension and non-pension costs are recorded.
- Reclassifications to offset internal transactions between departments affecting revenues and expenditures are recorded.

The large favourable variance in other reserves in 2021/22 reflects the higher opening balance carried forward from 2020/21 due to significant investment returns and improved international enrolment, as well as the higher projected surplus in 2021/22.

11.1 STATEMENT OF OPERATIONS

Table 16: Consolidated Statement of Operations (Accrual Basis)

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Revenues						
Operating grants	278,248	274,102	(4,146)	274,106	274,086	274,071
Research grants and contracts	178,971	178,340	(631)	180,123	181,925	183,744
Tuition fees	432,852	447,469	14,616	465,728	501,210	543,698
Ancillary sales and services	78,182	78,182	-	93,845	105,206	107,590
Other revenues	202,647	187,367	(15,280)	189,240	192,133	194,044
Investment income (net)	66,716	65,991	(725)	83,666	85,608	89,021
Amortization of deferred capital contributions	38,719	41,811	3,092	40,389	39,433	48,714
Total revenues	1,276,335	1,273,261	(3,074)	1,327,096	1,379,600	1,440,883
Expenses						
Salaries and wages	594,709	597,625	(2,915)	621,530	646,391	672,246
Employee benefits	144,953	145,665	(712)	148,578	151,550	154,581
Supplies and services	359,812	315,589	44,223	321,347	328,938	335,383
Interest on long-term debt	15,358	15,638	(280)	18,129	18,082	18,034
Amortization of capital assets	82,664	90,612	(7,947)	96,226	105,064	116,001
Total expenses	1,197,496	1,165,128	32,368	1,205,810	1,250,025	1,296,246
Excess of revenues over expenses	78,839	108,133	29,294	121,286	129,575	144,636

McMaster's objective is to achieve a 10% excess of revenues over expenses to generate sufficient internal reserves to cover future obligations. The Statement of Operations reflects a full return to pre-pandemic operations in 2022/23. Assumptions included in consolidated results are as follows:

- Operating grants are expected to be held flat without performance funding reductions in 2023/24.
- Research revenues are recognized as expenses are incurred with plans based on historical trends.
- Tuition revenue from domestic students will decline. Domestic enrolment will decline to the funding cap while in-province tuition rates remain frozen.
- International enrolment will offset domestic enrolment reductions, which will increase tuition.
- Total enrolment will not decline ensuring debt of \$12,000 per student FTE is not exceeded.
- Ancillary sales impacted by pandemic closures will resume as normal.

- Investment income has been conservatively budgeted at 4.6% for 2021/22 and 5.6% in 2022/23 and future years. McMaster continues to plan for reasonable returns while implementing net zero carbon emission strategies aimed at decarbonizing investment holdings aligned with the United Nations supported framework of Principles for Responsible Investment and increasing clean technology investments to accelerate clean energy transition.
- Salaries and wages increase with negotiated settlements and step increases, as well as targeted FTE growth in Faculties associated with enrolment growth.
- Employee benefits are based on known statutory expenses and additional estimates of pension and non-pension benefits.

Supplies and services include extraordinary expenses related to the pandemic, offset by savings from working remotely. Cost inflation impacts associated with growing enrolment and return to campus will be mitigated by growing savings from the Mac Buy project, sustainable procurement initiatives, and operational efficiencies. The budget includes a contingency of approximately 1.0% of total expenses to cover likely spending that may be strategically apportioned to new targeted positions or specific projects.

11.2 STATEMENT OF FINANCIAL POSITION

Table 17: Consolidated Statement of Financial Position

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Assets						
Cash	18,317	17,660	(657)	18,294	18,906	19,480
Short-term investments	206,953	201,404	(5,548)	209,039	216,991	224,917
Investments	1,411,559	1,856,013	444,454	1,819,613	1,856,883	1,856,851
Capital assets	1,352,221	1,306,842	(45,379)	1,471,896	1,690,172	1,956,814
Other assets	252,950	223,146	(29,803)	227,609	232,161	236,805
Total assets	3,241,998	3,605,065	363,067	3,746,452	4,015,113	4,294,866
Liabilities and deferred contributions						
Current liabilities	179,911	200,242	20,331	204,259	208,356	212,536
Deferred contributions for future expenses	871,512	906,059	34,547	899,024	1,009,971	1,116,792
Long-term debt	417,691	416,739	(953)	416,769	416,808	416,858
Employee future benefits and pension	466,563	173,327	(293,237)	176,793	180,329	183,936
Total liabilities and deferred contributions	1,935,678	1,696,366	(239,312)	1,696,844	1,815,464	1,930,122
Net assets						
Unrestricted	-	-	-	-	-	-
Internally restricted reserves	201,052	706,122	505,070	658,424	683,611	671,651
Equity in capital assets	466,441	440,815	(25,626)	617,561	729,848	894,939
Endowments						
Internal	144,571	172,954	28,383	175,616	178,175	180,643
External	494,256	588,808	94,552	598,006	608,014	617,511
Total net assets	1,306,320	1,908,699	602,379	2,049,608	2,199,649	2,364,744
Total liabilities and net assets	3,241,998	3,605,065	363,067	3,746,452	4,015,113	4,294,866

The Statement of Financial Position is the University's consolidated balance sheet.

Cash and short-term investments reflect funds held for current spending. The investments line includes medium-term funds in longer durations approximating 36 to 48 months, as well as long-term

investments placed in the unitized investment pool. Long-term investments hold both external and internal endowment funds, as well as a component of funds not needed in the short or medium term.

Capital assets reflect infrastructure additions that meet the capitalization accounting policy (described further in Appendix 6). Other assets include grants and other accounts receivable, prepaid expenses, inventories and investments in McMaster Innovation Park, Halton McMaster Family Health Centre, and public-private partnership investments.

Deferred contributions for future expenses reflect funding received for specific purposes, primarily research and capital, that has not yet been expended or met the test to expense. This funding is reduced when the related expense occurs, resulting in offsetting revenue or neutral impact to the Statement of Operations. The long-term debt obligation relates primarily to bonds raised in 2002, 2015 and 2021 for capital investments, with additional debt of \$150 million issued in 2021/22 as planned (see Section 12 Overall Borrowing and Debt Position). All bond obligations have an internally restricted sinking fund reserve to settle the future \$390 million in balloon payments. Long-term debt includes the liability for decommissioning the nuclear reactor as determined by the Canadian Nuclear Safety Commission. An offsetting internally restricted reserve has been created to fund this obligation when it becomes due. The liability for employee future benefits and pension is determined by the University's third-party actuary for each plan the University has with its faculty and staff. For costs associated with the variable pension expenses and future post-retirement benefits, internally restricted reserves are used.

Finally, net assets are made up of internally restricted reserves, equity in capital assets, and internal and external endowments. Details of internally restricted reserves and the two endowments are provided in sections 10.8, 10.4 and 10.5 respectively. Equity in capital assets reflects accrual-basis adjustments that increase with new University-funded capital investments, and decrease with amortization over the assets' useful life.

11.3 STATEMENT OF CASH FLOWS

Table 18: Consolidated Statement of Cash Flows

(\$ thousands)						
	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Excess of revenues over expenses	78,839	108,133	29,294	121,286	129,575	144,636
Adjustments for non-cash items:						
Amortization of deferred capital contributions	(38,719)	(41,811)	(3,092)	(40,389)	(39,433)	(48,714)
Amortization of capital assets	82,664	90,612	7,947	96,226	105,064	116,001
Employee future benefits	(15,089)	(9,535)	5,554	10,324	10,358	10,863
Change in decommissioning obligation	1,193	724	(469)	758	795	833
Net change in deferred contributions	42,763	20,643	(22,120)	36,347	153,435	158,651
Financing and investing activities:						
Purchase of capital assets	(199,487)	(165,977)	33,509	(261,281)	(323,340)	(382,643)
Net change in investments	(106,273)	(158,283)	(52,010)	28,765	(45,222)	(7,893)
Net change in external endowments	5,879	4,505	(1,374)	9,298	10,108	9,596
Issuance of long-term debt	150,000	150,000	-	-	-	-
Principal repayments on long-term obligations	(678)	(756)	(78)	(703)	(728)	(755)
Increase/(decrease) in cash	1,093	(1,746)	(2,839)	634	612	575
Cash, beginning of year	17,224	19,406	2,182	17,660	18,294	18,906
Cash, end of year	18,317	17,660	(657)	18,294	18,906	19,481

Consolidated Results

11.4 DEBT MANAGEMENT RATIOS

Table 19: Debt Management Ratios

	2021/22 Budget	2021/22 Projection	2021/22 Variance	2022/23 Budget	2023/24 Plan	2024/25 Plan
Debt Management Policy Ratios						
Expendable Net Assets to Debt (Target > 1.0x)	1.6	2.1	0.5	2.0	2.0	2.0
Interest Burden (Target < 4.0%)	1.4%	1.4%	0.0%	1.6%	1.6%	1.5%
Debt per FTE (Target < \$12,000)	\$11,999	\$11,957	\$42	\$11,982	\$11,999	\$11,999
Debt Management Monitoring Ratios						
Net Income/(Loss) Ratio (McMaster Target > 1.0%)	6.1%	8.4%	2.3%	9.0%	9.3%	9.9%
Net Operating Revenues (McMaster Target > 2.0%) ¹	10.0%	12.0%	2.0%	14.0%	15.0%	15.0%
Primary Reserves Ratio (McMaster Target > 91 days) ²	204	274	69	252	248	234
Viability Ratio (McMaster Target > 1.0) ³	1.6	2.1	0.5	2.0	2.1	2.0

¹ Measures cash flow from operating activities as a proportion of revenues

² Measures the number of days University reserves can cover operating expenses

³ Measures the proportion of long-term debt that could be settled using unrestricted assets

Since capital projects require a combination of financing sources, debt is considered a perpetual component of the University's capital structure. The University has established guidelines regarding the optimal amount of outstanding debt using the above ratios, which measure balance sheet resources and annual cash flow. These ratios are consistent with those monitored by the University's credit rating agencies and are subject to review periodically. All ratios over the planning horizon are within acceptable ranges.

11.5 RISKS TO THE 2022/23 BUDGET

The risks that existed prior to the pandemic generally remain. Maintaining McMaster's status as a global education leader and destination of choice for international students, as well as achieving diversified international enrolment targets remain important goals. Diversity of international enrolment will be important to minimize geopolitical risk. Enrolment growth will eventually be limited by capacity, forcing a greater focus on the delivery of new revenues and operational process efficiencies. Although the University continues to invest in capital expansion projects, post-pandemic there may be some facets of the courses that remain virtual to their benefit. These changes will present further risks.

When funding is linked to SMA metrics in 2023/24 there is risk that McMaster's funding might decline, nine metrics are set by MCU and one selected by McMaster. The tuition framework has been frozen for 2022/23 and there is no indication of tuition increases in 2023/24 and beyond. If domestic tuition rates continue to be held frozen the University will not have sufficient inflationary funding related to domestic higher education delivery.

Risk of market volatility and capital losses could continue to impact annual commitments to operations, including funding for Chairs, scholarships and bursaries. This risk is managed by diversification and experienced oversight, as well as maintenance of an internally restricted specific purpose reserve established more formally following the 2008 financial crisis to cover annual spending commitments that might otherwise be hindered in a prolonged market loss situation. In addition to market losses, a decline in interest rates would affect pension plan liabilities and increase the amount of required payments. Projections and scenario modeling are used to monitor this risk and develop funding strategies using internally restricted benefit reserves to potentially supplement payment

schedules, resulting in a process of smoothed benefit rate budgeting for Faculties and departments and enabling greater stability.

Additional systemic or uncontrollable risks include ensuring sufficiency of funding for investments in infrastructure and strategic priorities. Significant investments linked to the five priority areas will be required to deliver the **Global Nexus** initiative and progress on key issues affecting health and society. Climate change and resiliency measures will require capital investments to increase McMaster's alignment with the UN Sustainable Development Goals, as well as potentially affecting the cost of utilities, future capital projects, other infrastructure and staff related costs associated with climate resilience.

Further, the University has partnered with the private sector to minimize the debt held directly by the University while still delivering on key capital projects of strategic importance to the University's mission. Risk of bankruptcy of public-private partners involves mitigation strategies including extensive due diligence initiatives, strategic negotiations allowing remedy within a defined period and the University's right to buy out the partnership or replace the partner failing reasonable remedy.

12 OVERALL BORROWING AND DEBT POSITION

Strategic initiatives and capital projects for both infrastructure and technology require a combination of financing solutions, including internal loans from the central bank, commitments against future revenue streams, gifts, external and off-book financing.

External financing is used to fund the central bank and is considered a perpetual component of the University's capital structure. The University examines optimal debt positions for strategic and capital needs against established debt management guidelines and financial health metrics annually, results of which are outlined in a debt strategy report along with multi-year financial projections. McMaster uses debt retirement funds (or sinking funds) for the bonds outstanding.

Additional debt of \$150 million was approved by the Board of Governors for issuance in 2021/22, locking in historically low interest rates for a long period and supporting the objective of achieving a lower weighted average cost of capital (WACC). Following the additional \$150 million debt issuance in 2021/22, McMaster has the following outstanding debentures:

- June 2021 - \$25 million green bond at 3.255% due June 2051
- October 2002 - \$120 million at 6.15% due October 2052
- November 2015 - \$120 million at 4.105% due November 2065
- June 2021 - \$125 million at 3.405% due June 2071

The 2021/22 debt replenished the McMaster Capital Reserve by \$135 million (net of a \$15 million sinking fund), expanding financial capacity for large high-priority projects supporting the President's strategic plan. The lower interest rate achieved on the new bonds has lowered the University's WACC from 5.75% to 4.75%.

The debt has been structured to create staggering maturities and allow current strategic initiatives to proceed, while maintaining strong financial health metrics and our AA (stable) credit rating with DBRS and S&P. According to the credit rating agencies, the key capacity determinant for McMaster is debt of no more than \$12,000 per student FTE. The amount of the new debt was chosen to maximize financing flexibility while minimizing financing cost, resulting from the strong credit rating.

The Debt Management Policy identifies that financing should preferably go toward projects with internal loan repayment streams as a principle, and business cases should show an ability to repay the capital investment with interest at WACC over a reasonable repayment period. Internal loans associated with completed projects average a 30-year repayment schedule.

13 CONCLUSIONS ON THE 2022/23 BUDGET

McMaster's projected consolidated results for 2021/22 are structurally balanced with net surplus across all funds of \$108.1 million after capital and other accrual basis adjustments. The consolidated budget for 2022/23 is also in a surplus position on an accrual basis of \$137.3 million after capital and other adjustments totaling \$142.3 million.

The 2021/22 operating fund has an ongoing projected surplus \$43.6 million, after strategic and capital one-time priority investments the net loss is projected as \$26.4 million. For 2022/23 the operating results have a structural surplus of \$40.2 million and a net loss after one-time strategic investments of \$4.7 million.

The consolidated and operating fund results are consistent with McMaster's prudent financial management approach instilled by the budget model driving fiscal accountabilities to budget envelope managers, requiring each area to be structurally balanced while also funding local strategic and capital priorities to advance the University's strategic priorities. The transparent budget model has served the University well as provincial funding limitations ensue, as addressing the pandemic has created an even greater constraint across our jurisdiction.

Over the budget and planning years all areas across the University will continue to work collaboratively to advance McMaster's greatest strategic priority the **Global Nexus for Pandemics and Biological Threats** at McMaster's Innovation Park (MIP). McMaster will also progress MIP's major supercluster development initiative providing an additional 2.8 million square feet of new and renovated life sciences and biomanufacturing space. Major initiatives will be mindful of strategic progress in relation to the sustainability of McMaster's strong financial credit rating of AA (Stable). Other capital plans are budgeted to resume pre-COVID activity levels with several Faculty driven initiatives moving forward through stages of planning, business case development and governance approval.

Ancillary funds within the consolidated results are projected to have a \$3.4 million loss in 2021/22 resulting in cumulative losses of \$7.8 million arising over the pandemic period. All ancillary units have budgeted for resumption of normal pre-COVID activities in 2022/23 with a net budget surplus of \$3.3 million, reducing the net deficit to \$4.4 million. Ancillaries, taken together, over the planning years 2023/24 and 2024/25 will fully address the remainder of the cumulative deficit.

All other funds have sound financial plans to advance McMaster's strategic priorities, including a strong focus on the United Nations Sustainable Development Goals.

APPENDIX 1– OPERATING FUND PROJECTION VS. BUDGET

Table 20: Operating Fund 2021/22 Projection vs. Budget

(\$ thousands)	Operating Fund		2020/21 Variance	
	2021/22 Budget	2021/22 Projection	Favourable/ (Unfavourable)	
Sources of Funding:				
Provincial Grants	236,158	239,843	3,685	1.6%
Tuition	418,215	423,000	4,785	1.1%
Research Overhead Income	28,459	26,014	(2,445)	-8.6%
Investment Income	9,467	9,467	-	0.0%
Other income	107,132	107,848	715	0.7%
Total sources of funding	799,431	806,172	6,741	0.8%
Expenditure:				
Salaries, wages and benefits	531,369	544,269	(12,899)	-2.4%
Utilities and maintenance	45,066	43,543	1,523	3.4%
Equipment and renovations	68,157	102,299	(34,142)	-50.1%
Scholarships, bursaries and work study	31,619	33,199	(1,580)	-5.0%
Library acquisitions	15,193	14,306	887	5.8%
Debt and financing charges	26,401	22,763	3,637	13.8%
All other expenses	86,447	72,234	14,213	16.4%
Total expenditures	804,253	832,613	(28,360)	-3.5%
Total surplus (deficit)	(4,822)	(26,441)	(21,619)	-448.4%
Fund balances, beginning of year	159,197	198,752	39,555	24.8%
Fund balances, end of year	154,375	172,311	17,936	11.6%

The Operating Fund is projected to end 2021/22 in a more favourable position than the original budget due to favourable fund balances at the end of 2020/21 carrying over.

Provincial grants are favourable by \$3.7 million (1.6%) mainly due to Research Overhead Infrastructure Envelope funding now being reported as part of Provincial operating grants with the Ministry for Colleges and Universities (MCU)'s move to performance-based funding, and an additional clinical nursing grant.

Tuition is favourable by \$4.8 million (1.1%) predominantly due to increases in international graduate enrolment for Engineering and international undergraduate enrolment for Business. Domestic tuition rates for Ontario students remain frozen following the 10% reduction in 2019/20, with a 3% rate increase allowed for out-of-province students.

Research overhead income is unfavourable by \$2.4 million (-8.6%) as a result of the Research Overhead Infrastructure envelope funding now being reported as part of Provincial operating grants with the MCU's move to performance-based funding. This is partially offset by marginal increases in the federal Research Support funding, contract overhead revenues, and royalties.

Other income is in line with budget.

Salaries, wages and benefits are unfavourable by \$12.9 million (-2.4%) predominantly due to staff increases in full-time and part-time support staff.

Utilities and maintenance are favourable by \$1.5 million (3.4%) due to rates adjustments from moving from Class B consumer to Class A consumer resulting in Global Adjustment savings, as well as reduced consumption from the limited re-opening of campus.

Equipment and renovations are unfavourable by \$34.2 million (-50.1%) driving the unfavourable variance are large increases for capital transfers for the McLean Centre project, Engineering building, and Faculty of Science buildings. These are considered to be one-time transfers that may repeat and are made by choice.

Scholarships, bursaries and work-study expenditures are unfavourable by \$1.6 million (-5.0%) due to entrance award overages with an increased percentage of undergraduates presenting higher final admission averages.

Library acquisitions are favourable by \$0.9 million (5.8%) related to the exchange rate movement. Due to the high volume of library acquisitions in US dollars there are exchange rate fluctuation mitigation measures, with the offsetting amount showing up in other expenses and covered by the General University expense envelope.

All other expenses are favourable by \$14.2 million (14.5%) primarily due to lower than budget expenses related to the limited reopening of campus and remote working including office expenses, travel, meeting expenses, research support costs, and lower than expected contingency spending on priorities in other expenses, especially University Fund spending crystalizing in other spending categories. This was partially offset by lower internal recoveries, increased externally contracted services and COVID-19 related expenses.

The resulting \$21.6 million unfavourable in-year deficit variance is more than offset by the \$39.6 million favourable opening appropriations variance, resulting in a projected closing balance in the Operating Fund \$17.9 million (11.6%) greater than the original budget. These appropriations will be carried forward for expenditure in 2022/23 and future years and will help to mitigate the continuing challenges associated with COVID-19, the recovery from the pandemic, and planned investments in capital.

APPENDIX 2 – BUDGET MODEL CALCULATIONS

McMaster University - New Budget Model - Faculties			University Fund		Prof. Faculties		Other Faculties		VP Research Discretionary Fund					10.00%	
Projected Budget Allocation			Research Infrastructure Fund		8.00%		8.00%								
2021-22					3.00%		1.00%								
	Budgets prior to double stepdown allocation	Net double stepdown allocation	Business	Engineering	Health Sciences	Humanities	Science	Med Rad - Mohawk	Social Sciences	Arts & Science	Other (reconciling items)	University Fund	Research Infrastructure Fund	Total (after double stepdown to support unit allocations)	
Revenue															
Undergraduate Tuition			70,708	115,058	33,464	19,963	86,946	2,181	47,901	1,844	-			377,160	
UG Tuition Adjustment for tuition fee framework			(114)	(643)	176	118	290		166	7				-	
Total UG SAG Obligation			(683)	(2,505)	(11)	(4)	(23)	-	(10)	-	3,236			-	
Total Entrance Award Overage				(980)	(9)	(19)	(803)	-	(146)	-	1,956			-	
Graduate Tuition			21,144	12,627	12,354	2,537	4,454	-	2,596	-	-			55,712	
Operating Grant			18,399	43,963	84,281	13,621	49,852	1,551	22,675	1,676	-	240	-	236,259	
Other Income			1,278	2,489	4,231	875	2,268	-	1,144	81	-	3,848	-	16,215	
Gross Revenue			110,728	170,009	134,486	36,192	142,984	3,732	74,327	3,607	5,192	4,088	-	685,346	
Undergraduate Cross Faculty Teaching Adjustment			(6,926)	(11,241)	437	9,835	5,033	-	3,361	(499)	-			(0)	
Revenue for Contributions			103,802	158,769	134,923	46,027	148,017	3,732	77,688	3,108	5,192	4,088	-	685,346	
Internal International Tax			(1,592)	(1,946)	(41)	(289)	(1,552)	-	(929)	-		6,350	-	-	
University Fund Contribution			(8,304)	(12,701)	(10,794)	(3,682)	(11,841)	-	(6,215)	(249)		53,787	-	-	
Research Infrastructure Fund Contribution			(3,114)	(4,763)	(1,349)	(460)	(1,480)	-	(777)	(93)			12,037	-	
Indirect Cost of Research (excluding Royalties)			374	3,251	12,531	498	4,102	-	795	-	33	-		23,584	
VP Research Discretionary (10 % of ICR above)			(37)	(525)	(1,253)	(30)	(410)	-	(79)	-	2,355	-		-	
Adjustments for ICR received by Journal (Contract & ERA)			(1)	(1,024)	(5,581)	(235)	(573)	-	(25)	-	-	-		(7,439)	
Adjustments for Current Practices			-	-	(4,672)	(218)	190	(189,974)	218	-	-	-		(4,672)	
Research Infrastructure Fund Distribution			191	2,684	6,404	255	2,096	-	406	-	-	-	(12,037)	-	
Research Excellence Fund (from UF)			67	469	1,118	89	366	-	142	-		(2,250)		-	
Revenue Prior to Shared Support Unit Allocations			91,385	146,212	131,286	41,935	138,915	3,542	71,233	2,766	7,580	61,974	-	696,818	
Shared Support Unit Allocations - via double stepdown															
Occupancy Cost	44,579	(14,680)	(855)	(7,730)	(8,683)	(2,203)	(8,712)	-	(1,642)	(75)	-	-	-	(29,899)	
Deferred Maintenance	11,593	(4,479)	(203)	(1,839)	(2,066)	(524)	(2,073)	-	(391)	(18)	-	-	-	(7,114)	
Insurance	1,542	(671)	(25)	(219)	(242)	(65)	(258)	-	(49)	(2)	-	-	-	(871)	
MIP Occupancy 1	3,235	(429)	-	(1,602)	(864)	(55)	(30)	-	(305)	-	-	-	-	(2,856)	
MIP Occupancy 2	209	-	-	(209)	-	-	-	-	-	-	-	-	-	(209)	
HR	7,411	(900)	(373)	(1,047)	(3,389)	(420)	(828)	-	(440)	(13)	-	-	-	(6,510)	
HR Employee Programs	2,055	(534)	(107)	(234)	(524)	(164)	(337)	-	(135)	(1)	-	-	-	(1,521)	
Financial Affairs/Admin/ Inst Support	7,630	(2,338)	(745)	(1,043)	(1,428)	(453)	(942)	-	(438)	(23)	-	-	-	(5,291)	
Supplementary Pension	4,738	(533)	(396)	(729)	(1,464)	(404)	(790)	-	(415)	(5)	-	-	-	(4,305)	
Pension Special	17,437	(4,533)	(905)	(1,982)	(4,447)	(1,369)	(2,856)	-	(1,316)	(9)	-	-	-	(12,904)	
Presidentia/Univ Sec	2,350	(813)	(201)	(281)	(439)	(122)	(254)	-	(134)	(6)	-	-	-	(1,427)	
General University Expense	7,322	(2,864)	(627)	(879)	(1,372)	(381)	(794)	-	(386)	(19)	-	-	-	(4,458)	
Bond Interest	14,510	(5,679)	(253)	(2,283)	(2,565)	(651)	(2,573)	-	(485)	(22)	-	-	-	(8,831)	
UTS/ Technology Fund	19,227	2,413	(2,798)	(4,363)	(4,371)	(1,492)	(5,588)	-	(2,858)	(170)	-	-	-	(21,640)	
UTS- ERP	4,517	(151)	(564)	(880)	(882)	(301)	(1,127)	-	(577)	(34)	-	-	-	(4,386)	
UA	6,550	1,568	(1,173)	(1,920)	(1,764)	(546)	(1,764)	-	(825)	(36)	-	-	-	(8,138)	
Office of the Provost	8,106	(2,881)	(735)	(1,030)	(1,607)	(447)	(930)	-	(432)	(23)	-	-	-	(5,225)	
Research Support	14,249	6,418	(213)	(4,104)	(12,481)	(471)	(2,350)	-	(1,048)	-	-	-	-	(20,667)	
Student Affairs	6,895	6,978	(1,922)	(2,879)	(2,018)	(969)	(3,818)	-	(1,949)	(119)	-	-	-	(13,673)	
MIETL	3,597	726	(596)	(893)	(710)	(300)	(1,184)	-	(604)	(37)	-	-	-	(4,323)	
Libraries	21,929	8,834	(4,052)	(6,128)	(6,016)	(2,117)	(8,059)	-	(4,144)	(247)	-	-	-	(30,763)	
HG Library	4,780	1,955	(887)	(1,342)	(1,317)	(463)	(1,764)	-	(907)	(54)	-	-	-	(6,735)	
Registrar	5,942	10,164	(2,133)	(3,236)	(2,296)	(1,132)	(4,755)	-	(2,395)	(159)	-	-	-	(16,106)	
SGS	2,508	438	(507)	(711)	(885)	(189)	(409)	-	(240)	-	-	-	-	(2,946)	
Museum of Art	644	536	(148)	(231)	(266)	(79)	(296)	-	(151)	(9)	-	-	-	(1,180)	
UG Scholarship	5,418	657	(843)	(1,377)	(465)	(447)	(1,934)	-	(946)	(63)	-	-	-	(6,075)	
UG Bursaries	3,834	-	(520)	(850)	(370)	(276)	(1,194)	-	(584)	(39)	-	-	-	(3,834)	
Grad Scholarship	13,828	611	(2,495)	(3,492)	(4,295)	(931)	(2,017)	-	(1,208)	-	-	-	-	(14,439)	
Branding and Marketing	3,022	176	(461)	(754)	(702)	(215)	(701)	-	(351)	(14)	-	-	-	(3,196)	
Adjustments for Current Practices - Support Units			-	-	-	-	-	-	-	-	(4,852)	-	-	(0)	
Total Shared Support Unit Allocations	249,406	0	(24,739)	(54,279)	(63,296)	(17,204)	(58,358)	-	(25,478)	(1,199)	(4,852)	-	-	(249,406)	
Net Revenue															
			66,645	91,933	67,989	24,731	80,557	3,542	45,745	1,567	2,728	61,974	-	447,412	
UF Supplement			-	-	-	1,500	-	-	-	-	-	(1,500)	-	-	
UF Supplement 2 - Grants top up			-	-	1,552	-	-	-	-	-	-	(1,552)	-	-	
Base Net Projected Budget 2021-22															
			66,645	91,933	69,542	26,231	80,557	3,542	45,745	1,567	2,728	58,922	-	447,412	

McMaster University - New Budget Model - Faculties			University Fund		Prof. Faculties		Other Faculties		VP Research Discretionary Fund				10.00%	
Projected Budget Allocation			Research Infrastructure Fund		8.00%		8.00%							
2022-23					3.00%		1.00%							
	Budgets prior to double stepdown allocation	Net double stepdown allocation	Business	Engineering	Health Sciences	Humanities	Science	Med Rad - Mohawk	Social Sciences	Arts & Science	Other (reconciling items)	University Fund	Research Infrastructure Fund	Total (after double stepdown to support unit allocations)
Revenue														
Undergraduate Tuition			72,961	120,405	33,637	19,649	93,672	2,252	49,590	1,781	-			393,968
UG Tuition Adjustment for tuition fee framework			(114)	(643)	176	118	290	-	166	7	-			-
Total UG SAG Obligation			(691)	(2,476)	(11)	(4)	(23)	-	(10)	-	3,215			-
Total Entrance Award Overage			-	-	-	-	-	-	-	-	-			-
Graduate Tuition			21,223	12,718	12,408	2,527	4,622	-	2,802	-	-			56,311
Operating Grant			18,346	43,935	84,337	13,346	50,215	1,546	22,840	1,678	-	(10)	-	236,232
Other Income			1,278	2,489	4,231	875	2,268	-	1,144	81	-	833	-	13,200
Gross Revenue			113,004	176,438	134,799	36,512	151,044	3,798	76,532	3,546	3,215	822	-	699,711
Undergraduate Cross Faculty Teaching Adjustment			(6,772)	(10,737)	583	9,907	4,352	-	3,180	(513)	-			0
Revenue for Contributions			106,232	165,701	135,382	46,418	155,397	3,798	79,712	3,033	3,215	822	-	699,711
Internal International Tax			(1,661)	(2,134)	(50)	(314)	(1,812)	-	(1,016)	-	-	6,987	-	-
University Fund Contribution			(8,499)	(13,256)	(10,831)	(3,713)	(12,432)	-	(6,377)	(243)	-	55,350	-	-
Research Infrastructure Fund Contribution			(3,187)	(4,971)	(1,354)	(464)	(1,554)	-	(797)	(91)	-	-	12,418	-
Indirect Cost of Research (excluding Royalties & CRC)			374	5,251	12,531	498	4,102	-	795	-	33	-	-	23,584
VP Research Discretionary (10 % of ICR above)			(37)	(525)	(1,253)	(50)	(410)	-	(79)	-	2,355	-	-	-
Adjustments for ICR received by Journal (Contract & ERA)			(1)	(1,024)	(5,581)	(235)	(573)	-	(25)	-	-	-	-	(7,439)
Adjustments for Current Practices			-	-	(4,606)	(218)	190	(190)	218	-	-	-	-	(4,606)
Research Infrastructure Fund Distribution			197	2,769	6,607	263	2,163	-	419	-	-	-	(12,418)	-
Research Excellence Fund (from UF)			67	469	1,118	89	366	-	142	-	-	(2,250)	-	-
Revenue Prior to Shared Support Unit Allocations			93,485	152,279	131,962	42,275	145,436	3,609	72,991	2,699	5,603	60,909	-	711,249
Shared Support Unit Allocations - via double stepdown														
Occupancy Cost	46,938	(15,402)	(902)	(8,193)	(9,159)	(2,323)	(9,189)	-	(1,731)	(79)	-	-	-	(31,536)
Deferred Maintenance	11,593	(4,459)	(204)	(1,844)	(2,072)	(526)	(2,079)	-	(392)	(18)	-	-	-	(7,134)
Insurance	1,542	(671)	(25)	(229)	(242)	(65)	(258)	-	(49)	(2)	-	-	-	(871)
MIP Occupancy 1	3,285	(429)	-	(1,602)	(864)	(55)	(30)	-	(305)	-	-	-	-	(2,856)
MIP Occupancy 2	209	-	-	(209)	-	-	-	-	-	-	-	-	-	(209)
HR	9,281	(1,314)	(457)	(1,282)	(4,146)	(514)	(1,013)	-	(539)	(16)	-	-	-	(7,966)
HR Employee Programs	2,055	(534)	(107)	(234)	(524)	(164)	(337)	-	(155)	(1)	-	-	-	(1,521)
Financial Affairs/Admin/ Inst Support	7,483	(2,253)	(736)	(1,031)	(1,608)	(447)	(932)	-	(453)	(23)	-	-	-	(5,230)
Supplementary Pension	4,738	(480)	(403)	(738)	(1,483)	(409)	(800)	-	(420)	(5)	-	-	-	(4,258)
Pension Special	14,554	(3,784)	(755)	(1,654)	(3,712)	(1,159)	(2,384)	-	(1,098)	(7)	-	-	-	(10,770)
Presidential/Univ Sec	2,363	(864)	(211)	(296)	(461)	(128)	(267)	-	(130)	(7)	-	-	-	(1,499)
General University Expense	9,338	(3,716)	(791)	(1,108)	(1,729)	(481)	(1,001)	-	(487)	(25)	-	-	-	(5,622)
Bond Interest	15,159	(5,925)	(264)	(2,387)	(2,692)	(680)	(2,691)	-	(507)	(23)	-	-	-	(9,234)
UTS/ Technology Fund	23,671	2,349	(3,379)	(5,275)	(5,513)	(1,784)	(6,495)	-	(3,371)	(203)	-	-	-	(26,020)
UTS- ERP	4,517	(152)	(567)	(885)	(925)	(299)	(1,090)	-	(565)	(34)	-	-	-	(4,365)
UA	6,786	1,637	(1,247)	(2,018)	(1,771)	(560)	(1,854)	-	(936)	(37)	-	-	-	(8,422)
Office of the Provost	6,258	(2,913)	(752)	(1,054)	(1,643)	(437)	(952)	-	(463)	(23)	-	-	-	(5,345)
Research Support	15,200	6,584	(225)	(4,326)	(13,156)	(496)	(2,477)	-	(1,105)	-	-	-	-	(21,784)
Student Affairs	7,554	7,242	(2,069)	(3,133)	(2,353)	(1,041)	(3,966)	-	(2,065)	(128)	-	-	-	(14,796)
MI/TEL	4,033	757	(664)	(995)	(639)	(331)	(1,266)	-	(656)	(41)	-	-	-	(4,790)
Libraries	12,977	9,169	(4,254)	(6,440)	(6,620)	(2,199)	(8,132)	-	(4,344)	(250)	-	-	-	(32,146)
HS Library	5,000	2,028	(930)	(1,408)	(1,447)	(481)	(1,778)	-	(928)	(56)	-	-	-	(7,028)
Registrar	8,697	10,579	(2,581)	(3,870)	(2,997)	(1,353)	(5,480)	-	(2,805)	(191)	-	-	-	(19,276)
SIS	2,576	449	(505)	(758)	(894)	(188)	(426)	-	(254)	-	-	-	-	(3,025)
Museum of Art	672	553	(154)	(241)	(288)	(81)	(297)	-	(154)	(9)	-	-	-	(1,225)
UG Scholarship	5,668	710	(893)	(1,447)	(577)	(468)	(1,955)	-	(971)	(66)	-	-	-	(6,378)
UG Bursaries	3,984	0	(546)	(884)	(440)	(286)	(1,195)	-	(593)	(40)	-	-	-	(3,984)
Grad Scholarship	15,888	648	(2,775)	(4,154)	(4,837)	(1,032)	(2,342)	-	(1,397)	-	-	-	-	(16,536)
Branding and Marketing	3,039	191	(478)	(774)	(680)	(215)	(710)	-	(359)	(14)	-	-	-	(3,230)
Adjustments for Current Practices - Support Units			-	-	4,974	-	-	-	-	-	(4,974)	-	-	-
Total Shared Support Unit Allocations	267,058	0	(26,894)	(58,431)	(68,687)	(18,222)	(61,412)	-	(27,130)	(1,308)	(4,974)	-	-	(267,058)
Net Revenue			66,591	93,848	63,276	24,052	84,024	3,609	45,861	1,392	629	60,909	-	444,191
UF Supplement			-	-	5,000	2,000	-	-	-	-	-	(7,000)	-	-
UF Supplement 2 - Grants top up			-	-	1,632	-	-	-	-	-	-	(1,632)	-	-
Base Net Projected Budget 2022-23			66,591	93,848	69,907	26,052	84,024	3,609	45,861	1,392	629	52,277	-	444,191

McMaster University - New Budget Model - Faculties													
Projected Budget Allocation				University Fund		Prof. Faculties		Other Faculties		VP Research Discretionary Fund			
2023-24				Research Infrastructure Fund		8.00%	8.00%	3.00%	1.00%	10.00%			
	Budgets prior to double stepdown allocation	Net double stepdown allocation		Business	Engineering	Health Sciences	Humanities	Science	Med Rad - Mohawk	Social Sciences	Arts & Science	Other (reconciling items)	Total (after double stepdown to support unit allocations)
Revenue													
Undergraduate Tuition				74,616	125,283	33,774	20,502	96,536	2,263	51,552	1,816	-	408,343
UG Tuition Adjustment for tuition fee framework				(114)	(643)	176	118	290		166	7	-	-
Total UG SAG Obligation				(679)	(2,403)	(11)	(4)	(22)	-	(9)	-	3,128	-
Total Entrance Award Overage				-	-	-	-	-	-	-	-	-	-
Graduate Tuition				21,986	13,191	12,272	2,543	4,798		2,844	-	-	57,634
Operating Grant				18,470	43,900	83,561	13,233	50,531	1,583	22,768	1,678	(6)	235,717
Other Income				1,278	2,489	4,231	875	2,268	-	1,144	81	3,781	16,148
Gross Revenue				115,557	181,816	134,004	37,268	156,402	3,845	78,465	3,582	3,128	717,842
Undergraduate Cross Faculty Teaching Adjustment				(6,732)	(10,528)	467	9,650	4,485	-	3,183	(525)	-	(0)
Revenue for Contributions				108,825	171,288	134,471	46,918	160,887	3,845	81,648	3,057	3,128	717,842
Internal International Tax				(1,734)	(2,367)	(64)	(346)	(2,039)	-	(1,100)	-	7,649	-
University Fund Contribution				(8,706)	(13,703)	(10,758)	(3,753)	(12,871)	-	(6,532)	(245)	56,567	-
Research Infrastructure Fund Contribution				(3,265)	(5,139)	(1,345)	(469)	(1,609)	-	(816)	(92)	-	12,734
Indirect Cost of Research (excluding Royalties & CRC)				374	5,251	12,531	488	4,102	-	795	-	33	23,594
VP Research Discretionary (10 % of ICR above)				(37)	(525)	(1,253)	(50)	(410)	-	(79)	-	2,355	-
Adjustments for ICR received by Journals (Contract & ERA)				(1)	(1,024)	(5,581)	(235)	(373)	-	(25)	-	-	(7,439)
Adjustments for Current Practices				(674)	(1,469)	(6,396)	(677)	(1,342)	(193)	(464)	(34)	-	(11,248)
Research Infrastructure Fund Distribution				202	2,839	6,775	270	2,218	-	430	-	-	(12,734)
Research Excellence Fund (from UF)				67	469	1,118	89	366	-	142	-	(2,250)	-
Revenue Prior to Shared Support Unit Allocations				95,061	155,620	129,499	42,245	148,729	3,652	73,997	2,687	5,516	722,738
Shared Support Unit Allocations - via double stepdown													
Occupancy Cost	46,938	(15,405)	(902)	(8,152)	(9,158)	(2,323)	(9,188)	-	(1,731)	(79)	-	-	(31,533)
Deferred Maintenance	11,593	(4,459)	(204)	(1,844)	(2,072)	(526)	(2,079)	-	(392)	(18)	-	-	(7,134)
Insurance	1,542	(671)	(25)	(229)	(242)	(65)	(258)	-	(49)	(2)	-	-	(871)
MIP Occupancy 1	3,285	(429)	-	(1,602)	(864)	(55)	(30)	-	(305)	-	-	-	(2,856)
MIP Occupancy 2	209	-	-	(209)	-	-	-	-	-	-	-	-	(209)
HR	9,281	(1,315)	(457)	(1,281)	(4,146)	(514)	(1,013)	-	(539)	(16)	-	-	(7,965)
HR Employee Programs	2,055	(534)	(107)	(234)	(524)	(164)	(337)	-	(155)	(1)	-	-	(1,521)
Financial Affairs/Admin/ Inst Support	7,483	(2,254)	(736)	(1,031)	(1,608)	(447)	(931)	-	(453)	(23)	-	-	(5,229)
Supplementary Pension	4,738	(480)	(403)	(738)	(1,483)	(409)	(800)	-	(420)	(5)	-	-	(4,258)
Pension Special	14,554	(3,784)	(755)	(1,654)	(3,712)	(1,159)	(2,384)	-	(1,098)	(7)	-	-	(10,770)
Presidentia/Univ Sec	2,363	(864)	(211)	(295)	(461)	(128)	(267)	-	(130)	(7)	-	-	(1,499)
General University Expense	9,338	(3,716)	(791)	(1,108)	(1,729)	(481)	(1,001)	-	(487)	(25)	-	-	(5,622)
Bond Interest	15,159	(5,925)	(264)	(2,387)	(2,682)	(680)	(2,690)	-	(507)	(23)	-	-	(9,234)
UTS/ Technology Fund	23,881	2,328	(3,397)	(5,335)	(5,558)	(1,817)	(6,491)	-	(3,400)	(211)	-	-	(26,209)
UTS- ERP	3,215	(110)	(403)	(632)	(658)	(215)	(769)	-	(403)	(25)	-	-	(3,105)
UA	6,786	1,635	(1,261)	(2,041)	(1,726)	(500)	(1,864)	-	(943)	(36)	-	-	(8,421)
Office of the Provost	8,258	(2,914)	(752)	(1,053)	(1,643)	(457)	(952)	-	(463)	(23)	-	-	(5,344)
Research Support	15,200	6,580	(225)	(4,325)	(13,154)	(496)	(2,476)	-	(1,104)	-	-	-	(21,761)
Student Affairs	7,599	7,239	(2,093)	(3,157)	(2,355)	(1,057)	(3,967)	-	(2,076)	(133)	-	-	(4,836)
MILITs	4,033	757	(663)	(1,000)	(837)	(335)	(1,256)	-	(657)	(42)	-	-	(4,790)
Libraries	23,377	9,167	(4,301)	(6,549)	(6,697)	(2,252)	(8,170)	-	(4,906)	(249)	-	-	(32,544)
HS Library	5,150	2,028	(949)	(1,444)	(1,477)	(497)	(1,802)	-	(950)	(59)	-	-	(7,178)
Registrar	8,697	10,577	(2,577)	(3,881)	(2,996)	(1,374)	(5,439)	-	(2,809)	(198)	-	-	(19,274)
SGS	2,576	449	(503)	(765)	(877)	(186)	(432)	-	(261)	-	-	-	(3,025)
Museum of Art	672	552	(154)	(242)	(288)	(82)	(294)	-	(154)	(10)	-	-	(1,234)
UG Scholarship	5,668	709	(893)	(1,449)	(573)	(476)	(1,845)	-	(973)	(68)	-	-	(6,377)
UG Bursaries	3,984	-	(545)	(885)	(439)	(291)	(1,188)	-	(594)	(42)	-	-	(3,984)
Grad Scholarship	15,888	648	(2,765)	(4,193)	(4,747)	(1,021)	(2,376)	-	(1,434)	-	-	-	(16,536)
Branding and Marketing	3,039	191	(484)	(782)	(664)	(211)	(714)	-	(361)	(14)	-	-	(3,230)
Adjustments for Current Practices - Support Units			-	-	4,574	-	-	-	-	-	1,721	-	6,895
Total Shared Support Unit Allocations	266,561	0	(26,818)	(58,501)	(68,396)	(18,269)	(61,115)	-	(27,153)	(1,335)	1,721	-	(259,866)
Net Revenue				68,233	97,118	61,103	23,976	87,614	3,652	46,844	1,351	7,237	462,872
UF Supplement				-	-	-	-	-	-	-	-	-	-
UF Supplement 2 - Grants top up				-	-	1,502	-	-	-	-	-	(1,502)	-
Base Net Projected Budget 2023-24				68,233	97,118	62,605	23,976	87,614	3,652	46,844	1,351	7,237	462,872

McMaster University - New Budget Model - Faculties			Prof. Faculties		Other Faculties		VP Research Discretionary Fund						Total [after double stepdown to support unit allocations]	
Projected Budget Allocation			University Fund		8.00%		8.00%						10.00%	
2024-25			Research Infrastructure Fund		3.00%		1.00%							
	Budgets prior to double stepdown allocation	Net double stepdown allocation	Business	Engineering	Health Sciences	Humanities	Science	Med Rad - Mohawk	Social Sciences	Arts & Science	Other (reconciling items)	University Fund	Research Infrastructure Fund	
Revenue														
Undergraduate Tuition			75,983	131,097	33,908	21,263	102,637	2,343	59,361	1,737	-			422,372
UG Tuition Adjustment for tuition fee framework			(114)	(643)	176	118	290		166	7				-
Total UG SAG Obligation			(662)	(2,332)	(11)	(4)	(21)	-	(9)	-	3,039			-
Total Entrance Award Overage			-	-	-	-	-	-	-	-	-			-
Graduate Tuition			22,757	13,673	12,174	2,565	4,854		2,851	-	-			58,874
Operating Grant			18,670	44,043	83,322	13,252	50,650	1,599	22,454	1,678	-	(5)	-	235,663
Other Income			1,278	2,489	4,231	875	2,268		1,144	81	-	4,508	-	16,875
Gross Revenue			117,912	188,327	133,801	38,069	160,698	3,944	79,967	3,523	3,039	4,504	-	733,784
Undergraduate Cross Faculty Teaching Adjustment			(6,573)	(10,522)	272	9,347	4,905		3,067	(486)	-			(0)
Revenue for Contributions			111,339	177,805	134,073	47,416	165,603	3,944	83,034	3,027	3,039	4,504	-	733,784
Internal International Tax			(1,804)	(2,631)	(74)	(374)	(2,258)	-	(1,176)	-		8,318	-	-
University Fund Contribution			(8,907)	(14,224)	(10,726)	(3,793)	(13,248)	-	(6,643)	(242)		57,784	-	-
Research Infrastructure Fund Contribution			(3,340)	(5,334)	(1,341)	(474)	(1,656)	-	(830)	(91)		-	13,066	-
Indirect Cost of Research (excluding Royalties & CRC)			374	5,251	12,531	498	4,102	-	795	-	33	-	-	23,594
VP Research Discretionary (10 % of ICR above)			(37)	(525)	(1,153)	(50)	(410)	-	(79)	-	2,355	-	-	-
Adjustments for ICR received by Journal (Contract & ERA)			(1)	(1,024)	(5,581)	(235)	(573)	-	(25)	-	-	-	-	(7,438)
Adjustments for Current Practices			(1,421)	(3,119)	(8,477)	(1,193)	(3,025)	(195)	(1,221)	(69)	-	-	(13,066)	(18,719)
Research Infrastructure Fund Distribution			208	2,913	6,952	277	2,276	-	441	-	-	-	-	-
Research Excellence Fund (from UF)			67	469	1,118	89	366	-	142	-	-	(2,250)	-	-
Revenue Prior to Shared Support Unit Allocations			96,477	159,581	127,222	42,161	151,177	3,749	74,437	2,625	5,427	68,355	-	731,210
Shared Support Unit Allocations - via double stepdown														
Occupancy Cost	46,938	(15,417)	(901)	(8,149)	(9,154)	(2,322)	(9,184)	-	(1,731)	(79)	-	-	-	(31,521)
Deferred Maintenance	11,593	(4,459)	(204)	(1,944)	(2,072)	(536)	(2,079)	-	(392)	(18)	-	-	-	(7,134)
Insurance	1,542	(671)	(25)	(229)	(242)	(65)	(258)	-	(49)	(2)	-	-	-	(871)
M/P Occupancy 1	3,285	(429)	-	(1,602)	(864)	(55)	(30)	-	(305)	-	-	-	-	(2,856)
M/P Occupancy 2	209	-	-	(209)	-	-	-	-	-	-	-	-	-	(209)
HR	9,281	(1,320)	(406)	(1,281)	(4,143)	(514)	(1,012)	-	(539)	(16)	-	-	-	(7,960)
HR Employee Programs	2,055	(534)	(107)	(234)	(524)	(164)	(337)	-	(155)	(1)	-	-	-	(1,521)
Financial Affairs/Admin/ Inst Support	7,483	(2,258)	(736)	(1,030)	(1,606)	(447)	(931)	-	(452)	(23)	-	-	-	(5,225)
Supplementary Pension	4,738	(480)	(403)	(738)	(1,483)	(409)	(800)	-	(420)	(5)	-	-	-	(4,258)
Pension Special	14,554	(3,784)	(755)	(1,654)	(3,712)	(1,159)	(2,384)	-	(1,098)	(7)	-	-	-	(10,770)
Presidentia/Univ Sec	2,363	(865)	(211)	(295)	(461)	(128)	(267)	-	(130)	(7)	-	-	-	(1,498)
General University Expense	9,338	(3,716)	(791)	(1,108)	(1,728)	(481)	(1,001)	-	(487)	(25)	-	-	-	(5,622)
Bond Interest	15,159	(5,925)	(264)	(2,387)	(2,682)	(680)	(2,690)	-	(507)	(23)	-	-	-	(9,234)
UTS/ Technology Fund	23,881	2,306	(3,388)	(5,358)	(5,806)	(1,839)	(6,387)	-	(3,404)	(206)	-	-	-	(26,187)
UTS- ERP	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UA	6,786	1,629	(1,261)	(2,069)	(1,884)	(543)	(1,886)	-	(942)	(35)	-	-	-	(8,414)
Office of the Provost	5,255	(2,517)	(752)	(1,059)	(1,642)	(437)	(952)	-	(462)	(23)	-	-	-	(5,342)
Research Support	15,200	6,565	(225)	(4,322)	(3,945)	(496)	(2,479)	-	(1,104)	-	-	-	-	(21,966)
Student Affairs	7,644	7,227	(2,097)	(3,185)	(2,377)	(1,076)	(3,918)	-	(2,088)	(130)	-	-	-	(14,871)
NIETL	4,033	753	(662)	(1,005)	(844)	(339)	(1,236)	-	(659)	(41)	-	-	-	(4,786)
Libraries	23,377	9,158	(4,293)	(6,583)	(6,757)	(2,282)	(8,042)	-	(4,315)	(263)	-	-	-	(32,535)
HS Library	5,150	2,026	(947)	(1,452)	(1,490)	(503)	(1,774)	-	(952)	(58)	-	-	-	(7,176)
Registrar	8,697	10,567	(2,556)	(3,898)	(3,038)	(1,399)	(5,353)	-	(2,825)	(194)	-	-	-	(19,264)
SGS	2,576	447	(515)	(769)	(861)	(184)	(435)	-	(257)	-	-	-	-	(3,023)
Museum of Art	672	551	(153)	(243)	(291)	(83)	(289)	-	(154)	(9)	-	-	-	(1,223)
UG Scholarship	5,668	709	(887)	(1,460)	(575)	(486)	(1,921)	-	(981)	(67)	-	-	-	(6,377)
UG Bursaries	3,984	(0)	(542)	(892)	(442)	(296)	(1,173)	-	(599)	(41)	-	-	-	(3,984)
Grad Scholarship	15,888	647	(2,833)	(4,219)	(4,664)	(1,013)	(2,392)	-	(1,415)	-	-	-	-	(16,535)
Branding and Marketing	3,039	190	(484)	(791)	(648)	(208)	(723)	-	(361)	(13)	-	-	-	(3,229)
Adjustments for Current Practices - Support Units			-	-	4,974	-	-	-	-	-	9,176	-	-	14,150
Total Shared Support Unit Allocations	263,391	0	(26,448)	(58,055)	(67,762)	(18,154)	(59,931)	-	(26,780)	(1,288)	9,176	-	-	(249,241)
Net Revenue			70,029	101,526	59,460	24,007	91,246	3,749	47,657	1,337	14,603	68,355	-	481,969
UF Supplement			-	-	-	-	-	-	-	-	-	-	-	-
UF Supplement 2 - Grants top up					1,149							(1,149)	-	-
Base Net Projected Budget 2024-25			70,029	101,526	60,609	24,007	91,246	3,749	47,657	1,337	14,603	67,206	-	481,969

APPENDIX 3 – OPERATING FUND UNIT LEVEL TABLES

Table 21: Operating Fund 2021/22 Projection by Unit

	Sources of Funding					Salaries & Benefits			Non-salary Expenses				Total Expenses	Annual Surplus (Deficit)
	Framework Allocation	University Fund Allocation	Research Overhead Income	Other Income	Total Income	Salaries & Wages	Benefits & PDA	Total	Scholarships	Library Acquisitions	All Other Expenses	Total		
1. Faculties														
Business	69,216	667	0	4,794	74,678	33,254	7,115	40,369	1,712	-	32,646	34,358	74,728	(50)
Engineering	95,074	3,712	1,422	1,479	101,687	56,462	12,746	69,208	2,006	-	22,273	24,280	93,488	8,199
Health Sciences	71,382	821	7,321	40,539	120,063	93,154	22,626	115,780	1,470	10	1,005	2,485	118,264	1,798
Humanities	27,623	1,505	293	8,262	37,683	27,978	6,637	34,615	352	20	2,070	2,441	37,056	626
Science	81,438	(89)	401	2,162	83,913	55,779	14,521	70,300	477	-	19,708	20,186	90,485	(6,573)
Medical Radiation - Mohawk share	4,181	-	-	-	4,181	-	-	-	-	-	4,182	4,182	4,182	(1)
Social Sciences	46,486	635	50	691	47,862	31,337	7,847	39,183	503	-	2,590	3,092	42,276	5,586
Arts & Science	1,585	57	-	57	1,699	1,762	117	1,879	9	-	(253)	(244)	1,635	64
Sub-total	396,985	7,308	9,487	57,984	471,764	299,725	71,609	371,334	6,529	30	84,221	90,780	462,114	9,650
2. Academic Priorities														
University Fund	47,761	(7,696)	-	50	40,115	5,031	-	5,031	-	-	35,071	35,071	40,103	12
Revenue Projection Contingency	(13,519)	-	-	-	(13,519)	-	-	-	-	-	-	-	-	(13,519)
Ongoing Priorities Contingency	-	-	-	-	-	1,547	-	1,547	-	-	(1,547)	(1,547)	0	(0)
One-time Priorities Contingency	(9,762)	-	-	-	(9,762)	-	-	-	-	-	-	-	-	(9,762)
Sub-total	24,480	(7,696)	-	50	16,834	6,578	-	6,578	-	-	33,524	33,524	40,103	(23,269)
TOTAL ACADEMIC	421,465	(389)	9,487	58,034	488,598	306,303	71,609	377,912	6,529	30	117,746	124,305	502,217	(13,619)
3. Academic Support														
Provost's Office	7,902	-	-	170	8,072	6,188	1,422	7,609	45	-	1,993	2,038	9,647	(1,576)
Museum of Art	644	-	-	149	793	713	216	929	-	-	(151)	(151)	778	15
MacPherson Institute	3,597	-	-	368	3,965	3,501	967	4,469	-	-	1,028	1,028	5,496	(1,531)
University Library	22,652	-	-	94	22,746	7,337	2,098	9,436	3	11,051	2,341	13,394	22,830	(84)
Health Sciences Library	4,795	139	20	56	5,009	1,762	484	2,245	-	3,225	(658)	2,567	4,813	196
Registrar	5,760	-	-	2,904	8,664	6,715	1,844	8,559	-	-	428	428	8,987	(323)
Sub-total	45,350	139	20	3,741	49,250	26,216	7,031	33,247	48	14,276	4,981	19,305	52,552	(3,302)
4. Research Support														
Research	12,241	250	3,603	10,131	26,225	14,945	4,267	19,211	45	-	8,632	8,677	27,888	(1,663)
VP Research Discretionary Fund	2,348	-	-	-	2,348	15	(0)	15	-	-	2,219	2,219	2,234	114
Research Loans	-	-	-	-	-	-	-	-	-	-	(89)	(89)	(89)	89
Sub-total	14,589	250	3,603	10,131	28,573	14,960	4,267	19,226	45	-	10,762	10,807	30,033	(1,460)
5. Student Support														
Graduate Scholarships	14,788	-	-	-	14,788	600	-	600	13,073	-	50	13,123	13,723	1,065
School of Graduate Studies	3,246	-	-	58	3,304	2,161	590	2,751	55	-	597	652	3,403	(99)
Student Affairs	6,695	-	-	22,915	29,610	16,069	4,224	20,293	576	-	9,806	10,382	30,676	(1,065)
DBAC Building Financing	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DBAC Deferred Maintenance	-	-	-	-	-	-	-	-	-	-	(160)	(160)	(160)	160
Undergraduate Scholarships	13,051	-	-	277	13,328	1,895	-	1,895	12,873	-	271	13,143	15,038	(1,710)
Sub-total	37,780	-	-	23,251	61,031	20,725	4,814	25,540	26,577	-	10,563	37,140	62,680	(1,649)
6. Facilities Support														
Facilities Services	20,935	-	-	1,502	22,437	12,436	3,483	15,919	-	-	6,708	6,708	22,627	(191)
HSC Maintenance	4,002	-	-	40	4,042	-	-	-	-	-	4,362	4,362	4,362	(320)
Utilities	25,007	-	-	2,721	27,728	1,897	590	2,487	-	-	25,177	25,177	27,664	65
Security	2,039	-	-	25	2,064	2,003	488	2,492	-	-	(305)	(305)	2,187	(123)
Deferred Maintenance	11,930	-	-	-	11,930	-	-	-	-	-	11,930	11,930	11,930	(0)
Bond Interest	14,510	-	-	-	14,510	-	-	-	-	-	14,509	14,509	14,509	2
Renovation contingency	974	-	-	-	974	-	-	-	-	-	974	974	974	(0)
Sub-total	79,397	-	-	4,288	83,685	16,337	4,561	20,898	-	-	63,355	63,355	84,253	(568)
7. Institutional Support														
Administration	4,060	-	-	-	4,060	1,865	432	2,297	-	-	2,129	2,129	4,426	(366)
Financial Affairs	4,042	-	-	2,150	6,192	5,269	1,520	6,789	-	-	1,566	1,566	8,355	(2,163)
Human Resources	9,653	-	-	62	9,715	6,734	1,792	8,526	-	-	1,370	1,370	9,896	(181)
UTS/Technology Fund	18,576	-	-	85	18,661	9,919	2,767	12,686	-	-	9,477	9,477	22,163	(3,502)
UTS Asset Management	1,500	-	-	-	1,500	-	-	-	-	-	2,752	2,752	2,752	(1,252)
University Secretariat	1,067	-	-	90	1,157	850	243	1,093	-	-	246	246	1,339	(182)
President's Office	1,183	-	-	-	1,183	413	112	525	-	-	634	634	1,158	25
University Advancement	5,963	-	-	29	5,992	8,618	1,929	10,547	-	-	(3,248)	(3,248)	7,299	(1,307)
Legal	7,716	-	-	-	7,716	685	162	847	-	-	5,019	5,019	5,866	1,850
General University	5,635	-	-	2,232	7,867	633	39	672	-	-	7,547	7,547	8,219	(352)
Sub-total	59,395	-	-	4,649	64,044	34,985	8,995	43,980	-	-	27,493	27,493	71,473	(7,429)
8. Institutional Priority allocations														
Technology Renewal	4,517	-	-	-	4,517	-	-	-	-	-	-	-	-	4,517
Marketing & Branding	5,022	-	-	-	5,022	1,022	269	1,291	-	-	3,933	3,933	5,224	(202)
Pension	22,175	-	-	-	22,175	-	22,175	22,175	-	-	-	-	22,175	0
President's Strategic Support Fund	2,271	-	-	-	2,271	-	-	-	-	-	5,000	5,000	5,000	(2,729)
Sub-total	33,985	-	-	-	33,985	1,022	22,444	23,466	-	-	8,933	8,933	32,399	1,586
Surplus/(Deficit)	691,961	0	13,110	104,094	809,165	420,549	123,720	544,269	33,199	14,306	243,832	291,337	835,606	(26,441)
<i>Under/(over)allocated</i>	-	-	-	(2,993)	(2,993)	-	-	-	-	-	(2,993)	(2,993)	-	(2,993)
Total Surplus/(Deficit)	691,961	0	13,110	101,101	806,172	420,549	123,720	544,269	33,199	14,306	240,839	288,344	832,613	(26,441)

Table 22: Operating Fund 2022/23 Budget by Unit

(\$ thousands)	Sources of Funding					Salaries & Benefits			Non-salary Expenses				Total Expenses	Annual Surplus (Deficit)
	Framework Allocation	University Fund Allocation	Research Overhead Income	Other Income	Total Income	Salaries & Wages	Benefits & PDA	Total	Scholarships	Library Acquisitions	All Other Expenses	Total		
1. Faculties														
Business	66,591	-	-	5,857	72,448	36,359	8,393	44,753	2,275	-	26,263	28,538	73,290	(842)
Engineering	93,848	2,814	1,422	824	98,908	60,802	14,626	75,428	2,535	-	17,847	20,382	95,811	3,097
Health Sciences	69,907	631	6,912	40,795	118,245	94,688	24,215	118,904	1,648	5	4,723	6,376	125,280	(7,035)
Humanities	26,052	1,262	290	8,500	36,104	28,960	6,985	35,945	484	20	2,151	2,655	38,600	(2,496)
Science	83,443	256	367	2,340	86,406	59,432	16,062	75,494	801	-	13,542	14,343	89,837	(3,430)
Medical Radiation - Mohawk share	4,246	-	-	-	4,246	-	-	-	-	-	4,246	4,246	4,246	-
Social Sciences	45,861	615	50	592	47,118	33,881	8,960	42,841	343	-	4,324	4,667	47,508	(389)
Arts & Science	1,392	-	-	-	1,392	2,090	113	2,203	1	-	29	30	2,232	(840)
Sub-total	391,340	5,578	9,041	58,909	464,868	316,213	79,355	395,567	8,087	25	73,124	81,236	476,803	(11,936)
2. Academic Priorities														
University Fund	42,277	(5,828)	-	50	36,499	4,661	-	4,661	-	-	34,838	34,838	39,499	(3,000)
Revenue Projection Contingency	287	-	-	6,000	6,287	-	-	-	-	-	-	-	-	6,287
Ongoing Priorities Contingency	33	-	-	-	33	(8,025)	-	(8,025)	-	-	(1,975)	(1,975)	(10,000)	10,033
One-time Priorities Contingency	3,592	-	-	-	3,592	-	-	-	-	-	-	-	-	3,592
Sub-total	46,189	(5,828)	-	6,050	46,411	(3,364)	-	(3,364)	-	-	32,863	32,863	29,499	16,912
TOTAL ACADEMIC	437,529	(250)	9,041	64,959	511,279	312,849	79,355	392,204	8,087	25	105,987	114,099	506,302	4,976
3. Academic Support														
Provost's Office	8,052	-	-	770	8,822	7,275	1,595	8,870	30	-	2,747	2,777	11,647	(2,825)
Museum of Art	672	-	-	259	931	765	227	992	-	-	(9)	(9)	983	(52)
MacPherson Institute	4,033	-	-	150	4,183	3,434	927	4,362	-	-	669	669	5,031	(848)
University Library	23,888	-	-	80	23,968	8,122	2,286	10,408	3	11,442	2,872	14,317	24,726	(757)
Health Sciences Library	5,000	-	15	33	5,048	1,951	535	2,486	-	3,147	(489)	2,658	5,143	(96)
Registrar	8,510	-	-	3,354	11,864	7,599	1,968	9,567	-	-	2,517	2,517	12,083	(220)
Sub-total	50,155	-	15	4,646	54,816	29,147	7,537	36,684	33	14,589	8,307	22,929	59,613	(4,797)
4. Research Support														
Research	13,103	250	3,602	10,739	27,695	15,513	4,424	19,937	15	-	8,901	8,916	28,853	(1,158)
VP Research Discretionary Fund	2,355	-	-	-	2,355	-	-	-	-	-	3,661	3,661	3,661	(1,306)
Research Loans	-	-	-	-	-	-	-	-	-	-	(39)	(39)	(39)	39
Sub-total	15,458	250	3,602	10,739	30,050	15,513	4,424	19,937	15	-	12,524	12,539	32,476	(2,426)
5. Student Support														
Graduate Scholarships	15,888	-	-	-	15,888	600	-	600	15,120	-	50	15,170	15,770	118
School of Graduate Studies	2,826	-	-	58	2,884	1,855	499	2,353	55	-	508	563	2,916	(32)
Student Affairs	8,394	-	-	27,375	35,769	18,338	4,534	22,872	576	-	14,956	15,532	38,404	(2,635)
DBAC Building Financing	-	-	-	-	-	-	-	-	-	-	706	706	706	(706)
DBAC Deferred Maintenance	-	-	-	-	-	-	-	-	-	-	(520)	(520)	(520)	520
Undergraduate Scholarships	12,867	-	-	277	13,144	2,225	-	2,225	10,649	-	271	10,919	13,144	(0)
Sub-total	39,975	-	-	27,710	67,685	23,017	5,033	28,051	26,400	-	15,970	42,370	70,421	(2,736)
6. Facilities Support														
Facilities Services	17,779	-	-	2,924	20,703	13,093	3,617	16,710	-	-	4,065	4,065	20,775	(72)
HSC Maintenance	4,127	-	-	40	4,167	-	-	-	-	-	4,154	4,154	4,154	13
Utilities	25,034	-	-	2,778	27,812	1,856	602	2,458	-	-	25,414	25,414	27,872	(60)
Security	2,571	-	-	25	2,596	2,191	503	2,694	-	-	(102)	(102)	2,592	4
Deferred Maintenance	11,930	-	-	-	11,930	-	-	-	-	-	11,930	11,930	11,930	(0)
Bond Interest	15,159	-	-	-	15,159	-	-	-	-	-	15,159	15,159	15,159	-
Renovation contingency	974	-	-	-	974	-	-	-	-	-	974	974	974	0
Sub-total	77,574	-	-	5,767	83,341	17,140	4,722	21,862	-	-	61,594	61,594	83,456	(115)
7. Institutional Support														
Administration	3,722	-	-	-	3,722	2,116	455	2,571	-	-	641	641	3,212	510
Financial Affairs	4,230	-	-	2,274	6,504	5,584	1,556	7,140	-	-	(774)	(774)	6,366	139
Human Resources	10,410	-	-	62	10,472	6,567	1,866	8,433	-	-	2,154	2,154	10,588	(115)
UTS/Technology Fund	22,524	-	-	85	22,609	9,863	2,676	12,539	-	-	12,008	12,008	24,547	(1,938)
UTS Asset Management	1,500	-	-	-	1,500	-	-	-	-	-	1,659	1,659	1,659	(159)
University Secretariat	1,168	-	-	85	1,253	965	269	1,234	-	-	148	148	1,381	(129)
President's Office	1,195	-	-	-	1,195	423	112	536	-	-	651	651	1,187	8
University Advancement	6,187	-	-	30	6,217	9,679	1,976	11,655	-	-	(4,011)	(4,011)	7,644	(1,427)
Legal	5,902	-	-	-	5,902	649	149	799	-	-	5,019	5,019	5,818	84
General University	5,214	-	-	2,270	7,484	686	39	724	-	-	7,838	7,838	8,562	(1,078)
Sub-total	62,052	-	-	4,807	66,859	36,533	9,097	45,630	-	-	25,333	25,333	70,963	(4,105)
8. Institutional Priority allocations														
Technology Renewal	4,517	-	-	-	4,517	-	-	-	-	-	-	-	-	4,517
Marketing & Branding	5,039	-	-	-	5,039	1,091	282	1,374	-	-	3,665	3,665	5,039	0
Pension	19,292	-	-	-	19,292	-	19,292	19,292	-	-	-	-	19,292	-
President's Strategic Support Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	28,848	-	-	-	28,848	1,091	19,574	20,666	-	-	3,665	3,665	24,331	4,517
Surplus/(Deficit)	711,591	0	12,658	118,628	842,877	435,291	129,743	565,034	34,534	14,614	233,380	282,529	847,562	(4,685)
<i>Under/(over)allocated</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>22</i>	<i>22</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>22</i>	<i>22</i>	<i>22</i>	<i>0</i>
Total Surplus/(Deficit)	711,591	0	12,658	118,650	842,899	435,291	129,743	565,034	34,534	14,614	233,402	282,550	847,584	(4,685)

Table 23: Operating Fund 2023/24 Plan by Unit

(5 thousands)	Sources of Funding					Salaries & Benefits			Non-salary Expenses				Total Expenses	Annual Surplus (Deficit)
	Framework Allocation	University Fund Allocation	Research Overhead Income	Other Income	Total Income	Salaries & Wages	Benefits & PDA	Total	Scholarships	Library Acquisitions	All Other Expenses	Total		
1. Facilities														
Business	68,233	-	-	5,879	74,112	38,473	9,030	47,504	2,300	-	20,955	23,255	70,758	3,354
Engineering	97,118	2,539	1,422	721	101,799	65,001	15,619	80,620	2,412	-	17,136	19,548	100,168	1,631
Health Sciences	62,605	65	6,856	39,809	109,335	95,552	25,207	120,759	1,678	5	2,471	4,154	124,913	(15,578)
Humanities	23,976	1,180	290	10,781	36,226	30,128	7,354	37,482	484	20	3,298	3,802	41,284	(5,058)
Science	87,020	307	350	2,103	89,780	62,502	16,845	79,346	409	-	8,839	9,248	88,595	1,185
Medical Radiation - Mohawk share	4,303	-	-	-	4,303	-	-	-	-	-	4,303	4,303	4,303	-
Social Sciences	46,844	615	50	688	48,197	35,879	9,527	45,406	380	-	4,458	4,838	50,244	(2,047)
Arts & Science	1,351	57	-	-	1,408	1,925	115	2,040	1	-	44	45	2,084	(676)
Sub-total	391,450	4,762	8,968	59,980	465,160	329,460	83,697	413,157	7,664	25	61,504	69,193	482,350	(17,190)
2. Academic Priorities														
University Fund	54,240	(5,012)	-	50	49,278	4,661	-	4,661	-	-	44,616	44,616	49,278	0
Revenue Projection Contingency	286	-	-	-	286	-	-	-	-	-	-	-	-	286
Ongoing Priorities Contingency	6,728	-	-	-	6,728	1,975	-	1,975	-	-	(1,975)	(1,975)	0	6,728
One-time Priorities Contingency	8,590	-	-	-	8,590	-	-	-	-	-	-	-	-	8,590
Sub-total	69,844	(5,012)	-	50	64,882	6,636	-	6,636	-	-	42,641	42,641	49,278	15,604
TOTAL ACADEMIC	461,294	(250)	8,968	60,030	530,042	336,096	83,697	419,793	7,664	25	104,145	111,834	531,627	(1,586)
3. Academic Support														
Provost's Office	8,052	-	-	770	8,822	7,366	1,598	8,964	12	-	2,922	2,934	11,898	(3,076)
Museum of Art	672	-	-	160	832	796	232	1,028	-	-	(196)	(196)	832	(0)
MacPherson Institute	4,033	-	-	150	4,183	3,194	858	4,053	-	-	724	724	4,776	(593)
University Library	23,574	-	-	80	23,654	8,606	2,368	10,974	3	11,555	3,071	14,629	25,603	(1,949)
Health Sciences Library	5,150	-	15	29	5,194	1,980	534	2,513	-	3,261	(466)	2,795	5,308	(114)
Registrar	8,510	-	-	3,484	11,994	7,841	2,056	9,897	-	-	2,517	2,517	12,414	(420)
Sub-total	49,991	-	15	4,673	54,679	29,783	7,646	37,429	15	14,816	8,571	23,401	60,830	(6,151)
4. Research Support														
Research	13,103	250	3,602	11,492	28,448	16,147	4,523	20,670	15	-	9,653	9,668	30,339	(1,891)
VP Research Discretionary Fund	2,355	-	-	-	2,355	-	-	-	-	-	2,670	2,670	2,670	(315)
Research Loans	-	-	-	-	-	-	-	-	-	-	(39)	(39)	-	39
Sub-total	15,458	250	3,602	11,492	30,803	16,147	4,523	20,670	15	-	12,285	12,300	32,970	(2,167)
5. Student Support														
Graduate Scholarships	15,888	-	-	-	15,888	600	-	600	15,120	-	50	15,170	15,770	118
School of Graduate Studies	2,826	-	-	58	2,884	1,910	517	2,426	55	-	508	563	2,989	(105)
Student Affairs	7,599	-	-	28,010	35,609	18,851	4,717	23,567	576	-	14,068	14,644	38,212	(2,603)
DBAC Building Financing	-	-	-	-	-	-	-	-	-	-	(59)	(59)	59	59
DBAC Deferred Maintenance	-	-	-	-	-	-	-	-	-	-	(520)	(520)	(520)	520
Undergraduate Scholarships	12,780	-	-	277	13,057	2,225	-	2,225	10,562	-	271	10,832	13,057	(0)
Sub-total	39,093	-	-	28,345	67,438	23,585	5,234	28,819	26,313	-	14,317	40,630	69,449	(2,011)
6. Facilities Support														
Facilities Services	17,524	-	-	3,174	20,698	13,433	3,680	17,113	-	-	4,472	4,472	21,585	(887)
HSC Maintenance	4,127	-	-	40	4,167	1,878	-	1,878	-	-	4,154	4,154	4,154	13
Utilities	25,034	-	-	2,865	27,899	1,878	629	2,506	-	-	27,003	27,003	29,509	(1,609)
Security	2,571	-	-	25	2,596	2,259	523	2,782	-	-	(102)	(102)	2,680	(84)
Deferred Maintenance	11,593	-	-	-	11,593	-	-	-	-	-	11,593	11,593	11,593	(0)
Bond Interest	15,159	-	-	-	15,159	-	-	-	-	-	15,159	15,159	15,159	-
Renovation contingency	974	-	-	-	974	-	-	-	-	-	974	974	974	0
Sub-total	76,982	-	-	6,104	83,086	17,570	4,831	22,401	-	-	63,253	63,253	85,654	(2,568)
7. Institutional Support														
Administration	3,122	-	-	-	3,122	1,877	424	2,301	-	-	640	640	2,941	181
Financial Affairs	4,230	-	-	2,378	6,608	5,673	1,591	7,264	-	-	(846)	(846)	6,418	190
Human Resources	10,294	-	-	62	10,356	6,713	1,923	8,636	-	-	2,114	2,114	10,751	(395)
UTS/Technology Fund	22,834	-	-	85	22,919	9,948	2,723	12,670	-	-	11,353	11,353	24,023	(1,104)
UTS Asset Management	1,500	-	-	-	1,500	-	-	-	-	-	1,809	1,809	1,809	(309)
University Secretariat	1,168	-	-	88	1,256	981	275	1,256	-	-	148	148	1,403	(148)
President's Office	1,195	-	-	-	1,195	437	117	555	-	-	640	640	1,195	0
University Advancement	6,187	-	-	30	6,217	8,934	1,991	10,925	-	-	(3,960)	(3,960)	6,965	(748)
Legal	5,902	-	-	-	5,902	671	155	826	-	-	5,019	5,019	5,846	56
General University	4,978	-	-	2,310	7,288	711	40	751	-	-	7,958	7,958	8,709	(1,421)
Sub-total	61,410	-	-	4,953	66,363	35,944	9,240	45,185	-	-	24,876	24,876	70,060	(3,698)
8. Institutional Priority allocations														
Technology Renewal	3,215	-	-	-	3,215	-	-	-	-	-	-	-	-	3,215
Marketing & Branding	3,039	-	-	-	3,039	805	210	1,016	-	-	2,023	2,023	3,039	(0)
Pension	19,292	-	-	-	19,292	-	19,292	19,292	-	-	-	-	19,292	-
President's Strategic Support Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	25,546	-	-	-	25,546	805	19,502	20,308	-	-	2,023	2,023	22,331	3,215
Surplus/(Deficit)	729,774	-	12,585	115,598	857,957	459,931	134,674	594,605	34,006	14,841	229,471	278,318	872,922	(14,966)
<i>Under/(over)allocated</i>	<i>0</i>	<i>0</i>	<i>-</i>	<i>(2,927)</i>	<i>(2,927)</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>(2,927)</i>	<i>(2,927)</i>	<i>(2,927)</i>	<i>0</i>
Total Surplus/(Deficit)	729,774	0	12,585	112,671	855,030	459,931	134,674	594,605	34,006	14,841	226,543	275,391	869,995	(14,966)

Table 24: Operating Fund 2024/25 Plan by Unit

(\$ thousands)	Sources of Funding					Salaries & Benefits			Non-salary Expenses				Total Expenses	Annual Surplus (Deficit)
	Framework Allocation	University Fund Allocation	Research Overhead Income	Other Income	Total Income	Salaries & Wages	Benefits & PDA	Total	Scholarships	Library Acquisitions	All Other Expenses	Total		
1. Faculties														
Business	70,029	-	-	5,870	75,899	41,356	9,830	51,186	2,300	-	11,295	13,595	64,781	11,118
Engineering	101,526	1,793	1,422	723	105,464	68,310	16,548	84,859	2,359	-	17,525	19,885	104,743	721
Health Sciences	60,609	65	6,810	39,951	107,434	97,021	25,868	122,889	1,580	5	1,793	3,378	126,267	(18,833)
Humanities	24,007	1,173	290	13,127	38,597	30,815	7,554	38,369	484	20	2,416	2,920	41,289	(2,691)
Science	90,646	-	350	2,063	93,059	64,279	17,259	81,538	409	-	9,541	9,950	91,489	1,570
Medical Radiation - Mohawk share	4,407	-	-	-	4,407	-	-	-	-	-	4,407	4,407	4,407	-
Social Sciences	47,657	615	50	656	48,978	37,012	10,133	47,145	400	-	4,643	5,043	52,188	(3,210)
Arts & Science	1,337	57	-	-	1,394	1,925	115	2,040	1	-	36	37	2,077	(683)
Sub-total	400,218	3,703	8,922	62,390	475,232	340,719	87,308	428,027	7,533	25	51,656	59,214	487,241	(12,009)
2. Academic Priorities														
University Fund	57,206	(3,953)	-	50	53,303	4,661	-	4,661	-	-	48,642	48,642	53,303	0
Revenue Projection Contingency	285	-	-	-	285	-	-	-	-	-	-	-	-	285
Ongoing Priorities Contingency	14,183	-	-	-	14,183	1,975	-	1,975	-	-	(1,975)	(1,975)	0	14,183
One-time Priorities Contingency	10,000	-	-	-	10,000	-	-	-	-	-	1,860	1,860	1,860	8,140
Sub-total	81,674	(3,953)	-	50	77,771	6,636	-	6,636	-	-	48,527	48,527	55,163	22,608
TOTAL ACADEMIC	481,892	(250)	8,922	62,440	553,003	347,356	87,308	434,663	7,533	25	100,183	107,741	542,404	10,599
3. Academic Support														
Provost's Office	8,052	-	-	770	8,822	7,444	1,659	9,103	12	-	2,933	2,945	12,048	(3,226)
Museum of Art	672	-	-	210	882	816	239	1,055	-	-	(173)	(173)	882	0
MacPherson Institute	4,033	-	-	150	4,183	3,213	856	4,069	-	-	724	724	4,792	(609)
University Library	23,377	-	-	80	23,457	8,658	2,380	11,038	3	11,926	2,743	14,671	25,709	(2,252)
Health Sciences Library	5,150	-	15	29	5,194	2,031	548	2,579	-	3,380	(441)	2,939	5,518	(324)
Registrar	8,510	-	-	3,619	12,129	8,033	2,116	10,149	-	-	2,517	2,517	12,666	(537)
Sub-total	49,794	-	15	4,859	54,668	30,194	7,799	37,993	15	15,306	8,302	23,623	61,615	(6,948)
4. Research Support														
Research	13,103	250	3,602	12,149	29,104	16,409	4,573	20,982	15	-	9,697	9,712	30,693	(1,590)
VP Research Discretionary Fund	2,355	-	-	-	2,355	-	-	-	-	-	2,379	2,379	2,379	(24)
Research Loans	-	-	-	-	-	-	-	-	-	-	(39)	(39)	(39)	39
Sub-total	15,458	250	3,602	12,149	31,459	16,409	4,573	20,982	15	-	12,037	12,052	33,034	(1,575)
5. Student Support														
Graduate Scholarships	15,888	-	-	-	15,888	600	-	600	15,120	-	50	15,170	15,770	118
School of Graduate Studies	2,576	-	-	58	2,634	1,857	501	2,357	55	-	364	419	2,776	(142)
Student Affairs	7,644	-	-	28,841	36,485	19,344	4,854	24,198	576	-	14,332	14,908	39,106	(2,621)
DBAC Building Financing	-	-	-	-	-	-	-	-	-	-	(181)	(181)	(181)	181
DBAC Deferred Maintenance	-	-	-	-	-	-	-	-	-	-	(520)	(520)	(520)	520
Undergraduate Scholarships	12,691	-	-	277	12,968	2,225	-	2,225	10,473	-	271	10,743	12,968	(0)
Sub-total	38,799	-	-	29,177	67,976	24,025	5,355	29,380	26,224	-	14,315	40,539	69,919	(1,944)
6. Facilities Support														
Facilities Services	17,524	-	-	3,227	20,751	13,768	3,772	17,540	-	-	4,525	4,525	22,065	(1,314)
HSC Maintenance	4,127	-	-	40	4,167	-	-	-	-	-	4,154	4,154	4,154	13
Utilities	25,034	-	-	2,967	28,001	1,903	641	2,544	-	-	27,020	27,020	29,565	(1,564)
Security	2,571	-	-	25	2,596	2,289	533	2,822	-	-	(102)	(102)	2,720	(124)
Deferred Maintenance	11,593	-	-	-	11,593	-	-	-	-	-	11,593	11,593	11,593	(0)
Bond Interest	15,159	-	-	-	15,159	-	-	-	-	-	15,159	15,159	15,159	-
Renovation contingency	974	-	-	-	974	-	-	-	-	-	974	974	974	0
Sub-total	76,982	-	-	6,259	83,241	17,960	4,947	22,907	-	-	63,324	63,324	86,230	(2,989)
7. Institutional Support														
Administration	3,122	-	-	-	3,122	1,869	424	2,293	-	-	640	640	2,934	188
Financial Affairs	4,230	-	-	2,423	6,653	5,782	1,626	7,408	-	-	(938)	(938)	6,470	183
Human Resources	10,294	-	-	62	10,356	6,843	1,961	8,805	-	-	2,121	2,121	10,926	(569)
UTS/Technology Fund	21,871	-	-	85	21,956	9,737	2,671	12,408	-	-	11,255	11,255	23,663	(1,707)
UTS Asset Management	1,500	-	-	-	1,500	-	-	-	-	-	1,759	1,759	1,759	(259)
University Secretariat	1,168	-	-	89	1,257	998	280	1,278	-	-	148	148	1,425	(168)
President's Office	1,195	-	-	-	1,195	446	121	567	-	-	628	628	1,195	(0)
University Advancement	6,187	-	-	30	6,217	8,271	2,022	10,292	-	-	(3,964)	(3,964)	6,328	(111)
Legal	5,902	-	-	-	5,902	684	159	844	-	-	5,019	5,019	5,863	39
General University	4,978	-	-	2,349	7,327	735	42	777	-	-	8,244	8,244	9,021	(1,694)
Sub-total	60,447	-	-	5,039	65,486	35,365	9,306	44,671	-	-	24,914	24,914	69,585	(4,099)
8. Institutional Priority allocations														
Technology Renewal	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Marketing & Branding	3,039	-	-	-	3,039	610	177	788	-	-	2,251	2,251	3,039	0
Pension	19,292	-	-	-	19,292	-	-	19,292	-	-	-	-	19,292	-
President's Strategic Support Fund	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total	22,331	-	-	-	22,331	610	19,469	20,080	-	-	2,251	2,251	22,331	0
Surplus/(Deficit)	745,703	-	12,539	119,921	878,162	471,919	138,756	610,675	33,787	15,331	225,326	274,444	885,119	(6,956)
<i>Under/(over)allocated</i>	<i>0</i>	<i>0</i>	<i>(3,654)</i>	<i>(3,654)</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>(3,654)</i>	<i>(3,654)</i>	<i>(3,654)</i>	<i>0</i>
Total Surplus/(Deficit)	745,703	0	12,539	116,267	874,508	471,919	138,756	610,675	33,787	15,331	221,672	270,789	881,465	(6,956)

Table 25: Operating Fund Annual Net Change by Unit

(\$ thousands)	2021/22		2022/23	2022/24	2024/25
	Budget	Projection	Budget	Plan	Plan
1. Faculties					
Business	740	(50)	(842)	3,354	11,118
Engineering	(1,245)	8,199	3,097	1,631	721
Health Sciences	(8,026)	1,798	(7,035)	(15,578)	(18,833)
Humanities	(1,395)	626	(2,496)	(5,058)	(2,691)
Science	2,103	(6,573)	(3,430)	1,185	1,570
Medical Radiation - Mohawk share	(0)	(1)	(0)	-	-
Social Sciences	2,917	5,586	(389)	(2,047)	(3,210)
Arts & Science	62	64	(840)	(676)	(683)
Sub-total	(4,843)	9,650	(11,936)	(17,190)	(12,009)
2. Academic Priorities					
University Fund	(2,648)	12	(3,000)	0	0
Revenue Projection Contingency	582	(13,519)	6,287	286	285
Ongoing Priorities Contingency	10,033	(0)	10,033	6,728	14,183
One-time Priorities Contingency	153	(9,762)	3,592	8,590	8,140
Sub-total	8,120	(23,269)	16,912	15,604	22,608
TOTAL ACADEMIC	3,277	(13,619)	4,976	(1,586)	10,599
3. Academic Support					
Office of the Provost	(2,054)	(1,576)	(2,825)	(3,076)	(3,226)
Museum of Art	0	15	(52)	(0)	0
MacPherson Institute	(784)	(1,531)	(848)	(593)	(609)
University Library	(589)	(84)	(757)	(1,949)	(2,252)
Health Sciences Library	(61)	196	(96)	(114)	(324)
Registrar	(336)	(323)	(220)	(420)	(537)
Sub-total	(3,823)	(3,302)	(4,797)	(6,151)	(6,948)
4. Research Support					
Research	317	(1,663)	(1,158)	(1,891)	(1,590)
VP Research Discretionary Fund	882	114	(1,306)	(315)	(24)
Research Loans	89	89	39	39	39
Sub-total	1,287	(1,460)	(2,426)	(2,167)	(1,575)
5. Student Support					
Graduate Scholarships	30	1,065	118	118	118
School of Graduate Studies	(116)	(99)	(32)	(105)	(142)
Student Affairs	1,188	(1,065)	(2,635)	(2,603)	(2,621)
DBAC Building Financing	(1,211)	-	(706)	59	181
DBAC Deferred Maintenance	400	160	520	520	520
Undergraduate Scholarships	220	(1,710)	(0)	(0)	(0)
Sub-total	511	(1,649)	(2,736)	(2,011)	(1,944)
6. Facilities Support					
Facilities Services	193	(191)	(72)	(887)	(1,314)
HSC Maintenance	(112)	(320)	13	13	13
Utilities	(1,692)	65	(60)	(1,609)	(1,564)
Security	(324)	(123)	4	(84)	(124)
Deferred Maintenance	(0)	(0)	(0)	(0)	(0)
Bond Interest	-	2	0	-	-
Renovation contingency	0	(0)	0	0	0
Sub-total	(1,936)	(568)	(115)	(2,568)	(2,989)
7. Institutional Support					
Administration	(420)	(366)	510	181	188
Financial Affairs	(245)	(2,163)	139	190	183
Human Resources	(954)	(181)	(115)	(395)	(569)
UTS/Technology Fund	(2,620)	(3,502)	(1,938)	(1,104)	(1,707)
UTS Asset Management	(839)	(1,252)	(159)	(309)	(259)
University Secretariat	(213)	(182)	(129)	(148)	(168)
Presidential Budget	38	25	8	0	(0)
University Advancement	(1,425)	(1,307)	(1,427)	(748)	(111)
Legal	(1,401)	1,850	84	56	39
General University	(575)	(352)	(1,078)	(1,421)	(1,694)
Sub-total	(8,655)	(7,429)	(4,105)	(3,698)	(4,099)
8. Institutional Priority allocations					
Technology Renewal	4,517	4,517	4,517	3,215	-
Marketing & Branding	0	(202)	0	(0)	0
Pension	0	0	0	0	0
Strategic Priorities	-	(2,729)	-	-	-
Sub-total	4,517	1,586	4,517	3,215	0
Surplus/(Deficit)	(4,822)	(26,441)	(4,685)	(14,966)	(6,956)
<i>Under/(over)allocated</i>	0	(0)	0	0	0
Total Surplus/(Deficit)	(4,822)	(26,441)	(4,685)	(14,966)	(6,956)

Table 26: Operating Fund 2021/22 Financial Position and Variance by Unit

(5 thousands)	2021/22 Budget				2021/22 Projection				Favourable (Unfavourable) Variance						
	Appropriations April 30, 2021	On-going	One-time	Total	Appropriations April 30, 2022	Appropriations April 30, 2021	On-going	One-time	Total	Appropriations April 30, 2022	Appropriations April 30, 2021	On-going	One-time	Total	Appropriations April 30, 2022
1. Faculties															
Business	1,012	12,357	(11,617)	740	1,752	3,482	22,572	(22,622)	(50)	3,431	2,469	10,215	(11,005)	(790)	1,679
Engineering	11,961	5,995	(7,239)	(1,245)	10,717	15,906	14,089	(5,890)	8,199	24,105	3,945	8,094	1,349	9,444	13,389
Health Sciences	42,601	(5,439)	(2,587)	(8,026)	34,575	45,634	1,210	589	1,798	47,432	3,033	6,649	3,176	9,825	12,858
Humanities	9,549	(2,750)	1,355	(1,395)	8,154	10,827	(2,271)	2,897	626	11,454	1,278	479	1,542	2,021	3,299
Science	15,399	6,620	(4,516)	2,103	17,503	21,641	3,229	(9,802)	(6,573)	15,068	6,242	(3,391)	(5,285)	(8,676)	(2,434)
Medical Radiation - Mohawk share		(0)		(0)	(0)		(1)		(1)	(0)		(1)		(1)	(0)
Social Sciences	13,128	3,302	(385)	2,917	16,045	14,288	4,230	1,356	5,586	19,874	1,160	928	1,741	2,669	3,829
Arts & Science	1,408	(183)	244	62	1,470	1,488	(289)	353	64	1,552	80	(106)	108	2	82
Sub-total	95,059	19,902	(24,745)	(4,843)	90,216	113,267	42,769	(33,119)	9,650	122,917	18,208	22,867	(8,374)	14,493	32,701
2. Academic Priorities															
University Fund	36,747	10,852	(13,500)	(2,648)	34,099	38,419	9,632	(9,620)	12	38,431	1,672	(1,220)	3,880	2,660	4,332
Revenue Projection Contingency	8,682	582	-	582	9,264	8,605	(4,913)	(8,606)	(13,519)	(4,914)	(76)	(5,495)	(8,606)	(14,101)	(14,177)
Ongoing Priorities Contingency	44	10,033	-	10,033	10,077	43	33	(33)	(0)	43	(3)	(10,000)	(33)	(10,033)	(10,034)
One-time Priorities Contingency	(10,560)	10,000	(9,847)	153	(10,407)	(10,560)	10,000	(19,762)	(9,762)	(20,322)	0	0	(9,915)	(9,915)	(9,915)
Sub-total	34,912	31,467	(23,347)	8,120	43,033	36,507	14,752	(38,021)	(23,269)	13,238	1,595	(16,716)	(14,674)	(31,390)	(29,794)
TOTAL ACADEMIC	129,971	51,369	(48,092)	3,277	133,248	149,775	57,521	(71,141)	(13,619)	136,155	19,803	6,152	(23,048)	(16,896)	2,907
3. Academic Support															
Office of the Provost	5,887	(2,160)	105	(2,054)	3,832	8,379	(1,936)	360	(1,576)	6,803	2,492	224	255	479	2,971
Museum of Art	(0)	0	-	-	-	84	15	-	15	99	15	15	-	-	99
MacPherson Institute	2,390	(537)	(247)	(784)	1,606	4,031	(163)	(1,368)	(1,531)	2,499	1,640	374	(1,122)	(748)	893
University Library	525	(1,144)	556	(589)	(64)	841	(1,171)	1,088	(84)	757	316	(27)	532	505	821
Health Sciences Library	(51)	(61)	-	(61)	(111)	(59)	196	(0)	196	137	(8)	257	(0)	257	249
Registrar	1,171	(336)	-	(336)	835	2,117	(193)	(130)	(323)	1,795	947	143	(130)	13	960
Sub-total	9,922	(4,237)	414	(3,823)	6,099	15,392	(3,252)	(50)	(3,302)	12,090	5,470	986	(464)	521	5,991
4. Research Support															
Research	5,837	756	(439)	317	6,154	9,072	(1,381)	(282)	(1,663)	7,409	3,235	(2,137)	157	(1,980)	1,255
VP Research Discretionary Fund	1,725	882	-	882	2,606	2,311	121	(7)	114	2,425	586	(760)	(7)	(767)	(181)
Research Loans	(477)	89	-	89	(388)	(477)	89	-	89	(388)	-	(0)	-	(0)	(0)
Sub-total	7,085	1,726	(439)	1,287	8,372	10,906	(1,171)	(289)	(1,460)	9,446	3,821	(2,897)	150	(2,747)	1,074
5. Student Support															
Graduate Scholarships	(526)	30	-	30	(496)	(961)	105	960	1,065	104	(434)	75	960	1,035	601
School of Graduate Studies	210	(283)	167	1,188	94	385	(78)	(21)	(99)	287	175	205	(188)	17	193
Student Affairs	2,720	226	962	1,188	3,908	7,880	(1,970)	905	(1,065)	6,815	5,160	(2,197)	(56)	(2,253)	2,907
DBAC Building Financing		(1,211)	-	(1,211)			-	-	-			1,211	-	1,211	1,211
DBAC Deferred Maintenance	3,061	400	-	400	3,461	3,161	160	-	160	3,321	100	(240)	-	(240)	(140)
Undergraduate Scholarships	1,986	220	-	220	2,206	3,061	(297)	(1,413)	(1,710)	1,351	1,075	(517)	(1,413)	(1,930)	(855)
Sub-total	7,452	(618)	1,128	511	7,963	13,527	(2,080)	431	(1,649)	11,878	6,075	(1,462)	(697)	(2,160)	3,915
6. Facilities Support															
Facilities Services	388	38	155	193	581	306	(246)	55	(191)	115	(82)	(283)	(100)	(383)	(466)
HSC Maintenance	92	(112)	-	(112)	(20)	320	(320)	-	(320)	(0)	228	(208)	-	(208)	20
Utilities	1,495	(1,692)	-	(1,692)	(197)	542	(1,587)	1,652	65	607	(953)	105	1,652	1,757	804
Security	319	(324)	-	(324)	(5)	136	(63)	(60)	(123)	13	(182)	260	(60)	200	18
Deferred Maintenance	0	(0)	(0)	(0)	0	-	(0)	-	(0)	(0)	(0)	(0)	0	(0)	(0)
Bond Interest	(0)	-	-	-	(0)	(2)	2	-	2	0	(3)	2	-	2	0
Renovation contingency	0	0	-	0	0	-	(0)	-	(0)	(0)	(0)	(0)	-	(0)	(0)
Sub-total	2,293	(2,091)	155	(1,936)	358	1,302	(2,215)	1,647	(568)	735	(991)	(124)	1,492	1,368	377
7. Institutional Support															
Administration	3,524	(27)	(393)	(420)	3,104	3,541	30	(396)	(366)	3,175	17	57	(3)	54	71
Financial Affairs	1,556	144	(389)	(245)	1,312	2,250	461	(2,624)	(2,163)	86	693	317	(2,236)	(1,919)	(1,225)
Human Resources	(702)	(1,081)	127	(954)	(1,656)	(150)	(868)	687	(181)	(331)	551	214	560	774	1,325
UTS/Technology Fund	3,515	(2,297)	(323)	(2,620)	894	6,024	(3,473)	(29)	(3,502)	2,523	2,510	(1,176)	294	(882)	1,628
UTS Asset Management	907	(839)	-	(839)	68	1,443	(1,252)	-	(1,252)	192	537	(413)	-	(413)	124
University Secretariat	294	(213)	-	(213)	81	359	21	(203)	(182)	177	65	234	(203)	31	96
Presidential Budget	142	38	-	38	180	377	25	-	25	402	235	(13)	-	(13)	221
University Advancement	3,340	(1,425)	-	(1,425)	1,914	3,943	(1,307)	-	(1,307)	2,637	119	604	-	119	722
Legal	(1,508)	(1,531)	130	(1,401)	(2,909)	1,983	(1,980)	3,830	1,850	65	(277)	(449)	3,700	3,251	2,974
General University	576	(1,115)	540	(575)	1	1,166	(892)	540	(352)	815	591	223	-	223	814
Sub-total	11,644	(8,347)	(308)	(8,655)	2,989	17,169	(9,234)	1,805	(7,429)	9,740	5,525	(887)	2,112	1,226	6,750
8. Institutional Priority allocations															
Technology Renewal	(12,249)	-	4,517	4,517	(7,732)	(12,249)	(0)	4,517	4,517	(7,732)	(0)	(0)	-	(0)	(0)
Marketing & Branding	(0)	0	0	0	(0)	202	(515)	313	(202)	0	202	(515)	313	(202)	0
Pension	(0)	0	-	0	(0)	(0)	0	-	0	0	0	0	-	0	0
Strategic Priorities	3,079	-	-	-	3,079	2,729	(0)	(2,729)	(2,729)	(0)	(350)	(0)	(2,729)	(2,729)	(3,079)
Sub-total	(9,171)	0	4,517	4,517	(4,654)	(9,319)	(515)	2,101	1,586	(7,732)	(148)	(515)	(2,416)	(2,931)	(3,079)
Surplus/(Deficit)	159,197	37,803	(42,624)	(4,822)	154,375	198,752	39,055	(65,496)	(26,441)	172,311	39,555	1,253	(22,872)	(21,619)	17,936
Under/(over)allocated	(0)	4,517	(4,517)	0	(0)	(0)	4,517	(4,517)	(0)	(0)	(0)	(0)	-	(0)	(0)
Total Surplus/(Deficit)	159,197	42,320	(47,141)	(4,822)	154,375	198,752	43,572	(70,013)	(26,441)	172,311	39,555	1,253	(22,872)	(21,619)	17,936

Table 27: Operating Fund Budget and Plan Financial Position by Unit

(\$ thousands)	2022/23 Budget				2023/24 Plan				2024/25 Plan				
	Appropriations April 30, 2022	On-going	One-time	Total	Appropriations April 30, 2023	On-going	One-time	Total	Appropriations April 30, 2024	On-going	One-time	Total	Appropriations April 30, 2025
1. Facilities													
Business	3,431	14,158	(15,000)	(842)	2,589	13,354	(10,000)	3,354	5,943	11,118	-	11,118	17,060
Engineering	24,105	7,422	(4,324)	3,097	27,203	6,392	(4,761)	1,631	28,834	6,528	(5,807)	721	29,555
Health Sciences	47,432	(5,401)	(1,634)	(7,035)	40,398	(15,578)	-	(15,578)	24,820	(18,833)	-	(18,833)	5,987
Humanities	11,454	(3,758)	1,262	(2,496)	8,958	(5,238)	180	(5,058)	3,900	(3,864)	1,173	(2,691)	1,208
Science	15,068	316	(3,746)	(3,430)	11,638	913	272	1,185	12,823	1,605	(35)	1,570	14,393
Medical Radiation - Mohawk share	(0)	(0)	-	(0)	(0)	-	-	-	(0)	-	-	-	(0)
Social Sciences	19,874	231	(620)	(389)	19,485	(1,462)	(585)	(2,047)	17,438	(2,625)	(585)	(3,210)	14,228
Arts & Science	1,552	(840)	-	(840)	711	(661)	(15)	(676)	35	(668)	(15)	(683)	(648)
Sub-total	122,917	12,126	(24,062)	(11,936)	110,982	(2,280)	(14,910)	(17,190)	93,792	(6,740)	(5,269)	(12,009)	81,783
2. Academic Priorities													
University Fund	38,431	11,874	(14,874)	(3,000)	35,431	13,410	(13,410)	0	35,431	11,860	(11,860)	0	35,431
Revenue Projection Contingency	(4,914)	6,287	-	6,287	1,373	286	-	286	1,659	285	-	285	1,944
Ongoing Priorities Contingency	43	10,033	-	10,033	10,076	6,728	-	6,728	16,804	14,183	-	14,183	30,987
One-time Priorities Contingency	(20,322)	10,000	(6,408)	3,592	(16,730)	10,000	(1,410)	8,590	(8,140)	10,000	(1,860)	8,140	0
Sub-total	13,238	36,194	(21,282)	16,912	30,150	30,424	(14,820)	15,604	45,754	36,328	(13,720)	22,608	68,362
TOTAL ACADEMIC	136,155	50,320	(45,344)	4,976	141,132	28,144	(29,729)	(1,586)	139,546	29,588	(18,989)	10,599	150,145
3. Academic Support													
Office of the Provost	6,803	(2,826)	1	(2,825)	3,978	(2,857)	(219)	(3,076)	902	(3,045)	(180)	(3,226)	(2,324)
Museum of Art	99	(52)	-	(52)	47	(0)	-	(0)	47	0	-	0	47
MacPherson Institute	2,499	(675)	(173)	(848)	1,651	(593)	-	(593)	1,058	(609)	-	(609)	449
University Library	757	(1,547)	790	(757)	(1)	(2,146)	197	(1,949)	(1,949)	(2,252)	-	(2,252)	(4,201)
Health Sciences Library	137	(96)	-	(96)	42	(114)	-	(114)	(72)	(324)	-	(324)	(396)
Registrar	1,795	(220)	-	(220)	1,575	(420)	-	(420)	1,155	(537)	-	(537)	619
Sub-total	12,090	(5,415)	618	(4,797)	7,293	(6,129)	(22)	(6,151)	1,142	(6,768)	(180)	(6,948)	(5,806)
4. Research Support													
Research	7,409	(948)	(210)	(1,158)	6,251	(1,891)	-	(1,891)	4,360	(1,590)	-	(1,590)	2,770
VP Research Discretionary Fund	2,425	(1,306)	-	(1,306)	1,119	(315)	-	(315)	804	(24)	-	(24)	779
Research Loans	(388)	39	-	39	(349)	39	-	39	(310)	39	-	39	(272)
Sub-total	9,446	(2,216)	(210)	(2,426)	7,020	(2,167)	-	(2,167)	4,853	(1,575)	-	(1,575)	3,278
5. Student Support													
Graduate Scholarships	104	118	-	118	222	118	-	118	340	118	-	118	458
School of Graduate Studies	287	(33)	1	(32)	254	(101)	(5)	(105)	149	(142)	-	(142)	7
Student Affairs	6,815	(2,344)	(301)	(2,635)	4,180	(2,327)	(275)	(2,603)	1,577	(2,325)	(296)	(2,621)	(1,044)
DBAC Building Financing	-	(706)	-	(706)	(706)	59	-	59	(647)	181	-	181	(466)
DBAC Deferred Maintenance	3,321	520	-	520	3,841	520	-	520	4,361	520	-	520	4,881
Undergraduate Scholarships	1,351	(0)	-	(0)	1,351	(0)	-	(0)	1,351	(0)	-	(0)	1,351
Sub-total	11,878	(2,435)	(300)	(2,736)	9,142	(1,731)	(280)	(2,011)	7,132	(1,648)	(296)	(1,944)	5,188
6. Facilities Support													
Facilities Services	115	(327)	255	(72)	43	(887)	-	(887)	(844)	(1,314)	-	(1,314)	(2,158)
HSC Maintenance	(0)	13	-	13	13	13	-	13	25	13	-	13	38
Utilities	607	(60)	-	(60)	546	(1,609)	-	(1,609)	(1,063)	(1,564)	-	(1,564)	(2,627)
Security	13	4	-	4	17	(84)	-	(84)	(67)	(124)	-	(124)	(191)
Deferred Maintenance	(0)	(0)	-	(0)	(0)	(0)	-	(0)	(0)	(0)	-	(0)	(0)
Bond Interest	0	0	-	0	0	0	-	0	0	0	-	0	0
Renovation contingency	(0)	0	-	0	(0)	0	-	0	(0)	0	-	0	(0)
Sub-total	735	(370)	255	(115)	619	(2,568)	-	(2,568)	(1,949)	(2,989)	-	(2,989)	(4,938)
7. Institutional Support													
Administration	3,175	(90)	600	510	3,685	181	-	181	3,867	188	-	188	4,055
Financial Affairs	86	489	(350)	139	225	515	(325)	190	415	463	(280)	183	598
Human Resources	(331)	(145)	30	(115)	(446)	(395)	-	(395)	(841)	(569)	-	(569)	(1,410)
ITS/Technology Fund	2,523	(1,340)	(597)	(1,938)	585	(1,504)	400	(1,104)	(519)	(1,707)	-	(1,707)	(2,226)
UTS Asset Management	192	(159)	-	(159)	33	(309)	-	(309)	(276)	(259)	-	(259)	(536)
University Secretariat	177	(129)	-	(129)	48	(148)	-	(148)	(100)	(168)	-	(168)	(268)
Presidential Budget	402	8	-	8	410	0	-	0	410	(0)	-	(0)	410
University Advancement	2,637	(1,427)	-	(1,427)	1,209	(748)	-	(748)	461	(111)	-	(111)	350
Legal	65	84	-	84	149	56	-	56	205	39	-	39	244
General University	815	(1,078)	-	(1,078)	(263)	(1,421)	-	(1,421)	(1,684)	(1,694)	-	(1,694)	(3,378)
Sub-total	9,740	(3,787)	(318)	(4,105)	5,635	(3,772)	75	(3,698)	1,937	(3,819)	(280)	(4,099)	(2,162)
8. Institutional Priority allocations													
Technology Renewal	(7,732)	-	4,517	4,517	(3,215)	-	3,215	3,215	(0)	-	-	-	(0)
Marketing & Branding	0	(388)	388	0	0	(0)	-	(0)	(0)	0	-	0	0
Pension	0	0	-	0	0	0	-	0	0	0	-	0	0
Strategic Priorities	(0)	-	-	-	(0)	-	-	-	(0)	-	-	-	(0)
Sub-total	(7,732)	(388)	4,905	4,517	(3,215)	(0)	3,215	3,215	(0)	0	-	0	(0)
Surplus/(Deficit)	172,311	35,709	(40,394)	(4,685)	167,626	11,776	(26,742)	(14,966)	152,660	12,789	(19,745)	(6,956)	145,704
Under/(over)allocated	(0)	4,517	(4,517)	0	(0)	3,215	(3,215)	0	(0)	0	-	0	(0)
Total Surplus/(Deficit)	172,311	40,226	(44,911)	(4,685)	167,626	14,991	(29,957)	(14,966)	152,660	12,789	(19,745)	(6,956)	145,704

APPENDIX 4 – ANCILLARY FUND UNIT LEVEL TABLES

Table 28: Ancillary Fund Budget by Unit

(\$ thousands)	McMaster Continuing Education		Campus Store		Media Production Services		Parking Services		Hospitality Services		Housing & Conference Services		Total	
	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget	2021/22 Projection	2022/23 Budget
Sources of funding														
Sales	7,770	7,938	11,924	13,245	137	259	2,421	5,476	14,457	29,963	29,437	34,988	66,146	91,869
Internal revenue	558	664	429	435	1,684	2,636	14	14	100	1,976	(117)	52	2,668	5,776
Total sources of funding	8,327	8,602	12,354	13,680	1,821	2,895	2,435	5,490	14,557	31,938	29,320	35,040	68,814	97,645
Expenditure														
Salaries, wages and benefits	6,009	6,368	2,404	2,657	1,485	1,692	1,018	1,348	8,871	11,918	7,294	10,239	27,080	34,223
Cost of sales	-	-	9,128	9,598	403	659	-	-	5,397	11,828	0	-	14,928	22,086
Internal rent	479	479	232	461	59	122	19	34	612	1,152	1,936	3,871	3,336	6,119
Utilities and maintenance	14	14	17	17	7	23	119	186	514	801	3,849	4,100	4,518	5,141
Debt and financing charges	-	-	-	44	-	-	888	782	135	135	5,323	5,853	6,347	6,815
Equipment and renovations	138	327	194	199	286	432	186	941	100	294	3,616	4,109	4,520	6,302
All other expenses	1,796	2,471	298	298	50	95	1,251	1,505	1,739	2,756	2,598	6,087	7,732	13,211
Total expenditures	8,436	9,659	12,272	13,274	2,288	3,023	3,481	4,796	17,367	28,885	24,616	34,258	68,461	93,896
Surplus (deficit) from operations	(108)	(1,057)	82	405	(467)	(128)	(1,047)	694	(2,811)	3,054	4,704	782	353	3,749
Contribution to Operating Fund	(375)	(417)	(208)	-	(175)	-	(241)	-	(1,156)	-	(1,278)	-	(3,432)	(417)
Surplus (deficit)	(484)	(1,474)	(126)	405	(642)	(128)	(1,287)	694	(3,967)	3,054	3,427	782	(3,079)	3,332
Reserve														
Beginning Balance	4,870	4,386	(1,275)	(1,402)	(868)	(1,510)	(1,523)	(2,810)	(2,389)	(6,356)	(3,491)	(65)	(4,677)	(7,757)
Reserve Adjustment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Surplus (deficit)	(484)	(1,474)	(126)	405	(642)	(128)	(1,287)	694	(3,967)	3,054	3,427	782	(3,079)	3,332
Closing Balance	4,386	2,912	(1,402)	(996)	(1,510)	(1,639)	(2,810)	(2,116)	(6,356)	(3,302)	(65)	717	(7,757)	(4,425)

APPENDIX 5 – SUMMARY BY FUND

Table 29: Consolidated 2021/22 Projection by Fund

(\$ thousands)

	Operating Fund	Research Fund	Capital Fund	External Endowment	Internal Endowment	Ancillary Fund	Externally Funded	Total	GAAP Adjustment	Full Accrual Basis
Revenues										
Operating grants	239,843	-	5,000	-	-	-	-	244,843	29,259	274,102
Research grants and contracts	-	218,000	-	-	-	-	-	218,000	(39,660)	178,340
Tuition fees	423,000	-	-	-	-	-	-	423,000	24,469	447,469
Ancillary sales and services	-	-	-	-	-	66,146	-	66,146	12,036	78,182
Other revenues	133,519	-	5,400	2,637	100	-	34,497	176,153	11,214	187,367
Amortization of deferred capital contributions	-	-	-	-	-	-	-	-	41,811	41,811
Investment income (loss)	3,445	-	-	26,883	7,904	-	-	38,232	27,759	65,991
Investment income transfer	6,022	-	-	-	(6,022)	-	-	-	-	-
Total revenues	805,829	218,000	10,400	29,520	1,982	66,146	34,497	1,166,374	106,888	1,273,262
Expenses										
Salaries, wages and benefits	544,269	138,200	-	-	-	27,080	24,375	733,924	9,366	743,290
All other expenses	196,081	101,400	130,979	4,822	391	26,030	10,422	470,126	(154,537)	315,589
Amortization expense	-	-	-	-	-	-	-	-	90,612	90,612
Transfers to (from) other funds	69,499	(20,587)	(79,657)	20,293	859	9,768	(177)	-	-	-
Debt and financing charges	22,763	-	(10,640)	-	-	6,347	-	18,470	(2,832)	15,638
Total expenses	832,613	219,013	40,682	25,115	1,250	69,225	34,621	1,222,520	(57,391)	1,165,129
Excess of revenues over expenses	(26,784)	(1,013)	(30,282)	4,405	732	(3,079)	(124)	(56,146)	164,279	108,133

Table 30: Consolidated 2022/23 Budget by Fund

(\$ thousands)

	Operating Fund	Research Fund	Capital Fund	External Endowment	Internal Endowment	Ancillary Fund	Externally Funded	Total	GAAP Adjustment	Full Accrual Basis
Revenues										
Operating grants	239,816	-	5,970	-	-	-	-	245,786	28,320	274,106
Research grants and contracts	-	220,000	-	-	-	-	-	220,000	(39,877)	180,123
Tuition fees	445,672	-	-	-	-	-	-	445,672	20,056	465,728
Ancillary sales and services	-	-	-	-	-	91,869	-	91,869	1,976	93,845
Other revenues	147,944	-	9,400	2,559	100	-	33,610	193,613	(4,373)	189,240
Amortization of deferred capital contributions	-	-	-	-	-	-	-	-	40,389	40,389
Investment income (loss)	3,209	-	-	32,973	9,685	-	-	45,867	37,799	83,666
Investment income transfer	6,258	-	-	-	(6,258)	-	-	-	-	-
Total revenues	842,899	220,000	15,370	35,532	3,527	91,869	33,610	1,242,807	84,290	1,327,097
Expenses										
Salaries, wages and benefits	565,034	140,400	-	-	-	34,223	24,349	764,005	6,103	770,108
All other expenses	225,615	100,600	226,281	4,741	627	37,003	8,995	603,862	(282,515)	321,347
Amortization expense	-	-	-	-	-	-	-	-	96,226	96,226
Transfers to (from) other funds	30,934	(18,977)	(44,775)	21,593	865	10,496	(137)	(0)	0	-
Debt and financing charges	26,001	-	(12,680)	-	-	6,815	-	20,136	(2,007)	18,129
Total expenses	847,584	222,023	168,826	26,334	1,492	88,537	33,207	1,388,004	(182,194)	1,205,810
Excess of revenues over expenses	(4,685)	(2,023)	(153,456)	9,198	2,035	3,332	403	(145,197)	266,484	121,287

Table 31: Consolidated 2023/24 Plan by Fund

(\$ thousands)

	Operating Fund	Research Fund	Capital Fund	External Endowment	Internal Endowment	Ancillary Fund	Externally Funded	Total	GAAP Adjustment	Full Accrual Basis
Revenues										
Operating grants	239,300	-	5,330	-	-	-	-	244,630	29,456	274,086
Research grants and contracts	-	222,000	-	-	-	-	-	222,000	(40,075)	181,925
Tuition fees	461,424	-	-	-	-	-	-	461,424	39,786	501,210
Ancillary sales and services	-	-	-	-	-	105,726	-	105,726	(520)	105,206
Other revenues	144,839	-	126,150	4,000	100	-	32,612	307,700	(115,567)	192,133
Amortization of deferred capital contributions	-	-	-	-	-	-	-	-	39,433	39,433
Investment income (loss)	2,970	-	-	33,488	9,835	-	-	46,293	39,316	85,608
Investment income transfer	6,497	-	-	-	(6,497)	-	-	-	-	-
Total revenues	855,030	222,000	131,480	37,488	3,437	105,726	32,612	1,387,773	(8,172)	1,379,601
Expenses										
Salaries, wages and benefits	594,605	142,600	-	-	-	36,478	24,104	797,786	155	797,941
All other expenses	233,330	100,300	288,340	6,681	-	43,748	9,645	682,044	(353,106)	328,938
Amortization expense	-	-	-	-	-	-	-	-	105,064	105,064
Transfers to (from) other funds	16,705	(17,933)	(34,101)	20,799	878	13,794	(141)	(0)	0	-
Debt and financing charges	25,355	-	(19,485)	-	-	6,802	-	12,672	5,410	18,082
Total expenses	869,995	224,967	234,754	27,480	878	100,822	33,608	1,492,503	(242,478)	1,250,025
Excess of revenues over expenses	(14,966)	(2,967)	(103,274)	10,008	2,559	4,904	(996)	(104,730)	234,306	129,576

Table 32: Consolidated 2024/25 Plan by Fund

(\$ thousands)

	Operating Fund	Research Fund	Capital Fund	External Endowment	Internal Endowment	Ancillary Fund	Externally Funded	Total	GAAP Adjustment	Full Accrual Basis
Revenues										
Operating grants	239,246	-	5,330	-	-	-	-	244,576	29,495	274,071
Research grants and contracts	-	224,000	-	-	-	-	-	224,000	(40,256)	183,744
Tuition fees	476,677	-	-	-	-	-	-	476,677	67,021	543,698
Ancillary sales and services	-	-	-	-	-	135,285	-	135,285	(27,695)	107,590
Other revenues	149,118	-	131,020	4,000	100	-	32,406	316,644	(122,600)	194,044
Amortization of deferred capital contributions	-	-	-	-	-	-	-	-	48,714	48,714
Investment income (loss)	2,748	-	-	34,049	9,978	-	-	46,775	42,246	89,021
Investment income transfer	6,719	-	-	-	(6,719)	-	-	-	-	-
Total revenues	874,508	224,000	136,350	38,049	3,359	135,285	32,406	1,443,957	(3,075)	1,440,882
Expenses										
Salaries, wages and benefits	610,675	144,800	-	-	-	42,343	24,237	822,054	4,773	826,827
All other expenses	239,361	101,200	259,143	8,252	-	62,786	9,381	680,124	(344,741)	335,383
Amortization expense	-	-	-	-	-	-	-	-	116,001	116,001
Transfers to (from) other funds	6,073	(17,998)	(23,800)	20,300	891	14,676	(143)	(0)	0	-
Debt and financing charges	25,355	-	(19,490)	-	-	8,146	-	14,011	4,023	18,034
Total expenses	881,465	228,002	215,853	28,552	891	127,951	33,475	1,516,189	(219,944)	1,296,245
Excess of revenues over expenses	(6,956)	(4,002)	(79,503)	9,497	2,468	7,334	(1,069)	(72,232)	216,869	144,637

APPENDIX 6 – SIGNIFICANT ACCOUNTING POLICIES

The University's audited financial statements are prepared in accordance with Canadian accounting standards for not-for-profit organizations in Part III of the Chartered Professional Accountant (CPA) Canada Handbook. A summary of the significant accounting policies follows:

1) Revenue recognition: The University follows the deferral method of accounting for contributions which include donations and government grants. The principles under this method are summarized as follows:

- Unrestricted contributions are recognized as revenue when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured.
- Contributions externally restricted for purposes such as research grants and non-endowed donations are deferred and recognized as revenue in the year in which the related expenses are recognized.
- Contributions externally restricted for capital asset purchases are deferred and amortized to operations on the same basis as the related capital asset.
- External endowment contributions and investment income preserved under the endowment capital protection policy are recognized as a direct change to endowment net assets. Income realized from the investment, to the extent it is allocated, is recorded as deferred contributions and recorded as revenue in the periods in which the related expenses are incurred.

2) Capital assets and amortization: Capital assets are recorded at cost, or if donated, at fair value on the date of receipt. Amortization is recorded on the straight-line basis over the expected life of the asset.

3) Collections and works of art: The McMaster Museum of Art has significant collections of works of art and coins. The value of collections has been excluded from the Statement of Financial Position except for a nominal value of \$1. Donations of works of art are recorded in operations as revenue at values based on appraisals and are expensed in the year received. Purchased collections are expensed in the year of acquisition.

4) Pensions and other employee future benefits: The University maintains defined benefit registered and non-registered pension plans, a retirement incentive program and group registered retirement savings plans. Non-pension post-retirement and post-employment benefits plans are also provided. Accruals for these costs are recorded over the periods of service. The current service cost and finance cost for the year are charged to excess of revenues over expenses. The actuarial method of determining the accrued benefit obligations for the defined benefit plans uses the funding valuation method, which reflects the long-term nature of the plans and uses management's estimates of investment yields, salary inflation, benefit cost trends and other factors.

- Remeasurement and other items are recognized as a direct increase (decrease) to net assets and are not reclassified to the statement of operations in subsequent periods. Remeasurement and other items comprise the aggregate of: the difference between the actual return on plan assets and the return calculated using the discount rate used to determine the defined benefit obligation; the actuarial gains and losses; the effect of any

valuation allowance in the case of a net defined benefit asset; past service costs; and any gains and losses arising from settlements and curtailments.

- The employer's share of group RRSP contributions is charged to operations in the year made.

5) Investments: Short-term investments are recorded at cost plus accrued income which together approximates fair value. Long-term investments are carried at fair values. Changes in fair value are included in investment income. Investments in publicly traded research entities not subject to significant influence are carried in investments at fair values. Changes in fair values are included in other income. Investments in private research entities are carried in other asset at cost, net of any impairment.

6) Net assets: Net assets are classified as follows:

- Internally restricted: Employee future benefits represent the unfunded portion of pension and other non-pension retirement and post-employment benefits, net of funds set aside to meet estimated future obligations. Other internal reserves, as approved by the Board, include unexpended departmental carry forward amounts for future expenditures or amounts set aside to settle future-oriented obligations.
- Equity in capital assets: Funds invested in capital assets, exclusive of capital assets financed through long-term obligations or deferred capital contributions.
- Internal endowments: Unrestricted contributions including unspent investment income which have been restricted by action of the Board.
- External endowments: External contributions, the principal of which is non-expendable pursuant to the restrictions by the donor, and income retained under the endowment capital protection policy.

7) Endowment capital protection policy: In order to protect the capital value of endowment investments, an endowment capital protection policy limits the amount of investment income allocated for spending to 4%, plus 1% administration spending, and requires the reinvestment of excess income earned (interest, dividends, realized and unrealized capital gains, net of investment expenses). Should endowment spending commitments exceed allocated income, amounts will be drawn from accumulated net investment income balances to fund deficiencies. For endowments without sufficient accumulated investment income, temporary encroachment on capital is permitted where the terms allow. The encroached amounts will be recovered from future investment returns.

APPENDIX 7 – OPERATING FUND ENVELOPE GROUPINGS

Major areas and depts included in envelopes:

Activity Units

DeGroote School of Business

Accounting and Financial Management
Executive Education
Finance and Business Economics
Health Policy and Management
Human Resources and Management
Information Systems
Marketing
Operations Management
Strategic Management
Research Centres
McMaster eBusiness Research Centre
Gould Trading Floor
Health Leadership Academy
Investment Decision Centre
Management of Innovation and Technology

Faculty of Engineering

Chemical Engineering
Civil Engineering
Computing and Software
Electrical and Computer Engineering
Engineering Physics
Materials Science and Engineering
Mechanical Engineering
School of Biomedical Engineering
W. Booth School of Engineering Practice and Technology
Research Centres
ArcelorMittal Dofasco Centre for Engineering and Public Policy
Centre for Effective Design of Structures
Centre for Emerging Device Technologies
Centre for Engineering Design
Centre for Research in Micro- and Nano-systems
Centre of Excellence in Protective Equipment and Materials
Computing Infrastructure Research Centre
McMaster Centre for Software Certification
McMaster Institute for Energy Studies
McMaster Manufacturing Research Institute
McMaster Steel Research Centre
Xerox Centre for Engineering Entrepreneurship and Innovation

Faculty of Health Sciences

Anaesthesia
Biochemistry & Biomedical Sciences
Health Research Methods, Evidence, and Impact
Health Policy
Family Medicine
Michael G. DeGroote School of Medicine
Midwifery
Obstetrics and Gynecology
Oncology
Pathology and Molecular Medicine
Pediatrics
Psychiatry and Behavioural Neurosciences
Radiology
Surgery
School of Nursing
School of Rehabilitation Science

Faculty of Humanities

Classics
Communication Studies and Multimedia
English and Cultural Studies
French
Gender & Social Justice
History
Linguistics and Languages
Global Peace & Social Justice
Philosophy
School of the Arts
Research Centres
Bertrand Russell Research Centre
Advanced Research in Experimental & Applied Linguistics Research Centre
LR Wilson Institute for Canadian History

Faculty of Science

Biochemistry & Biomedical Sciences
Biology
Chemistry and Chemical Biology
Earth, Environment & Society
Interdisciplinary Science
Kinesiology
Mathematics and Statistics
Physics and Astronomy
Psychology, Neuroscience and Behaviour
Research Centres
BioInterfaces Institute
McMaster Centre for Climate Change
McMaster Institute for Music and the Mind
Origins Institute
Physical Activity Centre of Excellence

Faculty of Social Sciences

Anthropology
Economics
Environment & Society
Health, Aging & Society
Indigenous Studies
Labour Studies
Political Science
Psychology, Neuroscience & Behaviour
Social Psychology
Social Work
Sociology
Research Centres
Gilbreath Centre for Studies in Aging
Institute on Globalization and the Human Condition
Research Institute for Quantitative Studies in Economics & Population

Arts & Science Program

Support Units

Academic Support

Provost and Vice-President (Academic) Office
Equity and Inclusion Office
Health Sciences Library
Institutional Research and Analysis
International Affairs
Museum of Art
Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching
Registrar's Office
University Library

Research Support

Research
Vice-President (Research) Office
Biosafety Committee
Health Physics
McMaster Industry Liaison Office
Nuclear Operations and Facilities
Research Ethics
Research Finance
Research High Performance Computing
Research Office for Administration, Development and Support
Research Centres
Includes:
Accelerator Lab
Biomedical engineering and Advanced Manufacturing Research Centre
Brockhouse Institute for Material Research
Canadian Centre for Electron Microscopy
Canadian Research Data Centre Network
Interface: McMaster Institute for Multi-Hazard Systemic Risk Studies
MacData Institute
McMaster Indigenous Research Institute
McMaster Institute for Healthier Equity
McMaster Institute for Research on Aging
McMaster Institute for Transportation and Logistics
Statistics Canada Research Data Centre at McMaster
Vice-President (Research) Discretionary Fund

Facilities Support

Facility Services
Security
Utilities

Institutional Support

Operations & Finance
Vice-President (Operations & Finance) Office
Financial Affairs
Human Resources
Internal Audit
Advancement
Advancement Services
Alumni Advancement
Communications and Public Affairs
Development
Stewardship and Donor Relations
Vice-President (Advancement) Office
General University
Legal
Office of the President
University Secretariat
University Technology Services

Institutional Priorities

Marketing and Branding
Pension
President's Strategic Support Fund
Technology Renewal

Student Support

School of Graduate Studies
Student Affairs
Athletics and Recreation
Career Planning and Employment
Indigenous Student Services
International Student Services
Student Accessibility Services
Student Success Centre
Student Transition and Development
Student Wellness Centre
Graduate Scholarships
Undergraduate Scholarships

APPENDIX 8 – ACRONYMS

AODA	Accessibility for Ontarians with Disabilities Act	MCE	McMaster Continuing Education
AREB	Animal Research Ethics Board	MCU	Ministry of Colleges and Universities
BI	Business Information	MD	Medical Doctorate
BIMR	Brockhouse Institute for Materials Research	MELD	McMaster English Language Development
BIPOC	Black, Indigenous and People of Colour	MIBI	Multiplex Ion Beam Imaging
BWRI	Brighter World Research Initiative	MILO	McMaster Industry Liaison Office
CATS	Campus Accessible Tech Space	MIRI	McMaster Indigenous Research Institute
CAAP	Campus Accessibility Plan	MIS	Management Information System
CAUBO	Canadian Association of University Business Officers	MNR	McMaster Nuclear Reactor
CEPEM	Centre of Excellence in Protective Equipment and Materials	MPS	Media Production Services
CERC	Canada Excellence Research Chairs	MREB	McMaster Research Ethics Board
CFI	Canada Foundation for Innovation	MSI	Major Science Initiatives
CFREF	Canada First Research Excellence Fund	MUMC	McMaster University Medical Centre
CCEM	Canadian Centre for Electron Microscopy	NFRF	New Frontiers in Research Fund
CCRM	Centre for Commercialization of Regenerative Medicine	NOF	Nuclear Operations and Facilities
COG	Core Operating Grant	OAPPA	Ontario Association of Physical Plant Administrators
COU	Council for Ontario Universities	OER	Ontario Electricity Rebate
CPA	Chartered Professional Accountant	OREC	Ontario Rebate for Electricity Consumers
CRC	Canada Research Chair	OSAP	Ontario Student Access Program
CRKN	Canadian Research Knowledge Network	PBA	Pensions Benefit Act
CRM	Client Relationship Management	PIAD	Provision for adverse deviation
CV	Curriculum Vitae	PGCLL	Peter George Centre for Living and Learning
DB	Defined Benefit	PRB	Post-retirement benefit
DSB	DeGroote School of Business	PVP	Presidents and Vice-Presidents
EDI	Equity, Diversity, and Inclusion	RDM	Research Data Management
ERM	Enterprise Risk Management	ROADS	Office of the Registrar
FHS	Faculty of Health Sciences	RF	Residence Faculty
FWI	Forward with Integrity	RHPCS	Research and High Performance Computing Services
GSR	Graduate Student Residence	ROADS	Research Office for Administration, Development and Support
GAAP	Generally accepted accounting principle	RRSP	Registered Retirement Savings Plan
HCS	Housing and Conference Services	RSF	Research Support Fund
HR	Human Resources	SAG	Student Access Guarantee
HS	Hospitality Services	SANS	Small Angle Neutron Scattering
HSL	Health Sciences Library	SF	Square Feet
HQP	Highly Qualified Personnel	SGS	School of Graduate Studies
IBDQ	Inflammatory Bowel Disease Questionnaire	SMA	Strategic Mandate Agreement
IF	Innovation Fund	SPICES	Student Proposals for Intellectual Community and Engages Scholarship
IP	Intellectual Property	SURT	Student Urgent Response Team
IPG	Incremental Projects Grant	UA	University Advancement
IQAP	Institutional Quality Assurance Process	UN	United Nations
ISS	Indigenous Student Services	UTS	University Technology Services
IT	Information Technology	VPR	Vice-President Research
MA	Master of Arts	WACC	Weighted Average Cost of Capital
MARC	McMaster Automotive Resource Centre	WGU	Weighted Grant Units
MBA	Master of Business Administration	WW	Welcome Week



April 29, 2022

University Planning Committee
c/o University Secretariat
GH-210

Dear Members,

Re: Approval of the School of Biomedical Innovation and Entrepreneurship

The Faculty of Health Sciences, Faculty Executive Committee has approved the attached proposal regarding the creation of the School of Biomedical Innovation and Entrepreneurship effective July 1, 2022.

The creation of the school has been made possible through the recent gift from Marnix and Mary Heersink and a separate request to name this the Marnix E. Heersink School of Biomedical Innovation has been submitted.

Prior to approval at the Executive Committee, extensive consultation occurred to determine the placement and scope of the School within the Faculty. After much discussion, it was felt that this School would be best structured as an umbrella, connecting with all existing Departments and Schools within FHS and with partners in Engineering.

This configuration will allow the School to provide a home base for the iBioMed/HESE undergraduate program and for the proposed Master of Biomedical Innovation program without changing their governance structures. Additionally, this will allow FHS to build on existing ties to the Faculty of Engineering. The School will serve an important purpose within the Faculty and the broader university by providing visibility, access, coordination and awareness to academic health entrepreneurship, which in turn will benefit learners in a number of programs.

The School of BI&E will be led by co-Directors as indicated in the attached proposal and terms of reference for these positions will be created once this recommendation is approved. These positions will be managed at the Faculty level and will follow all university policies regarding appointments to leadership roles.

We are excited to have the opportunity to create this ground-breaking school which we fully expect will generate a hub of biomedical innovation that will benefit McMaster and the broader community.

Thank you for considering this recommendation. If you need further information, please do not hesitate to contact me.

Yours sincerely,

Paul M. O'Byrne, MB, FRCPC, FRSC
Dean and Vice President

POB/rc

School of Biomedical Innovation and Entrepreneurship Proposal

1. Overview

As a result of a generous gift from Marnix and Mary Heersink, a School of Biomedical Innovation and Entrepreneurship is proposed within the Faculty of Health Sciences (FHS) at McMaster University. The School will become McMaster's hub for health innovation and be a place that nurtures academic entrepreneurship in biomedical sciences.

2. Context

In 2015, a gift from Mr. Michael G. DeGroote (MGD) enabled the creation of the MGD Health Innovation, Commercialization & Entrepreneurship initiative (MGD Health ICE). Since its inception, the MGD Health ICE team has piloted a series of experiential health entrepreneurship learning opportunities, established a network of health innovation coaches and mentors, and developed strong connections within the local innovation ecosystem. Based in *The Clinic @ Mac*, a new 3,000 square feet facility in the Health Sciences Library, Health ICE has reached hundreds of students, scientists, clinicians, and external companies through its activities.

While Health ICE provides a foundation to support the health entrepreneurial journey at McMaster, the next step to advance the innovation agenda is to establish a school allowing existing programs and initiatives to be organized under one umbrella. This type of organization, as experienced with other units at McMaster (for example, The W. Booth School in the Faculty of Engineering), will increase their visibility, recognition, resources, and connections and support their future success.

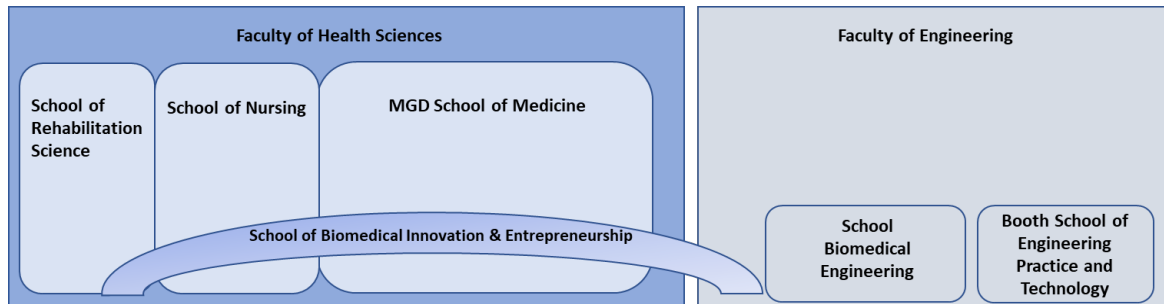
3. Vision

The vision is for the School of Biomedical Innovation and Entrepreneurship to be nested within the FHS. It will build strong connections to clinical departments, the Schools of Nursing and Rehabilitation Science and have collaborations with the W. Booth School of Engineering Practice and Technology and the School of Biomedical Engineering in the Faculty of Engineering. The integrated biomedical engineering and health sciences undergraduate program (iBioMed) and The Clinic will be clustered under the School's umbrella, and in future, it will include a new master level program in biomedical innovation that is in development.

The School will serve students, clinical learners, and faculty across multiple disciplines. Through its collaborations with the Faculty of Engineering it will leverage biomedical engineering expertise, facilities, and student engagement and amass a cadre of expertise to advance academic health entrepreneurship that will benefit learners across programs.

April 2022

Proposed Organization within FHS



4. Education Programs

Health, Engineering Science and Entrepreneurship

In 2017, the Faculty of Health Sciences partnered with the Faculty of Engineering to launch a new iBioMed undergraduate degree program. This interdisciplinary program launched with success, allowing students to select a stream after their first year to pursue an engineering degree or a health sciences degree. The latter is called the Health, Engineering Science and Entrepreneurship (HESE) program. It is currently administered through the FHS Education Services department with accountability to the Health Sciences Education Committee led by the Vice-Dean of Education.

The administrative organization and oversight of the program would remain unchanged. Academic review and accountability would continue to be through the Health Sciences Education Council. Through its affiliation with the School, iBioMed/HESE would benefit from the marketing profile, access to expertise, coaches and mentors, and access to additional facilities and resources.

Master of Biomedical Innovation (in preparation)

A novel master level program proposal for a Master of Biomedical Innovation (MBI) is in development with an anticipated launch in 2023. The MBI will be a novel FHS graduate program delivered through the Department of Surgery and accountable to the FHS Graduate Council. The program will be designed to enable learners to identify biomedical problems, design and develop solutions, and guide them through the important steps of idea validation and pathway(s) to market. It will be led by McMaster faculty with foundational support from successful biomedical entrepreneurs, coaches and mentors engaged with the School and through The Clinic @Mac.

5. Infrastructure and Resources

The Heersink gift will enable the renovation of a 2000 sq ft area within the Michael DeGroote Centre for Learning and Discovery. The space will be home to the proposed MBI program, and accessible to programs and initiatives within the School's umbrella. In future, there are plans to expand the School's physical footprint and establish its presence within Canada's Global Nexus for Pandemics and Biological Threats.

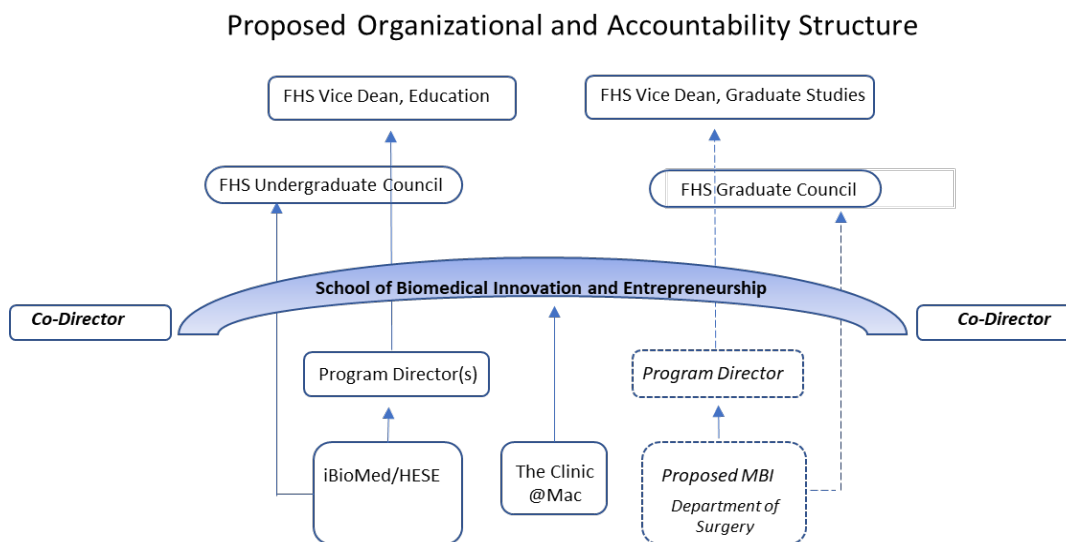
April 2022

Funds from the Heersink gift have been allocated to explore creation of new programs, and to invest in strategic health innovation and entrepreneurship initiatives at McMaster. The School will leverage infrastructure and resources developed through its collaboration with the Faculty of Engineering, The Clinic @ Mac, and other partners in the innovation ecosystem.

As a nominal entity, the School will not have direct teaching or research costs. The revenue and expenses of programs within the School (i.e. iBioMed and proposed MBI) will remain therein. The initial goal is to leverage existing administration within MGD Health ICE to minimize duplication and overall cost. Any direct administrative expenses of the School (leadership, communications, meetings, supplies etc.) are estimated to be \$150K/year and will be supported through the Heersink gift.

6. Leadership and Organization

Acting co-directors will be initially appointed to guide the School in its formation. Official terms of the Co-Directors will be established and approved through the appropriate McMaster policy. Academic programs will be accountable through the current FHS academic oversight structure, per below.



April 2022

MEMO

DATE: May 2, 2022

TO: University Planning Committee

FROM: Dr. Karen Mossman, Vice-President, Research



RE: Renaming of General Motors Centre for Automotive Materials and
Corrosion

Please be advised that the Faculty of Engineering would like to formally rename the General Motors Centre for Automotive Materials and Corrosion to Centre for Automotive Materials and Corrosion.

Please find enclosed a letter from current Director Dr. Joey Kish providing background of the General Motors (GM) partnership and confirmation that the GM collaboration had ended in 2015. Accordingly, I would like to recommend the renaming of this centre.

KM:jt

cc: Dean of Engineering
University Secretary and Freedom of Information and Protection of Privacy Officer



200 Longwood Road South
Hamilton, ON, L8P 0A6, Canada
Phone 289-674-0250 x59021
<https://www.eng.mcmaster.ca/centre-automotive-materials-and-corrosion>

April 7, 2022

Dear Members of the University Planning Committee:

Re: Research Centre Name Change Request

I am writing this letter to formally request that the University's research center originally named "General Motors Centre for Automotive Materials and Corrosion" at the time of establishment be renamed to the "Centre for Automotive Materials and Corrosion". McMaster University established the Centre in 2008 as part of a collaborative research partnership with General Motors. Given the research collaboration ended many years ago (2015), it is appropriate that the Center's name be officially changed.

General Motors' most significant contribution to the Centre was a one-time financial contribution in 2009 to help support the purchase the tools and instruments required to equip the Centre's sample preparation lab. The tools and instruments required to equip the remaining labs in the Centre were purchased from funding provided in the successful CFI-NIF/ORF grant "Materials & Manufacturing for Light Weighting Automobiles," awarded in 2009. Of the \$9.44 M awarded to the University of Waterloo (lead institution), \$6.75 M was allocated to McMaster: a large portion of which dedicated to equipping the Centre. General Motors also supported collaborative research grants with the Centre's core faculty (Wilkinson, McDermid, Jain and Kish), but only while an ORF-RE grant (Initiative for Automotive Manufacturing Innovation) was active (2008-2015). The name change will more accurately reflects this independence of General Motors and will send a clear message that the Centre is OEM agnostic and open to research collaboration.

Sincerely,

Joey Kish, P. Eng, Ph.D.
Director (kishjr@mcmaster.ca)

**REPORT TO THE UNIVERSITY PLANNING COMMITTEE
from the
UNDERGRADUATE COUNCIL**

I. FOR APPROVAL

a. Notice of Undergraduate Program Closures

At its April 19, 2022 meeting, the Undergraduate Council approved, for recommendation to the University Planning Committee and Senate, the recommendation to close the Studio Art, Theatre and Film, and Art History Degree Programs. Further details are contained within the circulated material.

It is now recommended,

that the University Planning Committee approve, for recommendation to Senate, the closure of the Studio Art, Theatre & Film, and Art History Degree Programs.

b. Establishment of New Certificate and Diploma Programs

At the same meeting on April 19, 2022, the Undergraduate Council approved, for recommendation to the University Planning Committee and Senate, the proposal for the Certificate in Management Principles and Practices, and the Certificate of Professional Learning in Management Principles and Practices. Details of the programs are contained within the circulated report.

i. Management Principles and Practices - Certificate, and Certificate of Professional Learning

It is now recommended,

that the University Planning Committee approve, for recommendation to Senate, the establishment of the Certificate and the Certificate of Professional Learning in Management Principles and Practices, as circulated.

c. Closure of Certificate and Diploma Programs

At the same meeting April 19, 2022, the Undergraduate Council approved, for recommendation to the University Planning Committee and Senate, the following three Diploma program closures. Details of these closures are contained within the circulated report.

i. Business Administration Diploma with the Business Analysis Concentration

ii. Business Administration Diploma with the Management Concentration

iii. Business Administration Diploma with the Project Management Concentration

It is now recommended,

that the University Planning Committee approve, for recommendation to Senate, the closure of the Business Administration Diploma with the Business Analysis Concentration, the Business Administration Diploma with the Management Concentration, and the Business Administration Diploma with the Project Management Concentration as set out in the attached.

d. New Certificate of Completion Programs

At its meeting on May 10, 2022, the Undergraduate Council will approve, for recommendation to the University Planning Committee and Senate, the following new Certificate of Completion programs. Details of the programs are contained within the circulated report.

- i. Organizational Learning & Program Evaluation**
- ii. Qualitative Data Collection & Analysis**
- iii. Quantitative Data Collection & Analysis**

It is now recommended,

that the University Planning Committee approve, for recommendation to Senate, the establishment of three Certificate of Completion programs in Organizational Learning & Program Evaluation, Qualitative Data Collection & Analysis, and Quantitative Data Collection & Analysis.

e. BHSc (Integrated Rehabilitation and Humanities) Program Proposal

At its meeting on May 10, 2022, the Undergraduate Council will approve, for recommendation to the University Planning Committee and Senate, the *Bachelor of Health Sciences (BHSc) in Integrated Rehabilitation and Humanities*. Details of the program is contained within the circulated report.


It is now recommended,

that the University Planning Committee approve, for recommendation to Senate, the establishment of the *Honours BHSc in Integrated Rehabilitation and Humanities* for inclusion in the 2023-2024 Undergraduate Calendar, as recommended by the Faculties of Health Sciences and Humanities, and set out in the attached.

FOR APPROVAL:
University Planning Committee
May 11, 2022

April 12, 2022

To: Kim Dej, Acting Vice-Provost (Faculty)

From: Pamela Swett, Dean, Faculty of Humanities 

Re: Undergraduate Program Closures of Studio Art, Theatre & Film and Art History Degree Programs

On behalf of the Faculty of Humanities and our School of the Arts, I write to inform you of the recommendation that our undergraduate programs in Theatre & Film Studies and Art History be closed, with final intake into these level II programs as of Fall 2023, and also of the closure of the Studio Art program, with final intake into level II as of Fall 2022.

The School of the Arts has historically offered four distinct undergraduate programs: Art History, Music, Studio Art, and Theatre & Film Studies. Recent years have seen waning interest in several of these programs, while the fields of study and work undertaken by our SOTA faculty have become increasingly interdisciplinary in nature. An intensive review of both the SOTA administrative unit and its academic programs has led to the development of a new Integrated Arts (iARTS) program, which will see its first enrolments in the direct entry level I B.F.A. option begin as of this coming academic year, in Fall 2022, and additional options for entry into level II of the Honours B.A. the following year.

The iARTS program, offered as both an Honours B.F.A. (direct entry) program and Honours B.A. program will offer an innovative arts program reflecting contemporary arts practice, transcending old disciplinary siloes and integrating arts practice, across media, with critical theory. The program offers at its core a critical engagement and interdisciplinarity that is adaptive and responsive to a changing job market, and allows students a new freedom to engage with the arts from a more holistic perspective.

iARTS was developed through an extensive consultation process over the last five years. This process included consultation with students, staff and faculty, and involved a thorough analysis of current standards and practices in the Arts, and that of societal demand. In 2019, the iARTS program proposal was put forward through the necessary university approvals, and prior to final Ministry approval of the program opening. This past fall these changes were once again put forward through curriculum approvals for addition to undergraduate calendar. Each stage of the program's approval process has involved discussion of the intended transition from three distinct programs into a new Integrated Arts program. This has allowed ample opportunity for

university units and governing bodies to review and address any questions or concerns with this transition.

Considerable care and thought have been given to the impact this may have on current students in these programs and the School has ensured that sufficient advance notice of the timing of these programs' phase-out was provided in university publications. All students who have entered or will enter into one of these three programs prior to its closure will be allowed the opportunity to complete the degree which they began within a reasonable timeframe. The School of the Arts has communicated its openness to providing flexibility for these students, and most notably will be integrating appropriate new iARTS courses, as they become available and existing program courses are deleted, into these existing programs.

This recommendation of the program closures of Studio Art, Theatre & Film and Art History undergraduate programs is made with the knowledge and approval of the School of the Arts. The Faculty offers its full support to this exciting initiative, the offering of an Integrated Arts program, and the consequent amalgamation of these distinct programs into a more integrated School of the Arts.

cc: Stephanie Springgay, Director, School of the Arts
Sean Corner, Associate Dean, Faculty of Humanities
Melissa Pool, University Registrar
Andrea Thyret-Kidd, University Secretary
Marcy Murchie, Director of Finance & Administration, Faculty of Humanities
Jackie Osterman, Assistant Dean, Faculty of Humanities
Rose Mannarino, Administrative Coordinator, School of the Arts

McMaster Continuing Education Academic Program Submission – For Approval

Department & Program Information:	
Program Name:	Management Principles and Practices
Academic Credential:	Certificate
Name of Representative:	Lorraine Carter
Effective Date:	May 2, 2022
Date of Submission:	April 5, 2022
Academic Merit:	
Program Overview:	<p>The proposed program will focus on core foundational theories and best practices of management. The program is designed for individuals interested in developing their competencies in supervision, management, and leadership to further their career growth opportunities.</p> <p>The Management Principles and Practices Certificate will attract participants seeking to add to their Business Administration studies with McMaster Continuing Education as well as individuals seeking management training for their professional development goals. The core courses and elective options will equip learners with essential skills for supervision and management and provide opportunities to develop their personal management and leadership style. Elective options are taken from McMaster Continuing Education's Senate approved courses in design thinking, intercultural competency, and Essentials program.</p>
Learning Objectives:	<p>Upon completion of the program, students will be able to:</p> <ul style="list-style-type: none"> • Identify the importance of interrelationships, including their impact on a company's success • Demonstrate understanding of the functional areas of management, such as human resources, finance, marketing, operations, and general management • Demonstrate appropriate knowledge, skills, attitudes and behaviours required to work effectively independently, and with others in a changing business environment

	<ul style="list-style-type: none"> • Describe strategies for ongoing personal and professional development to enhance work performance in the business field • Identify, select and compile information appropriate to a given communication strategy • Demonstrate knowledge and skill in the areas explored in their elective studies <p>The following additional objectives will be threaded within each course:</p> <ul style="list-style-type: none"> • Demonstration of awareness of ethical practices and professional standards applicable to a field of employment and/or academic study. • Exemplification of the knowledge, skills, attitudes, and behaviours required to work and collaborate with people from different cultural backgrounds and to develop effective personal management skills.
Meeting Learning Objectives:	The program's courses are designed to achieve the stated program objectives. Individual course objectives will be mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.
Program Admission Requirements:	<p>The program does not require an application for admission.</p> <p>Recommended program requirements will be posted to Continuing Education's website:</p> <p>"In compliance with the Certificates and Diploma, admission policy from Undergraduate Council, students who wish to enter the Management Principles and Practices program should meet the following requirements based on their education and work experience:</p> <ul style="list-style-type: none"> • Be a mature student as defined in the Undergraduate Calendar of McMaster University; or be deemed an exceptional case by the Centre for Continuing Education • Be knowledgeable with basic computer program applications and skills, such as Word, PowerPoint, web browsing, email • Follow University guidelines for English Language Proficiency requirements: Completion of TOEFL exam with a minimum acceptable score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years"

Program Pre-requisites (if applicable):	Not applicable.
Program Completion Requirements:	<p>To qualify for the Certificate, students must successfully complete 9.0 units of required study in three core courses and 6.0 units of elective study. Elective options include:</p> <ul style="list-style-type: none"> (i) two 3.0 unit courses or (ii) one 3.0 unit course and 3.0 units from the Essentials program
Program Delivery Format:	<p>Program courses may be delivered in-person, online, and/or in a blended format. All formats will include instructor lectures and/or presentations, group discussions, and practical application activities. Each required course will be a minimum of 36 hours delivered over an 8 or 10-week session.</p> <p>Elective courses will vary in length. While two elective choices are longer courses, courses from the Essentials program will follow that program's established mode of delivery and length.</p>
Student Evaluations (Grading Process):	Each course will include several evaluation components. The evaluations will consist of assignments, case studies, presentations, application activities, individual or group projects, class participation, or a combination thereof. Where appropriate, evaluations will be structured to evaluate participants' level of competency in achieving overall learning objectives. Grading will adhere to McMaster's academic grading scale.
Course Evaluation:	For each course, students will complete an evaluation to assess content, delivery, materials, method of evaluation and instruction.
Course Instruction:	Instructors for courses will be selected from a pool of qualified external professionals. In compliance with <i>McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas</i> , the selection will be based on academic background and/or experience within the field. Instructors must have a Master's degree (or equivalent) and significant professional experience and teaching within the field.
Credit Towards Degree Programme Studies:	The academic credit courses included in the program may be used for credit towards undergraduate degree studies following the normal academic rules as specified by the Faculty offering the degree.
Program Advanced Standing:	Students may be eligible to transfer up to 3.0 units of study to the Management Principles and Practices Certificate program with the exception of previously completed courses from the Essentials program. No transfer credit is permitted for the Essentials courses. Approved course transfers are based on the following requirements:

	<ul style="list-style-type: none">• courses must have an 80% overlap in content/curricula and a similar number of classroom or contact hours• courses must have been taken within the last five years• courses must have been taken from an accredited academic institution and listed on an official transcript with a grade a final grade of “C-” or better to be eligible		
Statement of Financial Viability:			
<p>I have reviewed the business case and financial projections which include enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include significant upfront development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration).</p> <p><i>Lorraine Carter, Director, McMaster Continuing Education</i></p>			
Statement of Administrative Responsibilities:			
<p>Statement of Faculty Alignment:</p> <p>The staffing and systems infrastructure to support the following functions already exists within McMaster Continuing Education. Costs will be fully covered by tuition, except the first year of the program, when the startup will be subsidized by McMaster Continuing Education.</p> <p>McMaster Continuing Education program responsibilities:</p> <ul style="list-style-type: none">• budget development and monetary responsibilities• program and course development• course registrations/administration• supervision of instructors to ensure all required policies and practices are adhered to and courses are taught according to program requirements and standards• marketing and promotions <p>The DeGroote School of Business will act as an academic liaison and is charged with the responsibility of ongoing academic review and assessment of the curriculum. The Faculty’s letter of support is included at the end of this document.</p>			
Listing of Courses			
Course Name	Required/Elective	Unit Value	Term
Management Fundamentals	Required	3.0	Fall 2022
<p>Course Description:</p> <p>This course will provide students foundational understanding of the theories and concepts of management and its evolution in modern organizations. Students will learn about the many dimensions of the managerial role including but not limited to planning, organizing, staffing, and influencing. Students will also learn the differences between the roles and responsibilities of supervisor, manager, and leader. The diverse skills and knowledge of the successful manager are the focus of this course.</p>			
Strategic Communication	Required	3.0	Fall 2022
<p>Course Description:</p> <p>Communication is consistently rated as one of the top skills required in the modern workplace. In addition to covering the basics of communication (writing, speaking, presenting, etc.), the course will explore the purpose and impact of strategic communication on organizational effectiveness and success. Topics will include the following: clarity of purpose (or mission); the need for self-</p>			

awareness; the importance of influence over control; building rapport; the need to listen more and speak less; the importance of empathy; addressing diversity, equity and inclusion (DEI); the power of storytelling; giving voice to others; and leveraging technology without creating barriers. With knowledge and skill in these areas, students will have tools that will enable them to move beyond conventional management.

Change Management	Required	3.0	Fall 2022
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Course Description:
It is often said that change is the only constant in our turbulent world, especially in the highly competitive and increasingly globalized conduct of business. Change, and the disruption it often causes, is also cited as a common fear among managers. Developing a 'change mindset' will enable students to anticipate and respond positively to change by reframing challenges, influencing outcomes, and leading others who may lack this attribute. The knowledge, skills and confidence to 'manage' change of all kinds is essential for business, career and life success.

CCD 103 Design Thinking	Elective	3.0	Fall 2022
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Course Description:
This course will enable students to use design thinking methodology to assess problems and challenges, discover and use relevant data, develop design solutions, and construct prototypes for validation. Students will also learn how design thinking is a valuable tool in today's global and mobile world with applicability in diverse fields and how it is a 'go to' tool for innovators and creators.

ICL 103 Intercultural Workplaces	Elective	3.0	Fall 2022
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Course Description:
In this course, you will explore today's workplace including how your understanding of cultural competency and your skills in intercultural communication affect the organization and team. You will examine strategies associated with building and managing a successful intercultural team and analyze challenges associated with overt and underlying cultural attributes as present in employees, leaders, and teams. Course activities and case studies will assist in the process of identifying strategies for combatting discrimination and promoting equity and inclusion in the workplace.

Course list from the Essentials Program	Electives	Students may select courses from the Essentials Program for 3.0 units of study	Fall 2022
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ESS 902 Coaching and Mentoring (1.0 units)
The coaching and mentoring course is highly interactive and experiential, giving participants the opportunity to understand the concepts and practice the use of the skills in a coaching conversation. Mentoring relationships have existed for many years in the workplace on an ad hoc basis. While the concept has existed, there is still mystique around the meaning and value. Participants will understand the value of mentoring and more importantly, develop skills to create and manage mentoring relationships, both as mentors and mentees. The last portion of the course is devoted to coaching. Coaching is fundamentally about facilitating change that will lead to desired results: facilitating movement from a current state to a desired future state. This will provide leaders with

the skills needed to use coaching to leverage the organization's investment in human capital (people).

ESS 877 Negotiation Skills (0.5 units)

Negotiation is the art and science of securing agreements between two or more interdependent parties. It can be very difficult to do well. Even the most experienced negotiators often fall prey to common biases and errors in judgment. The purpose of this course is to help you understand the theory and process of effective negotiations. The best way to learn negotiation skills and actually internalize them is to negotiate in a setting where insight is offered, feedback is plentiful, personal reflection is encouraged, and careful analysis is required. Therefore, the course relies primarily on "hands-on" learning to help participants understand the negotiating process and their own strengths and weaknesses. Note: This course is intended for general business situations.

ESS 835 Emotional Intelligence at Work (0.5 units)

A growing body of research shows that Emotional Intelligence is more important to personal and professional success than IQ and that it is the single most important contributor to effective performance and leadership. During this interactive presentation, you will be introduced to a wide variety of concepts and techniques related to effectively applying emotional intelligence. Explore how to better understand, manage and leverage your and others' emotions in order to manage conflict, deal with stress and relate to others more effectively and productively. Implications for leadership and management capacity will also be discussed. A common theme that runs through this course is people, and the ability to understand, connect, react and relate to them.

ESS 899 Conflict Resolution in the Workplace (0.5 units)

This course will assist you in understanding your individual style of conflict resolution and both the positive and negative impacts of your style in managing conflict effectively. Discuss why conflict happens in the work setting, and discover practical tips for managing conflict. You will also learn about constructive routes to communication and agreement, consider your own ways for dealing with conflict and practise various ways of communicating more effectively.

ESS 804 Strategic Planning Fundamentals (0.5 units)

It's hard to be strategic when the internal and external environments are constantly in flux rendering the long-term view increasingly difficult. But an organization without a strategic plan makes proactive and smart decision-making less common. Further, it is more vulnerable to sudden changes. Strategic planning helps staff prepare for change even if the guiding direction has to be frequently adapted to suit the changing circumstances. This introduction to the fundamentals of strategic planning will provide you as a leader of a department, unit or team with how to structure and develop a plan and involve your staff and stakeholders. This one-day course is a hands-on, interactive session aided by practical tools and processes for developing a "living, breathing" strategic plan.

ESS 834 Giving and Receiving Constructive Feedback (0.5 units)

Interested in honing your verbal delivery skills and your ability to really hear and process feedback? Typically one of the most dreaded interpersonal interactions we face, this course is packed with interactive and practical techniques for both the "giver" and "receiver" of constructive feedback. Learn how to remove or minimize the fear that surrounds this common and often stressful communication necessity.

ESS 874 Finance for non-Financial Managers (1.0 units)

This course will raise your level of financial acumen and enable you to use financial information to make better short-term and long-term decisions in managing your firms. The course covers basic financial principles and financial management tools necessary for decision-making. Participants are introduced to the basic language of financial reporting and guided through the basic corporate financial statements to "decode" the "encoded" information. A financial statement is analyzed using ratios and participants analyze another statement in groups. The connection between strategy and budgets will be explored and the importance of time value of money in project planning will be discussed while developing Pro-forma statements.

ESS 862 Creative and Critical Thinking (1.0 units)

Increase your innovative thinking skills and improve your performance in unstructured situations in this dynamic course. This model is an organized approach to problem-solving which emphasizes finding opportunities for improvement in products, processes, teamwork and the implementation of solutions to everyday problems. Develop a better understanding of the nature of problems and how to apply tools and concepts to your work-related problems and opportunities.

ESS 809 Gender Inclusive Communication and Collaboration (0.5 units)

In this course, we recognize the significance of gender diversity training but go beyond it to become gender-inclusive. First, we distinguish between the biological-driven aspects of our behaviour from the socially and culturally entrenched ones, likening it to an iceberg. Next, using organizational studies and through interactive learning activities, we examine the interplay in how gender shapes the workplace and its organizational culture, from our communication patterns, perceptions of hierarchy and power, to our networking, collaboration and leadership styles. Then, we use various insights from researchers, organizational development experts and thought leaders to showcase workplaces that are more gender-diverse and gender-inclusive in their culture and decision-making. As a key learning outcome and takeaway, learners will be given a diagnostic tool that can help assess the relative gender inclusion at their workplace and learn strategies to help create more gender-inclusive workplaces.

Continuing Education Academic Program Submission – For Approval

Department & Program Information (complete all fields):	
Program Name:	Management Principles and Practices
Academic Credential:	Certificate of Professional Learning
Name of Representative:	Lorraine Carter
Effective Date:	May 2, 2022
Date of Submission:	April 5, 2022
Academic Merit (complete all fields; write “not applicable” as needed):	
Program Overview:	<p>The proposed program will focus on core foundational theories and best practices of management. The program is designed for individuals interested in developing their competencies in supervision, management and leadership to further their career growth opportunities.</p> <p>A Certificate of Professional Learning in Management Principles and Practices will attract participants seeking to add to their Business Administration studies with McMaster Continuing Education as well as individuals seeking management training for their professional development goals.</p> <p>Graduates of the Certificate of Professional Learning may apply the three courses in the program to the Certificate program for Management Principles and Practices which explores additional topics and management skills.</p>
Learning Objectives:	<p>Upon completion of the program, students will be able to:</p> <ul style="list-style-type: none"> Identify the importance of interrelationships, including their impact on a company’s success

	<ul style="list-style-type: none"> • Demonstrate understanding of the functional areas of management, such as human resources, finance, marketing, operations, and general management • Demonstrate appropriate knowledge, skills, attitudes and behaviours required to work effectively independently, and with others in a changing business environment • Describe strategies for ongoing personal and professional development to enhance work performance in the business field • Identify, select and compile information appropriate to a given communication strategy <p>The following additional objectives will be threaded within each course:</p> <ul style="list-style-type: none"> • Demonstration of awareness of ethical practices and professional standards applicable to a field of employment and/or academic study. • Exemplification of the knowledge, skills, attitudes, and behaviours required to work and collaborate with people from different cultural backgrounds and to develop effective personal management skills.
Meeting Learning Objectives:	The program involves three courses aligned with the stated program objectives. Individual course objectives will be mapped to the overall program objectives. The delivery format and teaching methods are structured to have a maximum effect on achieving the learning objectives.
Program Admission Requirements:	<p>The program will not require an application for admission. Recommended program requirements will be posted to Continuing Education's website:</p> <p>"In compliance with the Certificates and Diploma, admission policy from Undergraduate Council, students who wish to enter the Management Principles and Practices program should meet the following requirements based on their education and work experience:</p> <ul style="list-style-type: none"> • Be a mature student as defined in the Undergraduate Calendar of McMaster University; or be deemed an

	<p>exceptional case by the Centre for Continuing Education</p> <ul style="list-style-type: none"> • Be knowledgeable with basic computer program applications and skills, such as Word, PowerPoint, web browsing, email • Follow University guidelines for English Language Proficiency requirements: Completion of TOEFL exam with a minimum acceptable score of IBT: 86 overall with a minimum score of 20 on each of the four components (Reading, Writing, Speaking, Listening), valid for 2 years"
Program Pre-requisites (if applicable):	Not applicable.
Program Completion Requirements:	To qualify for a Certificate of Professional Learning, students must successfully complete the three required courses of the program for 9.0 units of study.
Program Delivery Format:	Program courses may be delivered in-person, online, and/or in a blended format. All formats will include instructor lectures and/or presentations, group discussions, and practical application activities. Each course will be a minimum of 36 hours delivered over an 8 or 10-week session.
Student Evaluations (Grading Process):	Each course will include several evaluation components. The evaluations will consist of assignments, case studies, presentations, application activities, individual or group projects, class participation, or a combination thereof. Where appropriate, evaluations will be structured to evaluate participants' level of competency in achieving overall learning objectives. Grading will adhere to McMaster's academic grading scale.
Course Evaluation:	For each course, students will complete an evaluation to assess content, delivery, materials, method of evaluation and instruction.
Course Instruction:	Instructors for courses will be selected from a pool of qualified external professionals. In compliance with <i>McMaster's Senate and Undergraduate Council Guidelines for Certificates and Diplomas</i> , the selection will be based on academic background and/or experience within the field. Instructors must have a

	Master's degree (or equivalent) and significant professional experience and teaching within the field.
Credit Towards Degree Programme Studies:	The academic credit courses included in the program may be used for credit towards undergraduate degree studies following the normal academic rules as specified by the Faculty offering the degree.
Program Advanced Standing:	<p>No transfer credits will be permitted for the Certificate of Professional Learning.</p> <p>Students may use the courses from this Certificate of Professional Learning in McMaster Continuing Education's Certificate program called Management Principles and Practices according to existing policies and procedures.</p>
Statement of Financial Viability:	
<p>I have reviewed the business case and financial projections which include enrolment projections and costs. Sources of revenue for this program include tuition and supplementary fees (MAPS). Expenses are typical and include significant upfront development and marketing costs, as well as typical ongoing delivery costs (such as payment of facilitators, honoraria for other guest facilitators, materials, advertising and administration).</p> <p><i>Lorraine Carter, Director, McMaster Continuing Education</i></p>	
Statement of Administrative Responsibilities:	
<p>Statement of Faculty Alignment:</p> <p>The staffing and systems infrastructure to support the following functions already exists within McMaster Continuing Education. Costs will be fully covered by tuition, except the first year of the program, when the startup will be subsidized by McMaster Continuing Education.</p> <p>McMaster Continuing Education program responsibilities:</p> <ul style="list-style-type: none"> • budget development and monetary responsibilities • program and course development • course registrations/administration • supervision of instructors to ensure all required policies and practices are adhered to and courses are taught according to program requirements and standards • marketing and promotions 	

The DeGroote School of Business will act as an academic liaison and is charged with the responsibility of ongoing academic review and assessment of the curriculum. The Faculty's letter of support is included at the end of this document.

Listing of Courses

Course Name	Required/Elective	Unit Value	Term
Management Fundamentals	Required	3.0	Fall 2022

Course Description:

This course will provide students foundational understanding of the theories and concepts of management and its evolution in modern organizations. Students will learn about the many dimensions of the managerial role including but not limited to planning, organizing, staffing, and influencing. Students will also learn the differences between the roles and responsibilities of supervisor, manager, and leader. The diverse skills and knowledge of the successful manager are the focus of this course.

Strategic Communication	Required	3.0	Fall 2022
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Course Description:

Communication is consistently rated as one of the top skills required in the modern workplace. In addition to covering the basics of communication (writing, speaking, presenting, etc.), the course will explore the purpose and impact of strategic communication on organizational effectiveness and success. Topics will include the following: clarity of purpose (or mission); the need for self-awareness; the importance of influence over control; building rapport; the need to listen more and speak less; the importance of empathy; addressing diversity, equity and inclusion (DEI); the power of storytelling; giving voice to others; and leveraging technology without creating barriers. With knowledge and skill in these areas, students will have tools that will enable them to move beyond conventional management.

Change Management	Required	3.0	Fall 2022
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Course Description:

It is often said that change is the only constant in our turbulent world, especially in the highly competitive and increasingly globalized conduct of business. Change, and the disruption it often causes, is also cited as a common fear among managers. Developing a 'change mindset' will enable students to anticipate and respond positively to change by reframing challenges, influencing outcomes, and leading others who may lack this attribute. The knowledge, skills and confidence to 'manage' change of all kinds is essential for business, career and life success.

DATE: February-28-22

TO: Certificate & Diploma Committee

FROM: Dr. Sue McCracken, Associate Dean (Academic), DeGroote School of Business

RE: Proposal for **Management Principles and Practices, Certificate and Certificate of Professional Learning** for McMaster Continuing Education (MCE)

I have reviewed the program submission documents presented by McMaster Continuing Education (MCE) concerning:

- a new program proposal for **Management Principles and Practices, Certificate**
- a new program proposal for **Management Principles and Practices, Certificate of Professional Learning**

I have determined that each program meets all relevant criteria set out by Undergraduate Council in its guidelines for Certificates and Diplomas. Given this, I am pleased to endorse this submission on behalf of the DeGroote School of Business.

At my request, the proposals were reviewed by Marvin Ryder. His review concluded that the objectives of the proposed **Certificate and Certificate of Professional Learning** are viable. These new credentials will continue to fulfil and enhance the stated objectives of the current Business Administration program and meet Undergraduate Council's criteria for the designations of "Certificate" and "Certificate of Professional Learning".

I also support McMaster Continuing Education's intention to close three existing Concentrations within the broader Business Administration offerings: they are the Business Diploma with a Concentration in Business Analysis, the Business Diploma with a Concentration in Project Management, and the Business Diploma in Management. I am aware that these decisions are based on a comprehensive review and that the decisions to close these Concentrations are based on trends of decreasing enrollments.

The DeGroote School of Business is pleased to support the proposed new programs (Certificate and Certificate of Professional Learning in Management Principles and Practices) and the aforementioned Concentration closures (Business Analysis, Project Management, and

Management). We support these programs and changes as their academic affiliates, providing review expertise upon submission and overview of ongoing curriculum issues. Additionally, we have provided McMaster Continuing Education with information about the advanced standing rules for students entering our degree programs with credit from the completion of these programs.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan McCracken". The signature is fluid and cursive, with the first name "Susan" written in a larger, more prominent script than the last name "McCracken".

Dr. Sue McCracken
Associate Dean (Academic)
DeGroote School of Business



DATE: 28 February 2022

TO: Dr. Sue McCracken, Associate Dean (Academic), DeGroote School of Business

FROM: Prof. Marvin Ryder, Associate Professor, Marketing & Entrepreneurship,
DeGroote School of Business

SUBJECT: Evaluation of the **Management Principles and Practices, Certificate** and
Certificate of Professional Learning Program Proposals for McMaster
Continuing Education

At your request, I have reviewed the academic submission documentation for the development of a new Certificate and Certificate of Professional Learning, each called **Management Principles and Practices**.

My examination of the content covered in the proposed Certificate and Certificate of Professional Learning entitled **Management Principles and Practices** indicates that they are both appropriately aligned with McMaster Continuing Education's Business Administration program. The courses as well as teaching and testing methods reflect intellectual rigour comparable to that found in undergraduate degree courses.

The submissions also indicate that the courses will be taught by qualified individuals (possessing a Master's degree or equivalent), as defined by Undergraduate Council's Certificate and Diploma requirements. The students taking the programs will meet the minimum requirements set out in the Senate's Certificate and Diploma Policy (2020) for Undergraduate Council.

Sincerely,

Marvin Ryder
Associate Professor, Marketing & Entrepreneurship
DeGroote School of Business

Cc: Michael Andich, Program Manager
Dan Piedra, Assistant Director



CONTINUING
EDUCATION

DATE: February 25, 2022

TO: Certificates & Diplomas Committee

FROM: Lorraine Carter, Director, Continuing Education

RE: Closure of Business Administration Diploma with the Business Analysis Concentration

Effective May 1, 2022, Continuing Education plans to close the Business Administration Diploma with the Business Analysis Concentration.

The concentration was launched in 2015. As part of a comprehensive review of all Business Administration offerings, the decision to close this option is based on enrolment trends which show a steady decline over the last few years.

Students currently enrolled in the Business Administration Diploma with the Business Analysis Concentration will be able to complete their existing program up to the Winter 2023 term. Winter 2023 will be the last term when students can complete any outstanding courses.

Sincerely,

A handwritten signature in cursive script that reads "Lorraine Carter".

Lorraine Carter

Director, McMaster Continuing Education



CONTINUING
EDUCATION

DATE: February 25, 2022

TO: Certificates & Diplomas Committee

FROM: Lorraine Carter, Director, McMaster Continuing Education

RE: Closure of Business Administration Diploma with the Management Concentration.

Effective May 1, 2022, Continuing Education plans to close the Business Administration Diploma with the Management Concentration.

The concentration was launched in 2015. As part of a comprehensive review of all Business Administration offerings, the decision to close this option is based on enrolment trends which show a steady decline over the last few years.

Students currently enrolled in the Business Administration Diploma with the Management Concentration will be able to complete their existing program up to the Winter 2023 term. Winter 2023 will be the last term when students can complete any outstanding courses.

Sincerely,

A handwritten signature in cursive script that reads "Lorraine Carter".

Lorraine Carter

Director, McMaster Continuing Education



CONTINUING
EDUCATION

DATE: February 25, 2022

TO: Certificates & Diplomas Committee

FROM: Lorraine Carter, Director, Continuing Education

RE: Closure of Business Administration Diploma with the Project Management Concentration

Effective May 1, 2022, McMaster Continuing Education plans to close the Business Administration Diploma with the Project Management Concentration.

The concentration was launched in 2015. As part of a comprehensive review of all Business Administration offerings, the decision to close this option is based on enrolment trends which show a steady decline over the last few years.


Students currently enrolled in the Business Administration Diploma with the Project Management Concentration will be able to complete their existing program up to the Winter 2023 term. Winter 2023 will be the last term when students can complete any outstanding courses.

Sincerely,

A handwritten signature in cursive script that reads "Lorraine Carter".

Lorraine Carter

Director, McMaster Continuing Education

To: Certificates and Diplomas Committee
From: Michelle Dion, Academic Director, Spark 
Date: April 28, 2022
Subject: Proposal for Certificates of Completion

In light of recent feedback from the committee, please find attached a revised proposal for three Certificates of Completion to be offered by Spark.

To receive a Certificate of Completion, learners will have to complete two short courses (each 15 contact hours, for a total of 30 contact hours) with an average letter grade of C or better.

Consistent with practices by other units,* learners will have some choice in which courses they complete for the Certificates of Completion.

Each Certificate of Completion is listed below, with the courses which can be used toward the 2-course requirement.

1. Organizational learning & program evaluation (successfully complete any 2 of the following courses):
 - Assessing Strengths and Needs in Communities
 - Incorporating Evidence into Strategy
 - Impact Evaluation
 - Cost-Benefit Analysis in the Social Sector
2. Qualitative data collection & analysis (successfully complete any 2 of the following courses):
 - Interviewing and Focus Groups
 - Applied Ethnography
 - Trauma-informed Data Collection
 - Analyzing Qualitative Data
 - Qualitative Data Analysis (QDA) using NVivo
3. Quantitative data collection & analysis (successfully complete any 2 of the following courses):
 - Survey design and analysis
 - Numeracy and descriptive statistics
 - Foundational Statistics
 - Regression
 - One of either,
 - Data Wrangling, or
 - Data Visualization

* We would like to note that giving learners this type of flexibility in choosing among a range of short courses to plan their Certificate of Completion is an established approach used by McMaster Continuing Education for at a minimum the following 3 Certificates of Completion:

- [Certificate of Completion in Academic Writing](#) (complete 2 out of 4 courses)
- [Health Analytics Certificate of Completion](#) (complete 3 out of 5 courses)
- [Essentials Certificate of Completion](#) (complete 5 days of coursework from extensive list)

How fees will be charged? (Proposed program or annual fees that are charged or payable by term should preferably be divisible by 3.)	Charge by course.
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Additional Notes, if applicable:

Brief Description of the Program or Issue

Certificates of Completion in:

1. Organizational learning & program evaluation (successfully complete any 2 of the following courses):

- *Assessing Strengths and Needs in Communities*
- *Incorporating Evidence into Strategy*
- *Impact Evaluation*
- *Cost-Benefit Analysis in the Social Sector*

2. Qualitative data collection & analysis (successfully complete any 2 of the following courses):

- *Interviewing and Focus Groups*
- *Applied Ethnography*
- *Trauma-informed Data Collection*
- *Analyzing Qualitative Data*
- *Qualitative Data Analysis (QDA) using NVivo*

3. Quantitative data collection & analysis (successfully complete any 2 of the following courses):

- *Survey design and analysis*
- *Numeracy and descriptive statistics*
- *Foundational Statistics*
- *Regression*
- *One of either,*
 - o *Data Wrangling, or*
 - o *Data Visualization*

Rationale for Fees or Issue

Please provide the rationale for the proposed fees/request.

If new program tuition and/or supplementary fees, rationale should include fees charged by similar programs within McMaster or at other institutions or any other relevant information.

The nearest parallel programs to that we are proposing are:

The School of Engineering Industry Operations Leadership Fundamentals course (also 1 credit and targeted at professional), which is valued at \$2000 but subsidized so that students are paying \$750 for the roughly 1 credit program. Because students have the opportunity to take singular courses and because our focus will be on employer professional development, we believe the price per course is justified. At the same time, we wish to charge less per unit than the School of Engineering program as professional development funds tend to be more limited in the social sector. There are no supplementary fees attached.

Please note that the proposed program is not a requirement of any degree and is entirely optional or extra-curricular for existing students. Thus, this is not a proposal for a new imposed fee – rather it represents an optional expansion of extra-curricular opportunities for current students, and an opportunity to leverage the university’s assets to engage non-full-time students who can directly benefit.

Fees will be collected per course. We suspect that as the Office of Microcredentials is established, there will come to be a consistent payment system for all micro-credentials. In the meantime, we currently use Alumni Affairs to take credit card payment for trainings and this works well. We are also considering pooling efforts with the externally-targeted certificates in Engineering to access their payment/learning management system.

Proposed Timelines

Deadline for University Student Fees Committee Decision:	May, 2022
Rationale for requiring University Student Fees Committee decision by the above date:	This aligns with the overall timeline for new program approval that would allow for initial operations in Fall 2022
Please indicate effective start date (month/year) for new program/fees:	September, 2022
Need Board approval for fees by:	August, 2022

Additional Information

Please provide any other additional information. You may provide attachments. For new programs, please attach the completed Program Costing Template.

If this request relates to a **new fee** you are advised to connect with Student Accounts and Cashiers prior to submitting this proposal to USFC in order to discuss on how to code this new fee into the Mosaic system.

I/We have contacted with Student Accounts and Cashiers: YES ☐ NO ☐ Not applicable ☒

**Certificates of Completion in
Social Research
Spark—a centre for social research innovation
April 2022**

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1. PROGRAM

PROGRAM DESCRIPTION

The proposed Social Research Certificates of Completion are primarily focused on those not currently enrolled at McMaster who are seeking opportunities to upskill within their current positions or build critical analysis, decision-making and leadership skills for their next career opportunity. The skills taught will directly support answering common and significant questions within the social sector (not for profits, social enterprises, and government organizations).

Research skills are often thought of as primarily useful to those in academic careers. We have seen a high level of demand across the social sector, particularly in not-for-profit organizations, for what are often labeled critical thinking and decision-making skills as well as specific research or analytic skills. Critical thinking and decision-making are not inherent traits but abilities that emerge as one effectively gathers, correctly analyzes and interprets, and has the confidence to act on data. Thus, critical thinking and evidence-based decision-making require a minimum competence in the analytical methods used to collect and interpret evidence. Seeing this significant skill gap - one reinforced in hundreds of conversations with community organizations, funders, businesses involved in social innovation and government agencies - propelled development of the proposed collection of Certificates of Completion.

Spark—a centre for social research innovation is a Faculty of Social Sciences centre dedicated to teaching, advising and directly supporting faculty, staff and students in social research methodology. Spark also has an applied research team that conducts research and evaluation for not-for-profits, government and businesses in Hamilton and across Canada. Through that work, we directly engage with clients in how to measure, understand, and then significantly increase the impact and efficiency of their programs. This work involves extensive capacity building with a few individuals within client organizations. Several of them have committed active support and even volunteered to co-pilot the proposed certificates.

We know that there is deep interest among our clients and others in the social sector and government in the methods we teach, and real opportunity for expanding social impact by sharing these skills beyond McMaster. We believe the university's deep dedication to community impact and Spark's combination of methodological expertise and practical applied research experience makes us well positioned to offer these certificates.

Here, we are proposing a series of Certificates of Completion. We plan to launch 3-4 new, short courses each year over the next several years. The courses are grouped into 3 Certificates of Completion, and learners would need to complete satisfactorily two of the short courses to be eligible for the Certificate of Completion. Initially, our primary marketing and recruitment strategy will leverage our networks and working relationships with non-profits in Southern Ontario to provide training to their existing workforce, with additional seats available to individual learners. These Certificates of Completion will prepare participants not only to be better consumers of applied research studies and reports, but also to gain familiarity and experience with the basic tools of data collection, analysis, and representation in social research and to know when their needs outstrip their in-house expertise, requiring consultation or support from an outside research partner.

PROPOSAL PREPARATION AND CONSULTATION PROCESS

Spark: a centre for social research innovation engaged in an extensive consultation process, both to identify potential overlaps or opportunities for collaboration.

List of Consultations - internal:

Graduate Diploma in Epidemiology – Robby Nieuwlaat
Engineering – internal certificates – Sarah Sullivan
Engineering – external certificates – Florent Lefevre-Schlick
Sherman Centre for Digital Humanities – Andrea Zeffiro and Jay Brodeur
MELD/MERGE, Faculty of Humanities - Sean Corner and Anna Moro
Office of Community Engagement – C.A. Borstad-Klassen and David Heidebrecht
McMaster Indigenous Research Institute – Tracy Bear
Indigenous Studies – Adrienne Xavier
Intercession – John McLaughlin
Faculty of Social Sciences Dean, Jeremiah Hurley
Faculty of Social Sciences, Undergraduate – Tracey Prowse and Lynn Giordano
Faculty of Social Sciences, Graduate and Research – James Gillett
Faculty of Social Sciences, Director of Finance and Administration – Juliette Prouse
Faculty of Social Sciences Community Research Platform – Leora Sas van der Linden
Faculty of Social Sciences Advanced Research on Mental Health and Society – Marisa Young
Faculty of Social Sciences departments - all were invited to consult with us in development:
Sociology – Tina Fetner
Economics – Marc- Andre Letendre
Anthropology – Tina Moffat
Social Work – Christina Sinding and Allyson Ion
Master of Public Policy in Digital Society – Vass Bednar

List of Consultations - External:

Salvation Army of Hamilton, Lawson Ministries – Deanna Finch-Smith and Lisa Schumpf
Banyan Community Services – Kim Ciavarella
Grenfell Ministries – Kim Ritchie
Hamilton Community Foundation – Sarah Glenn and Lorraine Valmadrid

Invitations to Consult Declined:

Faculty of Social Sciences, Health, Aging and Society
Faculty of Social Sciences, Labour Studies
Faculty of Social Sciences, Political Science
Faculty of Social Sciences, Religious Studies
MacData Institute

We have recruited instructors for the Certificates of Completion that have both expertise and applied experience in the topics they wish to teach, and come from Anthropology, Social Work, Economics, and Health Research Methods, Evidence and Impact. We anticipate continuing to recruit instructors from a wide variety of disciplines and from the social sector itself. We are in early conversations with YWCA of Hamilton, facilitated by the Community Research Platform, to potentially co-develop and teach several Certificates of Completion.

We have an established partnership with Salvation Army of Hamilton, Lawson Ministries. They have agreed to pilot test some courses in the Certificates with their staff and provide extensive feedback. As we implement the Certificates, we will actively engage community organizations in helping us evolve the offerings as new opportunities and challenges emerge across the sector.

CONSISTENCY WITH MCMASTER'S MISSION AND ACADEMIC PLAN

McMaster's Strategic Mandate Agreement

The proposed Certificates of Completion align well with multiple priorities of the University. Particularly, we believe it can support the following priorities within the Strategic Mandate Agreement:

Multidisciplinary/interdisciplinary studies -

Spark, a centre for social research innovation is an interdisciplinary centre, and the individuals interested in teaching in our certificates come from highly varied backgrounds and disciplines. Given the exceptional diversity of the social sector, we see this diversity of perspective as critical to our mission and a central focus in our planning for implementation.

Math and statistics -

Our proposed curriculum is meant to offer a well-rounded skill set critical to effective, evidence-based decision-making in the social sector. This includes Certificates of Completion in cost-benefit analysis, numeracy, data cleaning, quantitative analysis of surveys, foundational statistics, and regression. We are deeply committed to helping students confidently apply basic quantitative analysis skills that are highly needed and valued within the sector.

Community/Local Impact of Student Enrolment -

While impact usually focuses on the economic value of the student population to the greater Hamilton region, we feel that intensive skill development offered to local and regional workers (and potential workers) in the social sector will also have a significant impact on the community as a whole. These skills lead to better decisions, and better decisions in this sector can have profound ripple effects. In this way, upgrading skills in the social sector can impact lives beyond improved work performance and employment opportunities.

Experiential Learning -

We have designed the curriculum so that within each course, there are opportunities to apply the learning within one's current work or volunteer activities.

Skills & Competencies -

One of the hallmarks of these Certificates of Completion is that they provide access to a range of learning opportunities focused on the building and demonstrating of specific social research skills. We believe this will position them well for career advancement.

McMaster's Institutional Priorities

Particularly, we believe the proposed Certificates of Completion can advance the following current priorities, based on McMaster's 2021-24 Institutional Priorities and Strategic Framework:

Inclusive Excellence -

Spark has committed as a Centre to being a place of inclusion and providing opportunities, research space, and learning resources to a wide range of individuals with different talents and needs. We have hired a communications associate with lived experience of neurodiversity to help us continuously expand and improve our inclusiveness. We will also be piloting one or more Certificate of Completion with employees of Salvation Army, including individuals with varied physical abilities, English as a second language, and limited or no college/university education. We are committed to actively embracing the challenges that emerge with diverse learner capacities and needs and finding solutions that can inform the ongoing development of these Certificates.

Teaching and Learning -

We are committed to adapting our teaching approaches to the needs of the students and organizations we work with. We will offer the Certificates of Completion as either all online, all in-person, or hybrid, rotating the format in response to student demand. Our approach will be informed by the pedagogical goals of the overall program, and any online delivery will include some synchronous components. In general, the Certificates of Completion will use readings, in-class exercises, practice assignments, and group projects, as appropriate.

Engaging Local, National, Indigenous and Global Communities -

Organizations across the social sector exist to benefit diverse communities at many different scales. We believe that this diversity in the student base will be a great opportunity for students to learn about other contexts and priorities. We also host through Spark a weekly virtual series where researchers introduce new methods or interesting applications. We have speakers from around the world, and plan to engage students in hearing from some of them who are doing work relevant to the sector or the student's individual interests and trajectory. We are also deeply committed to working with our Indigenous colleagues to appropriately support social research skill development in Indigenous-serving organizations, and awareness/effective engagement with Indigeneity in social sector efforts across contexts.

PROGRAM LEARNING OUTCOMES

Each Certificate of Completion will have specific learning objectives. Cumulatively, the Certificates of Completion address the following learning outcomes:

- Students will learn basic principles of research design and become familiar with a wide range of common approaches for identifying community assets and needs, developing interventions, and evaluating and improving effectiveness
- Students will develop competency and experience with basic methods of data collection for social research
- Students will develop competency and experience with analysis of evidence, including basic numeracy and statistical data analysis and qualitative analysis skills for social research
- Students will be familiar with all stages of the research process, including problem definition, data collection, data analysis, ethics, and oral and written communication, in the context of a program and organization

CONSISTENCY WITH DEGREE LEVEL EXPECTATIONS

Though Certificates of Completion are not normally aligned to specific degree level expectations according to the Policy, in the present case the courses and Certificates were designed with future development of academic microcredentials in mind. Therefore, the Certificate of Completions' learning outcomes are consistent with those for undergraduate learners. Regarding depth and breadth of knowledge, students completing the Certificates will have **general knowledge and understanding** of key concepts, methods, approaches and assumptions relevant for identifying community assets and needs, developing interventions, and evaluating and improving effectiveness. They will acquire skills necessary to gather, review, evaluate and interpret information and learn critical thinking and analytical skills. In addition, by having completed several Certificates of Completion in different types of data collection and analysis, students will also develop **knowledge of methodologies** that will help them evaluate the appropriateness of different methods of inquiry for different types of assets and needs assessments, program evaluations, or organizational change efforts. Students will also have opportunities to **apply their knowledge** and demonstrate that they can review, present, and interpret qualitative and

quantitative information to make sound judgements, evaluating different approaches for problem-based and evidence-based decision-making. As appropriate in the Certificates of Completion, students will produce both written and oral reports or assignments to develop and demonstrate their **communication skills**. The content in the Certificates of Completion is meant to be introductory and applied. Students will also be instructed in the **limitations of the methods or tools** taught in the program so that they know when they will need to seek additional expertise or training to address a particular problem. As a program designed with those working in the social sector in mind, the program content will stress **professional standards** of not only personal responsibility and collaboration but also principles of ethical applied research, integrity, and social responsibility.

DEMAND FOR PROGRAM

Evidence of Societal/Labour Market Need

Within the social sector, much has been written about the needs of the non-profit sector. The following evidence focuses on the non-profit sector as representative of the larger range of organizations within the social sector (including government agencies, not for profits, foundations and social enterprises). In 2017, non-profit organizations accounted for 8.5% of Canada's GDP totalling \$169.2 billion (Statistics Canada, 2019). There were 2.5 million people employed in non-profit organizations in 2019, representing 13% of all jobs in Canada (Statistics Canada, 2021a). Of all provinces, Ontario has seen the largest increase in the creation of new jobs within the non-profit sector from 2010-2019 (Statistics Canada, 2021b). The majority of employees working in non-profit organizations in 2019 are college and university graduates (Statistics Canada, 2021a). The number of Indigenous and racialized persons working in the non-profit sector has risen since 2010 (0.9% and 6.1% points respectively) (Statistics Canada, 2021a). While Statistics Canada data suggests that the number of jobs in the non-profit sector has been increasing in 2021 (Statistics Canada, 2021b), other sources point to significant layoffs in the non-profit sector during the pandemic (CharityVillage, 2021; Mathieu, 2020). With a number of individuals in the non-profit sector unemployed or with significantly reduced hours, some of these individuals may be seeking upskilling or reskilling.

The Business Council of Canada (2020) surveyed 86 large private sector employers and found that one of the largest barriers to recruitment in the sector was finding candidates with the right technical skills. Employers were also asked about the top five areas where they anticipate a skills shortage in the next three years, and the most common area mentioned was in analytics, statistics and quantitative analysis. The importance of understanding data and statistics for employees working in the non-profit sector has become increasingly recognized (Fish, 2017). Meanwhile, non-profit organizations face significant expectations to demonstrate their "effectiveness, efficiency, and accountability" (Bozzo, 2002). Similarly, the Ontario Non-profit Network (ONN) has called on the sector to invest in evaluation work to improve accountability and advocate for those working within the sector to develop the skills to strategically use data, technology, and analysis in order to facilitate change (2017a; 2017b). However, many have noted the lack of human resources and the lack of evaluation skills of staff in non-profit organizations (Bozzo, 2002; Imagine Canada, 2019; ONN, 2017a). Thus, the sector needs employees with skills like program evaluation, research methodology, and communicating research in an easy-to-understand manner.

There is an increased value placed on micro-credential courses and certificates within the province of Ontario, as evidenced by the province of Ontario's announcement that they will be investing \$59.5 million dollars between 2020-2023 to support micro-credit learning (Government of Ontario, 2021a). To accelerate the development of micro-credentials and expand program offerings, \$15 million dollars was

made available to Ontario postsecondary institutions collaboratively working with local agencies and employers to support the development of new programs/courses or to expand existing micro-credentials (Government of Ontario, 2021).

The non-profit sector often pulls employees from a variety of educational and employment backgrounds; in such a rapidly changing and evolving sector, the opportunity to engage in obtaining micro-credentials or completing certificate programs with a targeted focus on skill development helps to offer a solution to gaps in knowledge that may exist within the field (OAS, 2021). Soft skills are particularly in demand in leadership positions in the non-profit sector. The ONN (2017b) developed a framework of the type of skills that leaders need in this sector. The skills taught through the proposed certificates directly contribute to competency in each identified role.



Figure 1: Leadership types and skills needed in the non-profit sector. Ontario Nonprofit Network, 2017.

Evidence of Student Demand

Initially, the proposed focus for marketing of these Certificates is organization to organization, offering them as professional development opportunities for an organization's employees, which explains our focus above on labour market demand. In our consultations, the need for this has been profoundly felt and expressed by organizational leadership. Many of the frontline employees we have worked with through Spark's applied research service have been very interested in learning once we began work together, but did not go into the experience knowing what they wanted from it. Potential learners are more likely to know that they would benefit from learning particular skills, like survey development, analysis of data, or program evaluation, rather than knowing that broad research capabilities would help them thrive in the sector.

Amongst the organizations we work with we have also seen an increase in peer-workers with lived experience similar to that of clients. Salvation Army, Banyan Community Services and Grenfell Ministries all have volunteer, contract or full-time employees with lived experiences similar to those of their clients. Many peer workers have limited formal training beyond high school or in the methods of social research that are the focus of our proposed program. In some instances, these volunteers and staff are

nonetheless expected to carry out data gathering or analysis in their current roles. Providing training that honors the understandings and wisdom they have gained through lived experience while expanding their toolkit is of significant interest to these organizations. Training individuals with a wide range of backgrounds and bases of knowledge has been an important part of the career of Allison Van, Spark's Executive Director, and we believe this makes us well positioned to engage in learning as a collaborative activity with a wide range of learners.

Beyond the local not for profit sector, we have been privy to significant interest expressed in the Master of Arts in Public Policy in Digital Society (Spark team members teach their Research Methods course and three skills labs in Data Analysis) by local, provincial and federal government officials about their need for quality training for their staff, targeted to the sector and focused on application. Additionally, Florent Lefevre-Schlick, who creates and runs external certificates for the Faculty of Engineering has actively supported our development in part because he believes that many of the innovative firms that he works with that are embarking on major environmental initiatives would also want to learn what we propose to teach.

JUSTIFIABLE DUPLICATION

Currently there are no comparable programs offered at Ontario universities or colleges that resemble the proposed Certificates of Completion. There are two certificate programs offered at the university level (McMaster University and University of Alberta) that are designed for currently enrolled undergraduate students and require students to take existing statistics/research methods course to fulfill the course requirements for the program. However, we would argue that these courses do not provide the specific skills in applied research and evaluation required in the non-profit job market. University of Western Ontario has a Master of Arts in Research for Policy and Evaluation that is most similar to our effort, but it is a graduate degree. The features that differentiate our program are that ours is at the undergraduate level, allowing a wider array of learners to access it, and individuals do not need to commit upfront to a year-long program but can build skills over time. There are programs that focus solely on the non-profit sector, particularly on leadership and management (Ryerson University, Seneca College, Mohawk College). While Ryerson offers a course-based program that provides flexibility, it (along with Mohawk and Seneca College) does not offer the applied research element that we are proposing.

The college programs (Fanshawe, Conestoga, Humber) offer generic courses on statistics/research methodology as part of their programs. Some offer specific courses on project management and program evaluation. The design of these programs also requires commitment to the entire program on a full or part-time basis, without the possibility of completing only some course or parts of the program. The courses are also usually designed as 3-unit or similar sized instructional credits, limiting the flexibility in delivery for students who may also be working.

DEGREE NOMENCLATURE

We are proposing three Certificates of Completion at this time. We plan to allow those without undergraduate degrees (but with significant sector experience) to enrol in the program - including peer workers with lived experience. We feel it is critical to be inclusive of the range of those working in the social sector. When new policy is in place for microcredentials, we plan to consider how these courses and Certificates align with the new framework.

2. ADMISSION & ENROLMENT

ADMISSION REQUIREMENTS

To be eligible to complete any Certificate of Completion, it will be **recommended** that learners have an Ontario high school degree (or its equivalent) or meet the definition of a mature student.

We will **recommend** that those enrolling in our program(s) have either a 3 year Bachelors degree or 3 years of work experience in the social sector. Most of those employed in the sector will have that level of existing experience or credentialing.

Students without a high school diploma (or its equivalent) or a post-secondary degree from an institution where the primary language of instruction is not English will be expected to demonstrate language competency consistent with McMaster undergraduate admissions.

Enrollment in the Certificates of Completion are not part of the IQAP or provincial enrollment allocations.

ENROLMENT PLANNING AND ALLOCATIONS

We will introduce 3-4 new courses gradually over the next three to four years. The proposed courses will each have 15 contact hours and are grouped into 3 thematic foci for the Certificates of Completion. Learners will need to complete 2 courses to earn one Certificate of Completion (15 x 2 = 30 contact hours):

1. Organizational learning & program evaluation (successfully complete any 2 of the following courses):

- Assessing Strengths and Needs in Communities
- Incorporating Evidence into Strategy
- Impact Evaluation
- Cost-Benefit Analysis in the Social Sector

2. Qualitative data collection & analysis (successfully complete any 2 of the following courses):

- Interviewing and Focus Groups
- Applied Ethnography
- Trauma-informed Data Collection
- Analyzing Qualitative Data
- Qualitative Data Analysis (QDA) using NVivo

3. Quantitative data collection & analysis (successfully complete any 2 of the following courses):

- Survey design and analysis
- Numeracy and descriptive statistics
- Foundational Statistics
- Regression
- One of either,
 - Data Wrangling, or
 - Data Visualization

We plan to offer 3-4 new courses each year and expect all courses to be regularly available by the end of 2025-26. We expect enrolments of between 10-30 per course.

We would like to note that giving learners this type of flexibility in choosing among a range of short courses to plan their Certificate of Completion is an established approach used by McMaster Continuing Education for the following 3 Certificates of Completion:

- [Certificate of Completion in Academic Writing](#) (complete 2 out of 4 courses)
- [Health Analytics Certificate of Completion](#) (complete 3 out of 5 courses)
- [Essentials Certificate of Completion](#) (complete 5 days of coursework from extensive list)

Projected total Certificates of Completion enrolment:

Academic Year	# Courses	Cohort Year 1	Cohort Year 2	Cohort Year 3	Cohort Year 4	Total Enrolment	Maturity
2022-23	3	Will assume 3 courses with 20 students each				60	
2023-24	6	New courses – will assume 60	New enrolment in previous courses – 60			120	
2024-2025	9	New courses – 60	New enrolment in 2023-24 courses – 60	New enrolment in 2022-23 courses – 60		180	
2025-2026	13	New courses – 80 – 4 new courses with 20 students per course	New enrolment in 2024-25 courses – 60	New enrolment in 2023-24 courses – 60	New enrolment in 2022-23 courses – 60	260	260

Figure 3: Projected enrolment in individual courses toward Certificates of Completion

3. STRUCTURE

1. ADMINISTRATIVE, GOVERNANCE AND COMMUNICATION

Administrative

The existing administrative infrastructure of *Spark: a centre for social research innovation* will support each course and Certificate of Completion. This includes a full-time Executive Director, actively engaged Academic Director, full-time administrator, 3 part-time staff and several students. Rigorous methodological training has been a priority for Spark since its founding and so the center's infrastructure has been built with the intention of being able to manage such a program. Some aspects of the Centre's administration (budgeting/finance, human resources, and some communications) are provided by the Faculty of Social Sciences Dean's Office.

With sufficient enrolment, we intend to hire for part-time additional program administration and administrative support – individuals to help with managing student needs, marketing, coordination of the Certificates, and faculty support. We expect that the Inspire Office of Institutional Learning (once established) will be able support some aspects of our program.

Governance

As a Senate-approved Centre, *Spark* reports to a Governing Board, which is Chaired by the Dean of the Faculty of Social Sciences, Dr. Jeremiah Hurley, who is also Professor and former Chair in Economics. Other Board Members include Dr. James Dunn (Professor and Chair of Health, Aging & Society and Senator William McMaster Chair in Urban Health Equity), Dr. Tina Fetner (Professor and Chair of Sociology), and Dr. James Gillett (Associate Professor in Health Aging & Society and Associate Dean Research and Graduate Studies, Social Sciences). Drs. Hurley and Fetner chaired the original working group that developed the core vision for the Centre, and Dr. Dunn was a member. The Academic Director and Executive Director of *Spark* will hold direct responsibility for the development and implementation of the Certificates of Completion.

Communications

Spark has an existing communications team of staff and students that manage our website, social media, events, video, accessibility, and development of new materials. In addition to faculty, staff and students at McMaster, we have many professionals in the community who have joined our mailing list or attended events. Additional communications support will come from the Dean's Office in the Faculty of Social Sciences.

Spark relies on several channels to communicate information, promote its message and provide services. We have a biweekly newsletter with 1,000-2,000 regular readers. We have an actively managed website and a presence on both Twitter and LinkedIn. Additionally, we host weekly talks, called *Spark* Talks, to share the work of researchers around the world who are innovating methods or doing highly socially relevant research. We get audiences of 10-25 attending the virtual talks, and more using our video library which now has over 75 talks available.

Additionally, we host a Social Research Innovation workshop series annually, organized around a central theme and bringing in innovative researchers to teach skills workshops related to the theme. In 2019-2020, we focused on Transparency in Research, 2020-2021 (in collaboration with the Sherman Centre) was about producing Relevant Research to impact policy and practice, and 2021-22's Identity in Research is focused on how nuances of identity can be explored in research.

Spark also offers Research Conversations, an opportunity for any researcher in or outside McMaster to get 4 hours of free help with any social research design or methodology challenge. Since beginning the service in February 2021, we have held over 40 conversations with faculty, students, staff, and community members.

These outreach and communications vehicles, *Spark*'s direct work and reputation with community organizations through our applied research service, and our active engagement with Office of Community Engagement, the Community Research Platform and other community-engaged units, allows *Spark* to be confident that we have a strong communications base from which to launch the proposed Certificates of Completion.

2. STRUCTURE AND REGULATION

Individual Certificates of will be awarded to those that successfully complete two courses within the Certificate of Completion with at least a C average. We may revise or introduce new courses or Certificates of Completion over time as needs and research methods in the sector evolve. By introducing the Certificates of Completion gradually, we will also have an opportunity to learn and adapt our delivery in response to demand.

Below is a list of the courses included in the 3 Certificates of Completion, with short calendar descriptions for each.

1. Organizational learning & program evaluation—An overview of analytical perspectives on organizational change and evaluation in the social and non-profit sector.:

1. Assessing Strengths and Needs in Communities – An introduction to approaches and methods used for understanding the diversity and range of community assets and needs.
2. Incorporating Evidence into Strategy – An introduction to the decision-making process and how to effectively incorporate evidence into planning for an organization or program.
3. Impact Evaluation – An overview of core principles and approaches used to evaluate the impact of programs and policies.
4. Cost-Benefit Analysis in the Social Sector – An introduction to how to consider alternative uses of funds and calculate the relative value of different means of addressing social concerns.

2. Qualitative data collection & analysis—An introduction to the methods for effectively collecting and analyzing social data:

1. Interviewing and Focus Groups – An introduction to key strategies and methods for collecting data via interviews and focus groups.
2. Applied Ethnography – An introduction to the use of participant observation and related methods in applied settings.
3. Trauma-informed Data Collection (focus on arts based) - An introduction to arts-based and related methods that expand the range of what has been traditionally considered data.
4. Analyzing Qualitative Data – An introduction to key methods used to analyze qualitative data, such as policy documents and interview or focus group transcripts.
5. Qualitative Data Analysis (QDA) using NVivo—An introduction of how to transfer principles of qualitative data analysis using NVivo

3. Quantitative data collection & analysis—An introduction to the methods for effectively collecting and analyzing social data:

1. Survey design and analysis – An introduction to best practices for designing survey questions and overall survey structure for applied research settings.
2. Numeracy & descriptive statistics – An introduction to foundational concepts in the consumption and presentation of quantitative data, including descriptive statistics
3. Foundational Statistics – An introduction to foundational concepts in probability and statistics for applied analysis of quantitative data
4. Regression – An introduction to regression-based methods of data analysis to answer applied research questions
5. Data Wrangling—Hands-on instruction in data cleaning and presentation of descriptive statistics using common software tools
6. Data Visualization—Hands-on instruction in creating effective data illustrations using common software tools

Note: Learners can only count *either* Data Wrangling *or* Data Visualization toward the Certificate of Completion.

4. CURRICULUM AND TEACHING

1. PROGRAM CONTENT

The Certificates of Completion will engage a variety of instructors with diverse backgrounds, disciplines, and research perspectives. Our faculty, staff, and partners have extensive applied research and/or teaching experience that we will use to continuously inform the development of these courses. The teaching staff so far identified have experience applying their research skills, making them informed mentors for students who are interested in applying research skills in the workforce. As a Centre, Spark has a broad mandate to stay actively informed about methodological developments across social research and works within the community on applied research projects. Through Spark, Certificate students will have access to our Spark Talks and Innovations in Research workshop series, where we actively engage researchers around the world to share their research about methodological innovation and/or applying innovative methods to social issues or questions.

2. PROGRAM INNOVATION

Students will have ample opportunities throughout the program to apply and develop their analytical skills through problem-based and case-based learning in the courses for these Certificates of Completion. The availability of accessibility accommodations will be made clear in all recruitment materials and Certificate outlines. Teaching instructors and staff will have training and support to ensure they can accommodate a range of student needs, including physical and mental health challenges. Additionally, throughout the program we aim to engage with students with lived experience of disabilities to help us continuously expand our capacity for accessibility.

3. MODE(S) OF DELIVERY

The courses will use a combination of in-person and synchronous online formats, according to student demand. In our recent experience, in-person learning is often preferred, particularly for the informal connections that students and instructors are able to make in the classroom. However, we've also learned that synchronous online formats (via Zoom) are often effective when students are geographically dispersed. Therefore, we will offer in-person training for the local, Hamilton-based market, when organizations express a preference and there is sufficient local individual demand. However, we recognize that to be sustainable and reach potential students who may not be in Hamilton, we will need to offer online synchronous courses. As the program develops, we plan to offer the more popular courses in both formats over the course of a given academic year. In addition, we expect that most courses will be offered in the evening or on weekends, including during the summer months. By offering courses in flexible formats and potentially more than once a year, working students may be more likely to complete Certificates at a time suitable for their schedule.

All Certificate course outlines will include accessibility statements, and all instructional materials will be provided in accessible formats. Instructors will support students with appropriate accommodations (e.g., CART services, transcription in virtual meetings, other software supports) as needed.

4. EXPERIENTIAL LEARNING

Each course in the Certificates of Completion will include assignments for students to apply their learning to sample cases or datasets or to problems or issues in their current organization. The aim of these assignments is to encourage existing employed students to engage with the skills at work.

Through group discussion, students will have the opportunity to establish good work practices through feedback from instructors and peers.

5. ACCESSIBILITY & INCLUSION

These three Certificates of Completion aim to celebrate the talents and insights that all students bring forward and to be an accessible, safe and welcoming environment. In our course development, we partnered with students from the Student Partner's Program (SPP) in the MacPherson Institute. The Student Partners Program (SPP) provides undergraduate and graduate students with opportunities to participate as partners with faculty, instructors and staff on projects that contribute to the enhancement of teaching and learning at McMaster. This partnership allowed us to be proactive by building content with diverse student populations to make it more learner focused. Additionally, we are piloting with partners, beginning with the Salvation Army, who actively work with marginalized populations in local communities and have staff with lived experience of various forms of social marginalization or minimization. During the pilot, Salvation Army employees will be students in the program, and actively engaged in providing feedback to improve the design to be relevant and useful for potential students. We are in discussions with several other organizations that may wish to help us pilot test the curriculum.

Spark is mindful of the fact that people come from unequal starting places, and we work toward actively addressing different barriers to higher education. We are teaching applied research skills in ways that are highly informed by a recognition that there are deep structural inequalities that profoundly impact people's lives, experiences, and sense of safety in educational contexts. The skills we teach emphasize that understanding the role of the diversity and complexity of lived experience is central to effective research. Some examples of our focus include meaningful dis-aggregation of data, outlier analysis, and participatory action research. We understand the importance of reflecting the diversity of our community in the Certificate offerings. We are committed to fully embracing multiple, sometimes critical, perspectives to allow for increased creativity, innovation, and leadership.

Spark's leadership has made a major commitment to ensure that we are promoting diversity in the research enterprise and within our ranks. In our hiring process, we actively promote openings within networks of racialized, newcomer and disabled job seekers, and ensure that everyone who would actively work with a candidate has the opportunity to share their unique perspective and inform hiring. We are also consistently improving our ability to address implicit bias in the workplace by actively learning and growing to counter-act it. Our commitment to being proactive also involves asking people about their accessibility needs, creating a space and culture where dissent is not only tolerated but appreciated and people need not worry that their lived experiences will be challenged, centering diverse perspectives in the teaching process, and teaching research methods that honour the wide range of human experiences and identities.

Spark leadership and staff recognize the complexity of intersectionality and how different aspects of one's identity can play a role in shaping perspective within different contexts. In our speaker series, we actively recruit researchers from marginalized communities to share their work. Given the size of cohorts, we are not planning to build specific supports for students of colour. However, in our experience, processes for accommodation, support, safe discussion, and diversity of teachers supports students of colour (and all other students). Through anonymous feedback forms, we will have an honest mid-term survey to assess how students feel about the level of inclusivity, academic rigour, and

guidance provided in our curriculum. In our classroom conversation and dialogue we will also ensure that everyone has an opportunity to speak, and everyone is obliged to listen. Our aim is to foster a managed space where everyone has a voice and feels heard. Elsewhere (above), we have addressed how we will address removing barriers to learning for students with disabilities, who may need a range of accommodations, from alternative formats of learning materials, to technology supports, or even just more time to complete some program requirements.

We will communicate and demonstrate our commitment to diversity and inclusion through our recruitment of program staff, including instructors, as well as clear information in our recruitment and educational materials about the availability of resources and accommodations for a range of learners.

6. RESEARCH REQUIREMENTS (IF APPLICABLE)

Not applicable.

5. ASSESSMENT OF LEARNING

METHODS FOR ASSESSING STUDENTS

As explained above, the three Certificates of Completion include 3 types of academic content and/or analysis, and courses within each of these groups will share similar assessment methods.

Certificates of Completion & list of courses	Typical assessment strategies
Organizational learning & program evaluation <ul style="list-style-type: none"> Assessing Strengths and Needs in Communities Incorporating Evidence into Strategy Impact Evaluation Cost-Benefit Analysis in the Social Sector 	<ul style="list-style-type: none"> Group presentations analyzing cases/problems from curriculum Problem sets requiring analysis of course cases Written reflections responding to prompts about course cases/problems Written reflections on work-related evidence relevant to course content
Qualitative data collection & analysis <ul style="list-style-type: none"> Interviewing and Focus Groups Applied Ethnography Trauma-informed Data Collection Analyzing Qualitative Data Qualitative Data Analysis (QDA) using NVivo 	<ul style="list-style-type: none"> Short written assignments applying relevant skills (e.g., developing an interview guide, coding a sample interview transcript) In-class practice and role playing to apply skills (e.g., mock interviews, focus group facilitation) Written reflections responding to prompts about course cases/problems Short in-class, individual or group presentations of case/problem results
Quantitative data collection & analysis <ul style="list-style-type: none"> Survey design and analysis Numeracy & descriptive statistics Foundational Statistics Regression Data Wrangling Data Visualization 	<ul style="list-style-type: none"> Problem sets or short exams Written reports explaining quantitative results Short individual or group in-class presentations of case/problem results

Figure 5: Assessment methods by course type

Because the Certificates of Completion are meant for those currently working in the social sector who want to improve their applied research and analysis skills, the assessments will focus on students demonstrating competency through a mix of assessment methods, with an emphasis on the types of writing and oral presentation skills that are central to work in the sector. These assessments are designed to evaluate both domain-specific knowledge or understanding and professional communication (writing, presenting) skills most relevant for these students and their current or future work. In addition, in most courses, assessment will include a group-based component, so that students can develop their collaboration and collective problem-solving skills as well. For example, students may be asked to discuss or work on a case study or problem together in class, but then prepare an individual reflection or analysis to assess their individual learning. Focusing on assessing students' competency in the practical application of the theoretical approaches and methodological skills that are the focus of the Certificates align with the Program Learning Objectives, which focus on familiarity with and competency in basic methods and approaches related the applied social research in social sector settings. To support student accessibility, we will use a mix of assessment types to ensure that learners with different strengths and backgrounds will be able to demonstrate their mastery of the core skills.

CURRICULUM MAP

Program Learning Outcomes	Associated DLEs	Level	Assessments	Courses
Students will learn basic principles of research design and become familiar with a wide range of common approaches for evaluating community needs and program effectiveness	<ul style="list-style-type: none"> • general knowledge and understanding of key concepts, methods, approaches and assumptions relevant for applied research • develop knowledge of methodologies that will help them evaluate the appropriateness of different methods of inquiry for different types of needs assessments, program evaluations, or organizational change studies • to apply their knowledge and demonstrate that they can review, present, and interpret qualitative and quantitative information to make sound judgements and evaluate different approaches for problem-based and evidence-based decision-making • understand the limitations of the methods or tools taught in the program so that they know when they will need to seek additional expertise or training to address a particular problem 	basic	<ul style="list-style-type: none"> • Group presentations analyzing cases/problems from curriculum • Problem sets requiring analysis of course cases • Written reflections responding to prompts about course cases/problems • Written reflections on work-related evidence relevant to course content 	<ul style="list-style-type: none"> • Assessing Strengths and Needs in Communities • Incorporating Evidence into Strategy • Impact Evaluation • Cost-Benefit Analysis in the Social Sector
Students will develop competency and experience with basic methods of	6. general knowledge and understanding of key concepts, methods, approaches and assumptions relevant for applied research	basic	<ul style="list-style-type: none"> • Short written assignments applying relevant skills (e.g., developing an interview guide, coding a sample interview transcript) 	<ul style="list-style-type: none"> • Interviewing and Focus Groups • Applied Ethnography • Trauma-informed Data Collection

data collection for social research	<p>7. develop knowledge of methodologies that will help them evaluate the appropriateness of different methods of inquiry for different types of needs assessments, program evaluations, or organizational change studies</p> <p>8. to apply their knowledge and demonstrate that they can review, present, and interpret qualitative and quantitative information to make sound judgements and evaluate different approaches for problem-based and evidence-based decision-making</p> <p>9. understand the limitations of the methods or tools taught in the program so that they know when they will need to seek additional expertise or training to address a particular problem</p>		<ul style="list-style-type: none"> • In-class practice and role playing to apply skills (e.g., mock interviews, focus group facilitation) • Written reflections responding to prompts about course cases/problems • Short in-class, individual or group presentations of case/problem results • Problem sets or exams • Written reports explaining quantitative results • Short individual or group in-class presentations of case/problem results 	<ul style="list-style-type: none"> • Analyzing Qualitative Data • Qualitative Data Analysis (QDA) using NVivo • Survey design and analysis • Numeracy & descriptive statistics • Foundational Statistics • Regression • Data Wrangling • Data visualization
Students will develop competency and experience with analysis of evidence, including basic numeracy and statistical data analysis and qualitative analysis skills for social research	<ul style="list-style-type: none"> • general knowledge and understanding of key concepts, methods, approaches and assumptions relevant for applied research • develop knowledge of methodologies that will help them evaluate the appropriateness of different methods of inquiry for different types of needs assessments, program evaluations, or organizational change studies 	basic	<ul style="list-style-type: none"> • Short written assignments applying relevant skills (e.g., developing an interview guide, coding a sample interview transcript) • In-class practice and role playing to apply skills (e.g., mock interviews, focus group facilitation) • Written reflections responding to prompts about course cases/problems • Short in-class, individual or group presentations of case/problem results • Problem sets or exams • Written reports explaining quantitative results 	<ul style="list-style-type: none"> • Interviewing and Focus Groups • Applied Ethnography • Trauma-informed Data Collection • Analyzing Qualitative Data • Survey design and analysis • Numeracy • Data cleaning and descriptive statistics

	<ul style="list-style-type: none"> • to apply their knowledge and demonstrate that they can review, present, and interpret qualitative and quantitative information to make sound judgements and evaluate different approaches for problem-based and evidence-based decision-making • understand the limitations of the methods or tools taught in the program so that they know when they will need to seek additional expertise or training to address a particular problem 		<ul style="list-style-type: none"> • Short individual or group in-class presentations of case/problem results 	<ul style="list-style-type: none"> • Foundational Statistics • Regression
Student will be familiar with all stages of the research process, including problem definition, data collection, data analysis, ethics, and oral and written communication, in a social organization	<ul style="list-style-type: none"> • general knowledge and understanding of key concepts, methods, approaches and assumptions relevant for applied research • understand the limitations of the methods or tools taught in the program so that they know when they will need to seek additional expertise or training to address a particular problem • to develop and demonstrate their communication skills 	basic	<ul style="list-style-type: none"> • Group presentations analyzing cases/problems from curriculum • Problem sets requiring analysis of course cases • Written reflections responding to prompts about course cases/problems • Written reflections on work-related evidence relevant to course content 	<ul style="list-style-type: none"> • Assessing Strengths and Needs in Communities • Incorporating Evidence into Strategy • Impact Evaluation • Cost-Benefit Analysis in the Social Sector

Figure 6: Curriculum Map

DEMONSTRATING STUDENT ACHIEVEMENT

For this program, success will be evident if students are able to effectively apply what they have learned to help their organizations and/or future employers develop, administer, and evaluate their social programs or similar activities. Organizations that sponsor their employee participation in the courses and Certificates of Completion should see improved capacity within their organization to collect and analyze evidence to further the organization's core missions.

Overall, assessment of student achievement will be through completing courses in the Certificates of Completion with at least a C average. Within the program, assessment will focus on practical applications of theory and methods to address research questions common in the social sector. Organizations will be able to assess the value of the training through the ways the project informs the organization's future work and goals.

6. RESOURCES

1. UNDERGRADUATE PROGRAMS

ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES

We believe these Certificates have the potential to significantly advance *Spark's* mission. Because of this, we are committed to investing the necessary human, physical and financial resources necessary. Financial projections lead us to anticipate that we can grow the Certificates appropriately to be cost-neutral without additional funding by the fourth year. We have applied and will continue to apply for funding to support curriculum development and piloting of individual Certificates of Completion in the first three years of operations.

LIBRARY, TECHNOLOGY, AND LABORATORY RESOURCES

It is our understanding that many centrally provided services are not broadly made available to individuals external to McMaster enrolled in individual certificates. We have approached our planning without an assumption that such services will be available.

FACULTY

In identifying potential course instructors, we focused on recruiting individuals at McMaster that have strong methodological expertise but also direct experience working on applied policy and practice questions in the community. All instructors in the program will receive support and active feedback from *Spark's* Academic Director, Dr. Michelle Dion, and Executive Director, Allison Van. Dr. Dion has over a decade of experience teaching a range of methodologies. Ms. Van has led initiatives in government and not for profits and both led herself and trained others in providing applied adult education.

Our initial budget and planning assumes we will hire instructors on a temporary basis, including instructors with research expertise who are currently working in the sector. We also anticipate that employees of *Spark*, including our SEAL lab manager and research staff who work on *Spark's* applied/contract research projects, and other research units of campus may teach relevant courses in the Certificates.

ANTICIPATED CLASS SIZE

We expect to set a minimum of 10 students for each course and cap most at 30. We expect high interest in some of our quantitative methods classes, particularly numeracy, and may be able to have larger enrolment than 30 students in these courses without compromising quality.

PROGRAM IMPLEMENTATION

We plan to begin offering the program in stages, with 3-4 new courses offered each academic year, starting in Fall 2022. By 2025-26, we plan to offer the full complement of courses for the Certificates of Completion within a single year. By introducing new courses in small batches each year, we will better manage quality and control upfront costs.

7. QUALITY AND OTHER INDICATORS

QUALITY OF THE PROGRAM

To evaluate the quality of the program, we will consider:

- Whether partner organizations continue their partnership and/or sponsor future cohorts/new employees to participate in the program
- End of program student satisfaction surveys
- Percentage of students working in the social sector who take more than one Certificate of Completion

INTELLECTUAL QUALITY OF THE STUDENT EXPERIENCE

Because we anticipate having a small number of faculty who teach more than one course, students will have multiple opportunities to study with the same instructor, leading to more sustained interaction. The Academic Director of *Spark* has significant post-secondary teaching experience, including in extracurricular workshops on research methods for motivated interdisciplinary groups of students. The Executive Director for the program has significant experience supervising teams of student researchers/learners in applied research projects and working with community organizations to achieve their organizational objectives. We have also identified faculty members who have experience collaborating on applied research projects, including with non-profit organizations, and who have teaching experience in post-secondary institutions.

APPENDIX 1 – Citations

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- Statistics Canada. (2021b). Non-profit institutions and volunteering: Economic contributions, second quarter 2021. Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/211004/dq211004d-eng.pdf>

APPENDIX 2 – Alignment with McMaster’s Certificate Policy

The following comments address points 45-56 of McMaster’s Certificates-Diplomas policy:

CERTIFICATES OF COMPLETION

45. *Though these Certificates of Completion will involve student assessment of academic content, they will be marketed as individual learning experiences.*
46. *These Certificates of Completion will include a minimum of **30 contact hours** and **evaluation** of the learner’s learning. Given the need for student reflection and completion of assignments, our courses will normally span more than one week of student contact.*
47. *We have included detailed plans for assessment in this proposal and will record letter grades on the McMaster scale for all learners who complete a course. A minimum of a C will be required to count toward a Certificate of Completion.*
48. *These Certificates are intended as a professional development opportunity primarily for those currently working in the social sector, and we have established recommended and minimum enrolment requirements consistent with the level of proficiency with basic skills necessary to effectively complete the courses.*

ADMISSION REQUIREMENTS

49. *Though there are normally no specific admission requirements for Certificates of Completion, for the reasons outlined above, and given the content of the Certificates, we are recommended that those who enroll have the equivalent of a high school diploma or meet McMaster’s criteria for adult learners with 3 years working experience in the sector.*

CREDIT TOWARD ANOTHER CREDENTIAL

50. *Our courses are designed for the Certificates of Completion proposed above. We anticipate aligning our offerings with future revisions in the policy, including a new framework for microcredentials at McMaster.*
51. *We do not plan to offer any Certificates of Attendance related to these courses.*

APPROVAL CRITERIA

52. *Because we will be charging fees (see 53. below), we understand that we must submit this proposal for the three Certificates of Completion to the Certificates and Diplomas Committee and then for consideration by the Undergraduate Council. We will submit updates if and when we plan to change or add to courses, as required by this point in the policy.*
53. *Please see the attached memo for the Fees Committee related to this point in the policy.*
54. *We believe these Certificates of Completion align both with the mission of Spark as well as McMaster’s commitment to community-engaged research and collaboration with community organizations, as explained throughout this proposal.*

GUIDELINES AND LIMITATIONS

55. *Clarity and the protection of the McMaster certificate brand will be carefully considered, and no courses will be advertised without using the full term “Certificate of Completion,” as expected by the policy.*
56. *Our marketing materials and course descriptions will include the non-credit status of the course, that there will be learner evaluation, how the learner shall be graded (i.e., a letter grade), and that a “Certificate of Completion” will be awarded for successful completion of 2 courses within the Certificate with at least a C average.*

APPENDIX 3 – Student Fees Committee Memo

University Student Fees Committee



DATE: April 28, 2022

TO: University Student Fees Committee

FROM: Michelle Dion, Academic Director, *Spark: a centre for social research innovation*

RE: Proposed courses and related Certificates of Completion in Social Research

Brief Description of the Request

We are proposing a collection of short courses (15 contact hours each) that are grouped into 3 Certificates of Completion. Learners must complete 2 courses within a Certificate of Completion with at least a C average to earn the Certificate of Completion.

Request category	Tuition Fees Only	
If new program, is it intended to be MCU funded?	No	
Description of Program and Plan. Please also suggest description strings to be used in Mosaic <u>Program:</u> ACAD_PROG (5 chars length) DESCR (max 30 chars length) <u>Plan:</u> ACAD_PLAN (max 10 char length) DECSR (max 30 chars length)	Description strings in Mosaic not applicable (registration will be external to Mosaic)	
Indicate the proposed fee amount(s) by Fee Type: (Under Fee Type, please specify if the fees specified are program, course, term, unit, or annual fees) Domestic Tuition: International Tuition: Supplementary Fees:	Fee Amount (\$)	Fee Type
	550.00/credit for each course (\$1,100 for 2)	Tuition
	550.00/credit for each course	Tuition
	Choose an item.	Choose an item.



NEW PROGRAM PROPOSAL

BHSc (Integrated Rehabilitation and Humanities)

[March 23, 2022]

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COMPLETING THE NEW PROGRAM PROPOSAL DOCUMENT

This New Program Proposal template is structured to correspond with the evaluation criteria outlined in McMaster's Policies, Procedures and Guidelines:

<https://www.mcmaster.ca/policy/AdminAcad/AcadAdmin/AcademicProgramReview.pdf>.

For additional information, contacts or guidebooks, departments can visit the IQAP website <https://mi.mcmaster.ca/iqap/> or email iqap@mcmaster.ca.

Please ensure that your department refers to the New Program Proposal Guidebook for clarification and further information on the types of evidence required and, where applicable, what resources are available to assist in retrieval or interpretation of the information required for this proposal.

CHECKLIST FOR NEW PROGRAM PROPOSALS

The following section indicates all the items that are required as part of a **complete** new program proposal package which includes all the necessary documents. Part I, II and III should be submitted as separate files to iqap@mcmaster.ca.

PART I: COMPLETE NEW PROGRAM PROPOSAL DOCUMENT

- ☐ Complete New Program Proposal Template
- ☐ Faculty CVs (can be submitted on CD or USB)
- ☐ Memorandum(s) of Understanding (Letters of Support) (if applicable)

PART II: RESOURCE IMPLICATIONS AND FINANCIAL VIABILITY TEMPLATE

- ☐ Completed
- ☐ Approved

PART III: FEES MEMO

- ☐ Completed
- ☐ Approved

Chair's Declaration of New Program Proposal Completeness:

I, [Dina Brooks](#), have reviewed the New Program Proposal for BHSc (Integrated Rehabilitation and Humanities) and agree that it is complete and satisfies all of the requirements McMaster University's Policy on Academic Program Development and Review.

Signature:

Dean's Declaration of New Program Proposal Completeness:

I, [Pamela Swett](#), have reviewed the New Program Proposal for BHSc (Integrated Rehabilitation and Humanities) and agree that it is complete and satisfies all of the requirements McMaster University's Policy on Academic Program Development and Review.

Signature:

I, [Susan Denburg](#), have reviewed the New Program Proposal for BHSc (Integrated Rehabilitation and Humanities) and agree that it is complete and satisfies all the requirements McMaster University's Policy on Academic Program Development and Review.

Signature:

1 PROGRAM

1.1 PROGRAM DESCRIPTION

Recent evidence highlights the benefits of including arts-based subjects in the training of medical students, who can thereby improve their communication, reflexivity, and observation skills. Professionals who understand the complex nature of health and wellbeing will be able to better address the needs of their clients and communities.

We believe that by focusing on the interfaces between rehabilitation, health, and the humanities, we can build a unique undergraduate program that will impact individual learners and a society where such skills are critically needed. This will involve integrating the restoration, maintenance, and improvement of health through rehabilitation with a deep engagement with questions about what it means to be human at its most fundamental level, as reflected in the creative arts, literature, music, history, peace and cultural studies, linguistics, the classics, communication studies, philosophy, ethics, theatre, film, and more.

The proposed program brings humanities education offered by the Faculty of Humanities and combines it with the clinical knowledge of rehabilitation. This will create a unique undergraduate program that is focused on training empathetic professionals and engaged citizens.

In this program, just over half of the content will be offered by the Faculty of Health Sciences; just over one-third by the Faculty of Humanities; and the remaining one-sixth from other university courses to fulfill the learning outcomes of the program. With this structure, students in the BHSc (Integrated Rehabilitation and Humanities) will encounter strong experiential learning components, options for clinical research and opportunities to participate in community engagement.

1.1.1 Program Objectives

BHSc (Integrated Rehabilitation and Humanities) aims to integrate principles and courses from the Faculties of Humanities and Health Sciences (School of Rehabilitation Science) to accomplish the following objectives:

1. Teach students what it means to be human at its most fundamental level, as reflected in the different aspects of humanities, including history, philosophy, literature, and the creative arts.
2. Introduce students to the multiple interfaces between the humanities, health, and rehabilitation that can help them engage and transform their communities.
3. Prepare students to understand the complex nature of health and well-being and have the knowledge and skills to address such complexity by combining humanities and rehabilitation perspectives.

4. Prepare students for future excellence by having them engage with critical thinking and collaborative problem-solving.

To accomplish the above objectives, the program will emphasize interprofessional interactions, knowledge-informed decision making, community engagement, practical experiences, and exposure to research.

1.2 PROPOSAL PREPARATION AND CONSULTATION PROCESS

The School of Rehabilitation Science (SRS) offers educational programs in occupational therapy, physiotherapy, speech-language pathology, rehabilitation science and health management at the graduate level. In 2019, the SRS developed the first ever undergraduate course in rehabilitation science (HTHSCI 3RS3) as part of the BHSc program at McMaster. This 3-unit course focuses on the fundamental concepts and theories specific to the role of rehabilitation professionals in the local, national, and global contexts. Students explore the clinical practices and unique roles of physical therapy, occupational therapy, and speech language pathology. Given the tremendous interest in the course (filling the 100 spots within hours of opening course registration), the SRS developed the Rehabilitation Sciences Certificate. This certificate provides a comprehensive academic credential specifically for undergraduate students where they will have opportunity to develop the foundational knowledge and skills needed for careers as healthcare professionals, which can enhance their employability in the field of rehabilitation (e.g., disability coordinator, case manager, claims analyst, mental health worker, return to work coordinator), as well as provide a foundation for applying to graduate studies in the health and rehabilitation sciences. The certificate was approved in the fall of 2020.

The program being proposed here builds on this undergrad course and certificate, in which BHSc and Kinesiology were partners. Leadership at the SRS felt that a partnership with Humanities could increase awareness of the value of the humanities in the rehabilitation sciences. After the SRS and the Faculty of Humanities successfully approached the Provost's Strategic Alignment Fund and secured seed funding, a committee was formed consisting of key faculty from the Faculty of Health Sciences (FHS) and Humanities: the Integrated Rehabilitation and Humanities Committee (IRHC). The IRHC's first task was to identify the ideal qualities and attributes that a graduate of our program should possess, attributes that played an important role in guiding the program's curriculum development.

In addition, the RHHC engaged faculty and staff at the SRS to give advice about the proposed program, to solicit further community input, and to assess local capacity for experiential and research learning. Information gleaned from the meetings were used to further inform our program proposal. Appendix 1 summarizes these consultations.

Preparation has also involved forging new relationships between programs in the Faculty of Humanities and the SRS in the Faculty of Health Sciences. Given that the new Program will require resources from several programs and departments, we consulted with leadership of the BHSc at McMaster (Dr. Stacy Ritz) who agreed to partner on some of the courses that will be offered either as mandatory or as electives.

We also consulted with Dr. Kim Dej (Associate Vice-Provost) to explore the type of degree that would be most appropriate (*i.e.*, Bachelor of Science).

The Paul R. MacPherson Institute for Leadership, Innovation and Excellence in Teaching was consulted extensively throughout the development of this proposal. Advice was received on how to articulate program learning outcomes, how to relate the outcomes to degree level expectations, and how to determine how the program fills a gap in the higher ed sector and the labour market.

1.3 CONSISTENCY WITH MCMASTER'S MISSION AND ACADEMIC PLAN

1.3.1 Consistency with the Strategic Mandate Agreement

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) serves several purposes including highlighting the provincial government objectives and priority areas for the postsecondary education system and describing the elements of Ontario's performance-based funding mechanism. In the SMA3 also establishes the basis of enrolment-related funding over the five-year SMA3 period (2020-2025). For each institution, the SMA3 establishes allowable performance targets for 10 metrics upon which institutional performance will be assessed.

The proposed undergraduate program is closely aligned with the University's academic plan and priorities and current Strategic Mandate Agreement (SMA); specifically:

1. Experiential learning (Skills and Job Outcomes): This program integrates experiential learning experiences across the program, which will provide hands-on and applied training opportunities.
2. Institutional strength/focus (interdisciplinary): This Humanities and Rehabilitation undergraduate program is a highly innovative interdisciplinary program that is the only one of its kind across Canada and the United States.

1.3.2 Consistency with McMaster Goals and Priorities

The proposed undergraduate program aligns well with the following University's strategic goals:

1. Developing a distinctive, personalized, engaging, and sustainable student experience. To meet societal and labour market needs and student demand, the BHSc (Integrated Rehabilitation and Humanities) will provide innovative, interdisciplinary and multi-disciplinary education that will engage students and provide opportunities both in terms of graduate studies and career preparedness. Its innovative delivery methods will enhance the learning experience by incorporating experiential learning, learning portfolios, online learning (where appropriate), research exposure and other opportunities.

2. Enhancing the connections between McMaster and the communities we serve, locally, provincially, nationally, and around the globe. Given the unique nature of this program, BHSc (Integrated Rehabilitation and Humanities) will join other McMaster flagship interdisciplinary programs and be uniquely positioned globally and nationally. The strategic priority on internationalization is met through recruitment of international students to the program. In developing the proposal, we have engaged local stakeholders who have helped shape the content and format of the program (refer to 1.6.2). These stakeholders have also committed to continue involvement as students enroll, through the experiential learning component.

In May 2021, the President David Farrar launched [the new strategic plan](#) based on campus-wide feedback. The proposed undergraduate program aligns well with priority *Teaching and Learning*. The interdisciplinary nature of this program, the experiential learning, and research component will provide an excellent educational experience for students.

1.4 PROGRAM LEARNING OUTCOMES

Prior to graduating from the **BHSc (Integrated Rehabilitation and Humanities)**, each student will have the ability to:

- 1 **Describe** the relationship between rehabilitation, health, and the humanities in the development and design of health and social contexts that optimize human functioning. [RELATIONSHIP-BASED CULTURE]
- 2 **Employ** the creative arts to examine human experiences of health, healing, and recovery using rehabilitation frameworks. [CREATIVITY AND THE HUMAN EXPERIENCE]
- 3 **Understand** the foundations of human functioning (e.g., anatomy & physiology) and analyze (and critique) existing health, wellness, rehabilitation, and clinical frameworks. [FOUNDATIONS OF CLINICAL REASONING]
- 4 **Develop and demonstrate** the skills of empathy, humility, curiosity, and compassion that are necessary for professional and therapeutic interactions and enhance inclusive excellence (equity, diversity, inclusion, belonging, decolonization, anti-oppression). [COMMUNICATION AND INCLUSIVE EXCELLENCE]
- 5 **Understand and apply** professional standards, theory, evidence, and ethics to address current and future health and rehabilitation challenges. [ETHICAL REASONING AND PROFESSIONAL CONDUCT]
- 6 **Appraise** and apply evidence that advance everyday health and functioning. [EVIDENCE-BASED PRACTICE]

- 7 **Apply** their knowledge and skills in the humanities and rehabilitation science through experiential learning opportunities locally and globally. [LOCAL AND GLOBAL PERSPECTIVES OF COMMUNITY ENGAGEMENT AND IMPACTS]

1.5 CONSISTENCY WITH DEGREE LEVEL EXPECTATIONS (DLE)

UNDERGRADUATE PLOS	DLEs*
Relationship-based culture	1,2,3,4,5,6
Creativity and the Human Experience	1,2,3,5
Foundations of Clinical Reasoning	3,4,5,6
Communication and Inclusive Excellence	1,2,4,5
Ethical Reasoning and Professional Conduct	4,5,6
Evidence-based Practice	1,2,3,5
Local and Global Perspectives of Community Engagement and Impacts	1,2,3,4,5,6

*1: Depth and Breadth of Knowledge; 2: Knowledge of Methodologies; 3: Application of Knowledge; 4: Communication Skills; 5: Awareness of Limits of Knowledge; 6: Autonomy and Professional Capacity

Depth and Breadth of Knowledge. The breadth of knowledge will be addressed in the humanities courses that cover a variety of foundational disciplines, such as history of medicine and healthcare, linguistics, philosophy, and ethics as well as peace and cultural studies. In the courses related to rehabilitation science, key areas of knowledge will be covered where students will explore in-depth the historical underpinnings of approaches to rehabilitation and healthcare. This exploration will be discussed in the context of past and current conceptualizations of health, functioning and disability, as well as how these are reflected in local (provincial, national) and global approaches to health and recovery.

Knowledge of Methodologies. Students will gain knowledge in common practices in evidence-based rehabilitation that will be generated through both humanities and rehabilitation coursework. Students will learn various quantitative and qualitative methodologies alongside the foundational principles of ethics and ethical decision-making. Once they have a grounding in quantitative (e.g., survey, meta-analyses, systematic reviews) as well as qualitative methodologies (e.g., interviews, content analysis, case studies), they will then be introduced to various clinical scenarios through inquiry-style courses in the rehabilitation sciences. Students will also consider how these methodologies inform clinical decision making in a health and rehabilitation context. Assessment of these methodologies taught in the introductory courses (year 2) will take the form of multiple-choice exams to ensure students have the prerequisite knowledge of these methodologies. In upper year courses (years 3 & 4), students will use scenarios, based on actual clinical situations, where they will be assessed individually as well as in small groups on their ability to apply and share their reasoning through both oral presentations and written work.

Application of Knowledge. Students will apply their humanities and rehabilitation science knowledge through a variety of classroom and community-engaged learning experiences. For example, in Year 3, students will engage in community-based fieldwork placement within a health, social and/or rehabilitation-related setting. This learning opportunity has been strategically placed at this point in the curriculum so that

students engage in this experiential learning during courses offered in the third and fourth years of study. Students will also be able to share their respective experiences with one another through their small group learning approaches. In their final year, they will complete a research project that will involve a self-analysis at the outset so they can do an in-depth analysis of their strengths as well as gaps in their learning that can go into a portfolio, and they can then plan some of the learning in this project to address these gaps.

Communication Skills. The development of strong oral and written communication skills is critical and foundational to any professional career, and particularly those in health and social sectors. Communication skills will include listening, argumentation, written expression, clarity, concision, openness, respect, empathy, and engagement. Given the relatively small intake of students to this program, students will have an opportunity to practice these skills in classes as well as complete written assignments where they will receive personalized feedback to advance their communication skills. Classes will have invited speakers from the community who will share their lived experiences. As well, students are expected to be able to apply their communication skills through their fieldwork placement in the third year of the program.

Awareness of Limits of Knowledge. While the focus of this undergraduate program is to grow knowledge in the humanities as well as rehabilitation science, it is also critical that students understand the inherent limitations of various approaches and are critical consumers of such knowledge. For example, in the Rehabilitation Science Inquiry Courses (SRS 2R13 / SRS 3R13 / SRS 4R13), students will be introduced to a variety of perspectives of health and rehabilitation with the aim of discussing and debating different viewpoints of health, disability and functioning to develop their critical thinking skills. In the Measurement Fundamentals in Rehabilitation Science course (SRS 3MF3), students will learn about measurement theory as it applies to rehabilitation science, including the process of tool selection and how to appraise different measures in terms of their clinical feasibility, usability, and other key properties. Pragmatic considerations when it comes to the fidelity of interventions is another important limitation that will be addressed through course work that will include active and experiential learning opportunities. It is important that students recognize that health, functioning, and disability differ across individuals and across cultures. Hence students will also reflect on equity, diversity, and inclusion (EDI) when it comes to existing health and rehabilitation approaches and evidence. In this way, they will be better positioned to promote EDI going forward in their respective personal and professional pathways.

Autonomy and Professional Capacity. This program includes a strong focus on experiential learning opportunities where students will apply their knowledge in real-world contexts. For example, in their third year, students will undertake a fieldwork placement where the aim is to further develop their critical thinking and decision-making skills in a professional setting, where they will be working alongside others in different capacities. They will then bring this learning back to the classroom where it can be applied in their fourth-year courses, including their capstone project. Hence, graduates from our program will be able to pursue graduate degrees in the health and rehabilitation sciences, including occupational therapy, speech-language pathology, physical therapy, or Master of Science in rehabilitation science. This program will also

implement a learning portfolio where students can track evidence of their learning and experiences, which will help with documenting key learning experiences that are necessary for pursuing careers in the social or health sectors, and many others where there is growing labour market demand for such graduates.

1.6. DEMAND FOR PROGRAM

1.6.1 EVIDENCE OF SOCIETAL/LABOUR MARKET NEED

Development of an BHSc (Integrated Rehabilitation and Humanities) is justified by market demand, student interest, availability of programs in Canada and employer support. We explored potential occupations that graduates from the BHSc could enter upon graduation and reviewed the job trends. The chart below demonstrates these using NOC code retrieved from

<https://www.services.labour.gov.on.ca/labourmarket/search.xhtml?lang=en>.

NOC	OCCUPATION	ANNUAL INCOME	GROWTH RATE	TOTAL OPENINGS
3234	Other technical occupations in therapy and assessment	40,655	11.1 - 12%	1001 - 2000
4165	Health Policy researchers, consultants, and program officers	72,767	11.1 - 12%	4001 - 5000
4012	Post-secondary teaching and research assistants	28,166	9.1 – 10%	3001 – 4000
0311	Managers in Health Care	93,868	8.1 – 9%	3001 – 4000
3414	Other assisting occupations in support health services	41,379	9.1 – 10%	3001 - 4000

The overall employment outlook for graduates can be categorized as stable with demonstrated patterns of growth. The chart below demonstrates these potential occupations following further education using NOC code retrieved from

<https://www.services.labour.gov.on.ca/labourmarket/search.xhtml?lang=en>.

NOC	OCCUPATION	ANNUAL INCOME	GROWTH RATE	TOTAL OPENINGS
3142	Physiotherapists	73,170	11.1 – 12%	2001 – 3000
3143	Occupational Therapists	74,579	10.1 – 11%	501 – 600
3112	General practitioners and family physicians	102,176	17.1 – 18%	7001 – 8000
3236	Massage Therapists	30,047	11.1 – 12%	2001 – 3000
3122	Chiropractor	57,055	8.1 – 9%	601 – 700
3141	Audiologists and speech-language pathologists	79,471	9.1 – 10%	901 – 1000
3124	Allied primary health practitioners	96,046	9.1 – 10%	501 – 600
3125	Other professional occupations in health diagnosing and treating	52,760	12.1 – 13%	801 - 900

1.6.2 COMMUNITY STAKEHOLDER INTERVIEWS AND CONSULTATIONS:

From May to July 2021, a total of nine (9) interviews were completed with various community stakeholders who reflect a wide range of employment sectors in public, private, and nonprofit contexts. The table below outlines the organizations that participated in this consultation. The primary aim of these interviews was to explore each organization's perspective regarding the employment prospects for graduates with this program. More specifically, the following topics were discussed: 1) the demand or need of potential employers for graduates of this program (*i.e.*, current, and emerging jobs for graduates); 2) any suggested areas of learning that should be targeted during the program (*i.e.*, knowledge, skills, abilities); and finally, 3) their potential to offer experiential learning opportunities in partnership with the BHSc program. An overview of findings from across the interviews is presented here. A narrative summary from each individual interview is also provided in Appendix 2.

Community Stakeholder (Position of those interviewed)	Sector
CBI Health (Director of Operations)	Private
Music Therapists of Ontario (President and Small Business Owner)	Private and Nonprofit
IMHope (CEO, Health Innovation)	Nonprofit
United Way Hamilton-Halton (Director, Organizational Performance)	Nonprofit
Thrive Group* (CEO and Long-term Care (LTC) Administrator)	Private and Nonprofit
YMCA – Hamilton/Brantford/Burlington (Senior Regional Manager)	Nonprofit
March of Dimes (VP and Chief Administrative Officer, HR)	Nonprofit
City of Hamilton (Project Manager)	Public
YWCA – Hamilton (CEO)	Nonprofit

*two (2) people in leadership positions from the same organization were interviewed.

Every community stakeholder who participated in the interviews expressed enthusiasm for our program's focus. Many recognized that graduates from this program would have the ability to strengthen current and emerging areas of emphasis in the health and social sector. For example, optimizing the client (or patient) experience is an area of strategic focus where efficacious approaches are needed to advance equity, diversity and inclusion across underrepresented and underserved groups. The combination of rehabilitation, health, and humanities was viewed as a unique strength of the intended program. Graduates are expected to have the ability to not only search, locate, and apply evidence-based practices, but also the creativity to communicate in different and effective ways with those from different professional and personal backgrounds. In fact, one of the stakeholders used the word 'translator' to describe how a graduate from the program could help bridge the needs of a client with community organizations from different backgrounds to ensure they are supported. This stakeholder described graduates of this prospective program as having a 'competitive' advantage over other applicants within their organization given their unique skillset.

When asked about potential careers and corresponding annual incomes, there was much discussion as to what might be offered to graduates of this program. A range of positions were identified, such as case managers, as well as administrative and frontline staff for different programs, including leisure and recreation programming, across different populations (e.g., older adults, youth), as well as contexts (e.g., community centres, long-term care). For example, those in the nonprofit sector indicated that they could see graduates in a variety of positions, such as communication and marketing, as well as philanthropy, where the ability to share 'stories with impact' is key. Many were excited to see where students might fit best in their organization, and that is where they saw value in offering placements to those in the program. For example, the YMCA indicated that they have many different opportunities for their staff ranging from after-school and childcare to housing and immigrant support services. Of those stakeholders who were able to provide an estimate of annual income, starting salaries ranged from \$40,000 to \$60,000 or more, if the applicant had additional expertise, such as volunteering in philanthropic causes, or had sought additional training designations (e.g., project management professional, human resources professional). The stakeholders all described this program as a strong foundation to pursuing such designations.

Most notably, each stakeholder was eager to partner with the program to develop 'exposure' placements for students in their third year. Many indicated they would be happy to also provide guest lectures or contribute in other ways to teaching and learning through other coursework. The stakeholders saw such placements as a 'win-win' where students have an opportunity to apply their emerging skills, knowledge, and abilities, and the respective organization benefits by having leading-edge, evidence-based practices shared by the student. Not surprisingly, placements were viewed as a viable means of recruiting students for full-time employment positions upon their graduation.

Given that this would be a new program, stakeholders emphasized the importance of ensuring the program includes courses where students learn how to effectively communicate and advocate for how their knowledge, skills, and abilities are congruent with different advertised positions. In fact, two stakeholders offered to set up meetings with their managerial team, once the program is approved, to increase awareness about the program and the strengths of graduates. They saw enormous value of this program and what graduates with this training will bring to organizations that bridge the health and social sectors.

1.6.3 EVIDENCE OF STUDENT DEMAND

We surveyed a total over 1000 students from the Bachelor of Health Sciences, Humanities, Life Sciences, and Rehabilitation Science at McMaster University and secured a 20% response rate.

Students were asked: "If such a program BHSc (Integrated Rehabilitation and Humanities) were available, would you have considered it as an option?" Details can be found in Appendix 3.

Answer	Percentage
Yes	36%
Maybe	25%
Not for me, but I think it would be valuable for other students.	34%
No. I do not think it would be a valuable degree.	4%

There were numerous suggestions on how to make this undergraduate program attractive to students. Many of the suggestions, such as experiential learning and research opportunities, have been incorporated in the development of the program.

1.6.4 JUSTIFIABLE DUPLICATION

Although other undergraduate programs in rehabilitation exist in Ontario or Canada, there are no specific humanities and rehab undergrad programs. There are, however, several humanities and medicine programs, minors and certificates offered in Canada (Appendix 4). Three aspects of the proposed BHSc (Integrated Rehabilitation and Humanities) combine to make it a unique and innovative program: 1) our focus on rehabilitation rather than medicine; 2) our focus on interdisciplinary practice; and, 3) the fact that interdisciplinarity is embraced within core courses as well as experiential learning and research. We expect that this program will be a feeder for graduate programs in rehabilitation and other professions. We also expect, however, that our graduates, who have been trained at the intersections of health, rehabilitation, and human values, will become valued contributors to these fields, and may indeed form the beginnings of a new professional category.

At McMaster University, there will be some overlap between BHSc (Integrated Rehabilitation and Humanities) and the Bachelor of Health Sciences (Honours) Program (BHSc), but it will be small. The BHSc (which is a single Faculty program) offers students an understanding of health from behavioural, biological, and population-based perspectives, through the integration of foundational and health sciences. Students in the BHSc (Integrated Rehabilitation and Humanities) will be required to take the anatomy and physiology course that BHSc offers. In addition, there are some courses in BHSc that BHSc (Integrated Rehabilitation and Humanities) could take, which are detailed in Appendix 5 and 6. The BHSc (Integrated Rehabilitation and Humanities) is distinctly different than the BHSc in that cross-Faculty coursework, experiential learning, problem-based learning, and inquiry approaches are focused on key issues in rehabilitation science and research.

1.7 DEGREE NOMENCLATURE

The proposed program name is Bachelor of Health Science (Integrated Rehabilitation and Humanities). This nomenclature is consistent with the primary focus and the content of this degree. It is a bachelor's honours degree that is designed to meet Degree Level Expectation at the Bachelor's Honours level.

2 ADMISSION & ENROLMENT

2.1 ADMISSION REQUIREMENTS

We propose a level II entry for the program Integrated Rehabilitation and Humanities in order for it to be accessible to students from as many backgrounds as possible. The experience of existing programs across the University confirms a growing realization that programs benefit from students and faculty who come from a diversity of backgrounds—social, cultural, and educational—not least because students learn as much from one another as from their faculty. Considering this, aims to avoid creating unnecessary barriers to admission by over-emphasizing specific qualifications, and insofar as some competencies are necessary, students without them can begin the program and “catch up” in level II.

Admission Requirements: BHSc (Integrated Rehabilitation and Humanities)

Completion of any Level 1 program and a Grade Point Average of at least 6.0 (six point zero) and the submission of a supplemental application to the School of Rehabilitation Science. Selection will be based on academic achievement in year 1, alongside video-recorded and written statement(s) responses to questions where students will outline their motivation and interest in pursuing the proposed program.

2.2 ENROLMENT PLANNING AND ALLOCATIONS

Academic Year	Cohort Year 1	Cohort Year 2	Cohort Year 3	Cohort Year 4	Total Enrolment
2023	Level 1				
2024	Level 1	50			50
2025	Level 1	75	42		117
2026	Level 1	100	63	35	198
2027	Level 1	100	85	53	238
Maturity	Level 1	100	85	72	257

We estimated a 15% attrition yearly. This rate was based on discussions with other interdisciplinary programs at McMaster. This rate includes students that choose to change programs and focus elsewhere, drop out of university for personal reasons and those who academically underperform.

2.3 ALTERNATIVE REQUIREMENTS

The admission requirements proposed in 2.1 are intentionally broad and motivated by our conviction that the program will be strengthened by the diversity of its students. We therefore propose to grant the Director of the program, or their designate, broad discretion to substitute other units to serve as the entrance requirements.

3 STRUCTURE

3.1 ADMINISTRATIVE, GOVERNANCE AND COMMUNICATION

Since the BHSc (Integrated Rehabilitation and Humanities) is an interdisciplinary program, the Memorandum of Agreement (MOA) between the Faculty of Humanities and the Faculty of Health Sciences (SRS) articulates administrative and governance structure of the program. A brief overview of each committee and corresponding subcommittee (inc. working groups, where appropriate) is provided below alongside a schematic (Figure 1) that reflects the reporting structure.

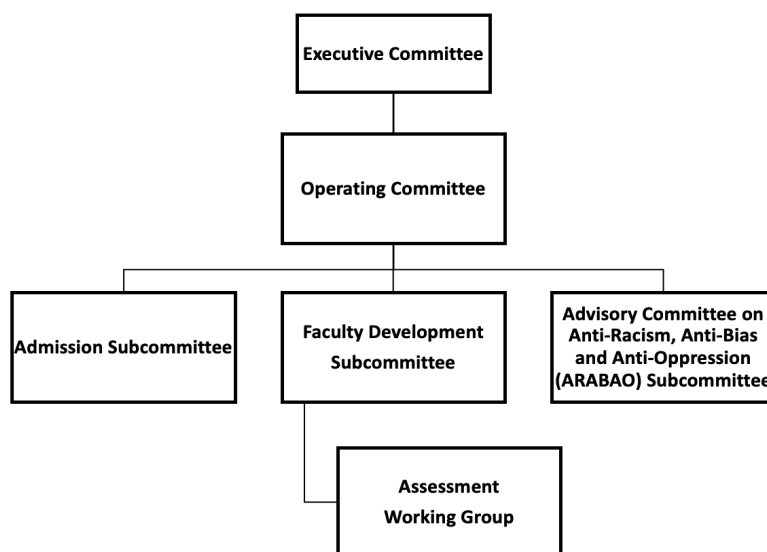


Figure 1. Proposed Governance Organizational Structure for the BHSc (Integrated Rehabilitation and Humanities)

3.1.1 EXECUTIVE COMMITTEE OF THE BHSc (INTEGRATED REHABILITATION AND HUMANITIES)

An Executive Committee provides oversight for matters related to program finances and program resourcing. The Executive Committee will meet once per year, at a minimum, to review financial results and to review and approve any required changes.

Membership of the Executive Committee is as follows:

- Executive Vice-Dean & Associate Vice-President Academic
- Dean, Faculty of Humanities
- Associate Dean (Academic), Faculty of Humanities
- Vice Dean, School of Rehabilitation Science
- Director, Integrated Rehabilitation and Humanities
- Director of Administration, SRS
- Director, Finance and Administration, Faculty of Humanities.

3.1.2 OPERATING COMMITTEE OF THE BHSc (INTEGRATED REHABILITATION AND HUMANITIES)

The program is overseen by a Director and is supported by a Program Coordinator. A standing Operating Committee has responsibility for curriculum development. The Operating Committee will also **elect a subcommittee for admissions (see 3.1.2.1).**

The composition of the Operating Committee is as follows:

- Chair: Director of the BHSc (Integrated Rehabilitation and Humanities)
- Faculty: Five faculty members, three from the SRS and two from the Faculty of Humanities, to be appointed by their respective Dean/Vice Dean for staggered three-year terms
- Students: Two undergraduate students, registered in the program, to be appointed by the Director for a two-year term
- Program Coordinator (non-voting)

The Program Director will be selected by a committee co-chaired by the Dean/Vice Dean (or their delegates) from the Faculties of Humanities and the SRS. The normal term appointment for the Program Director shall be five years, with the possibility of renewal once. The Program Director will be accountable to the program's Executive Committee and will report jointly to the Dean of Humanities and Vice Dean of SRS. Remuneration for the Program Director (e.g., stipend, course releases,) will be provided by the Program. Terms of Reference for this position are outlined in Appendix 8.

The following subcommittees fall under the Operating Committee:

3.1.2.1 ADMISSIONS SUBCOMMITTEE

The Operating Committee will also include a subcommittee focused on admissions. This subcommittee will consist of the program's Director and one faculty member from each faculty. This team will oversee the admissions process, including review of applicants. They will also work closely with the Advisory committee on anti-racism, anti-bias, and anti-oppression (see 3.1.2.3) on initiatives, such as the facilitated black admissions process, to ensure equity and inclusion of potential applicants.

3.1.2.2 FACULTY DEVELOPMENT SUBCOMMITTEE

The Faculty Development subcommittee also sits under the Operations Committee. This committee will be comprised of faculty members from all levels, including sessional faculty, alongside the program coordinator, who will work together to review existing courses (see Appendix 6) and new courses (see Appendix 7) in the program. If the proposed program is fortunate to be approved, this committee will get to work right away on course development that will assist the operating committee with curriculum development. This subcommittee will be comprised of equal numbers of Rehabilitation Science and Humanities faculty who will, in turn, consult their respective faculty more broadly, as needed. Once the program is launched, this committee will meet at least

once every academic term. The 'Faculty Development subcommittee's' *Terms of Reference* will aim to:

- 1) Ensure a 'culture of collaboration' where resources and expertise among faculty members (permanent, tenured, and sessional) in Humanities and Health Sciences are shared.
- 2) Provide a forum for faculty of all levels (permanent, tenured, and sessional) to share course-by-course foci and pedagogies, including assessment methods

3.1.2.2.a ASSESSMENT WORKING GROUP – This working group will focus specifically on ensuring the evaluation processes in the program are integrative and reflective of the humanities as well as rehabilitation science. By reviewing the assessments for quality, validity, and paradigmatic alignment within and across courses, this committee has an important and unique role. They will also ensure faculty, including sessional instructors, are oriented to the methodologies, approaches and perspective of the program. This committee will, when needed and appropriate, make recommendations for course development or adjustment specific to assessment methods. Such recommendations will be reported to the Operating committee, who is responsible for curriculum. This working group will be comprised of up to 4 members will include faculty from both the humanities and rehabilitation science.

3.1.2.3 ADVISORY COMMITTEE ON ANTI-RACISM, ANTI-BIAS AND ANTI-OPPRESSION (ARABAO) SUBCOMMITTEE

Both the School of Rehabilitation Science and the Faculty of Humanities are strongly committed to the principles of equity, diversity, inclusion (EDI), accessibility, and Indigenous Reconciliation (IR). For the proposed BHSc (Integrated Rehabilitation and Humanities), we will set-up an ARABAO subcommittee, which will be co-chaired by a faculty and a student member from the program, and include staff, students, faculty, as well as community stakeholders, such as those who host student internships where the focus is on shared practices, communication strategies, language, inclusive and accessible teaching and learning principles across all courses, and educational initiatives through the lens of anti-racism, anti-bias and anti-oppression. The committee will also ensure that the curriculum reflects culturally diverse/relevant approaches and reflects anti-racism, anti-bias, and anti-oppression content. The committee will provide ongoing guidance, advice, and/or recommendations to the Operating committee concerning equity and diversity initiatives and advise on such initiatives to ensure they are inclusive and accessible. This committee will set annual goals. This committee will report to the Operating Committee who will ensure any recommendations from this committee are implemented accordingly.

3.2 STRUCTURE AND REGULATION

The governance of the program is structured to achieve program learning outcomes. The program will have a dedicated director whose main responsibility is to guarantee that the curriculum and any proposed changes to curriculum will contribute to the

program learning outcomes. As outlined above, the Operating Committee and respective subcommittees will meet at designated intervals to ensure the program is effectively delivered and to consider curriculum changes that might enhance program learning outcomes. The composition of the operating committee assures that the interdisciplinary nature of the program remains intact. The Executive Committee will meet at least once a year and will have financial oversight of the program.

4 CURRICULUM AND TEACHING

4.1 PROGRAM CONTENT

The curriculum for the BHSc (Integrated Rehabilitation and Humanities) program will produce graduates who understand the complex nature of health and well-being and have the knowledge and skills to address such complexity using a combined rehabilitation and humanities lens. To meet this goal, the curriculum includes experiential learning components, research opportunity, courses, as well as self-directed learning. The program places high priority on community engagement and interdisciplinary learning. The delivery of the curriculum will be informed by principles of equity and diversity.

Given the large number of potential courses, the program will outline pathways for those planning different careers. For example, for those who wish to pursue further education for a health professional degree, the pathway would consider the different prerequisites for entry to practice degrees. For those interested in research or managerial positions, a specific pathway would be suggested. For those interested in working in the health and social sector immediately upon graduation, specific recommendations will be made. For those more interested in the Humanities, there are a number of options for them to pursue in graduate studies. Experiential learning will be tailored to students' individual goals. Future development of the program could include specific combined Honours with other programs.

4.2 PROGRAM INNOVATION

The BHSc (Integrated Rehabilitation and Humanities) is innovative in its subject matter: complex nature of health and well-being through a rehabilitation and humanities lens. It partners a focus on restoring, maintaining, and improving health through rehabilitation with what it means to be human at its most fundamental level, as reflected in the creative arts, literature, music, history, philosophy, and more.

Other innovations that will be incorporated are as follows. We will use **universal design** in our educational approach, aiming to be as open and accessible as possible and using diverse modes of delivery. All students will complete a component of their learning in the community within a **community and academic partnered environment**. Finally, the courses will be delivered through close cooperation of faculty from humanities and SRS using **interdisciplinary teaching strategies**.

4.3 MODE(S) OF DELIVERY

To enhance student experience, and to ensure that program learning outcomes are accomplished, the program will employ different modes of delivery that include:

1. *Cross-faculty coursework*: coursework will be designed to provide cutting edge interdisciplinary and transdisciplinary programming and to ensure such programs can be delivered effectively and sustainability.
2. *Experiential learning*: experiential is the process of learning through experience and through reflection on the experience.
3. *Problem-based learning and inquiry approaches*: there is a core group of three required inquiry courses where students are initially introduced to a variety of rehabilitation perspectives with the aim of discussing and debating different viewpoints of health, disability and functioning to acquire a range of intellectual skills. These courses will facilitate the development of lifelong and self-directed learning in the context of one or two rehabilitation issues.
4. *Blended learning*: coursework will be provided using a combination of online and in person learning.
5. *Research experience*: All students will have the opportunity to partake in research with faculty in the SRS that ranges from review of literature, study design, data collection and analysis, and preparing the results for publication and presentation.
6. *Field trips, site visits and community engagement*: Throughout the curriculum, whether in coursework, experiential learning or research, students will engage with the community and will take part of site and field visits.

4.4 EXPERIENTIAL LEARNING

The program will invest in and create the required resources to facilitate experiential learning in the third year. An Associate Director of Experiential Learning will ensure that all students have at least a 3-unit and up to a 6-unit experiential learning opportunity consisting of either of the following:

1. *Placements*:
Placements may occur in many different settings, experiencing the role of humanities in rehabilitation. Students might work in hospitals, nursing homes, rehabilitation centres, community centres, private clinics, organizations, or mental health departments.
2. *Community Projects*:
Students would be partnered with a community group and work on a project that focuses on an aspect of rehabilitation, humanities, citizenship, or hard to reach population so that students encounter novel and unpredictable situations that support new learning. The goals will be to ensure that (1) learners are engaged intellectually, emotionally, socially, and/or physically, which produces an experience that is authentic; (2) relationships are developed and nurtured; (3) connections are formed between the student and the community.

The SRS presently has Memorandums of Understanding (MOUs) with over 150 sites to

provide placements for rehab students. Placements for the students in BHSc (Integrated Rehabilitation and Humanities) will be incorporated in these MOUs.

4.5 ACCESSIBILITY & INCLUSION

Standards set by the Accessibility for Ontarians with Disabilities (AODA) will be adopted in the development of new course materials and resources. Individual students with specific accommodation requests will be supported in disclosing their needs through formal channels.

The areas of accessibilities considered are teaching accessibility, creating accessible websites and media, and accommodations.

Teaching Accessibility

Teaching accessibility means that teaching will be conducted in a manner that is accessible to everyone. This will entail courses that are designed and delivered with a diversity of learning styles in mind by identifying and removing barriers to teaching and learning. We will also ensure that online delivery has features that will enhance accessibility. Course and lecture materials will be made available to student via podcasting and accessible documentation. All in all, we will make sure that will utilize the resources available under <http://accessibility.mcmaster.ca/teaching-accessibly> in designing and delivering new courses.

Creating Accessible Websites and Media

While using multimedia and digital resources enhances learning experience, it might create accessibility problems for some students. For example, podcasts will not be accessible for students hard of hearing. In this instance, an alternate format such as text transcription of the recording will be made available upon request. In general, we will utilize the resources available under <http://accessibility.mcmaster.ca/creating-accessible-content> if we have accessibility issues with multimedia content and digital resources.

Accommodations

We acknowledge that some accommodation might be required for students with accessibility issues. Students with physical disabilities or mental health disorders will be counselled by the office of the Student Accessibility Services, which makes recommendations for accommodations that will be implemented by the program. In addition, the Faith and Spirituality Day Calendar will be consulted to accommodate students who want to observe religious and other faith-based obligations.

4.6 RESEARCH REQUIREMENTS (IF APPLICABLE)

All students will have at least a 3-unit and up to a 6-unit research focused course. The research project would be a capstone thesis that consists of undertaking a narrative, systematic or scoping review, collecting, and analyzing data, and preparing and presenting the findings at a conference. Projects could be performed by a single student or a group of students. Projects will be conducted in collaboration with a faculty member(s). The magnitude of the projects will depend on whether students opt for a 3-

unit or a 6-unit offering. Presently, SRS faculty supervise over 100 undergraduate and summer students yearly from other programs and universities. The focus of SRS faculty will switch to supervising the BHSc (Integrated Rehabilitation and Humanities) students.

5 ASSESSMENT OF LEARNING

5.1 METHODS FOR ASSESSING STUDENTS

Our methods of student assessment are congruent with the PLOs and DLEs outlined in *Sections 1.4 and 1.5*. Given our multi-modal approach to curriculum delivery, including small- and large-group inquiry seminars using problem-based learning principles combined with on- and off-campus experiential opportunities, our methods of assessment encourage knowledge and skill development across a range of areas. The selected assessment methods include multiple choice exams, independent essays, as well as individual and team-based oral presentations and written reports. An online learning portfolio will also be used to track academic performance where evidence of accomplishment will showcase their learning in multiple and creative ways. For example, in the second-year course, HLTHSCI 2RS3, students are divided into small groups where they will develop an online storyboard for a 3-minute video that aims to educate others about the role of rehabilitation. In the 4th year course, Entrepreneurship in Rehabilitation Science (SRS 4ER3), students will work in small groups with a stakeholder to develop a social media campaign, including short videos. The storyboard and social media campaign can be featured in their learning portfolio as artifacts that exemplify unique learning experiences in the program. The portfolio and artifacts can be shared with potential employers to demonstrate breadth and depth of skill and knowledge development during the program. The program Director and coordinator will track and assess the portfolios.

Upon admission to the program, methods of evaluation will focus on ensuring students have the requisite knowledge, skills, and abilities for more applied learning in upper year courses, including the third-year practicum. For example, courses in measurement fundamentals in RS (SRS 2MF3) and evidence-based practice in rehabilitation science (SRS 2ER3) use multiple choice and short answer questions. These assessment methods require students to identify and recall concepts, which will be examined in the context of case-based scenarios. Essays, including research papers, will be used to assess student learning in the third and fourth years of the program in courses, such as Exploring Disability in a Health and Rehabilitation Context (SRS 3ED3), where they demonstrate their ability to independently reflect on existing approaches and apply their learning. Students will be required to locate, explore, and share evidence from the literature, including emerging areas of innovation in rehabilitation science, as it relates to both applied and theoretical issues so they can learn to develop and defend different points of view.

Collaborative problem-solving and teamwork will be assessed through both written and oral presentation of materials. Professionalism and ethical conduct, as reflected in these materials, will be evaluated across all aspects of the program. This evaluation will be conducted by peers, instructors, and community partners, where efficiency and effectiveness of communication as well as organization and time management will be

assessed to ensure advancement of knowledge, skills, and abilities specific to rehabilitation, health, and the humanities.

5.2 CURRICULUM MAP

The curriculum map links Program Learning Outcomes in the BHSc (Integrated Rehabilitation and Humanities) with courses alongside the approaches that will be used to evaluate student learning. For each learning outcome, the curriculum map shows the extent to which the outcome in question is being addressed as well as how it is being assessed. Although learning outcomes are covered to varying extent in many of the BHSc (Integrated Rehabilitation and Humanities) courses, the curriculum map shows three levels of coverage: introductory, intermediate, and advanced. Please see Appendix 5 for the curriculum map and Appendices 6 and 7 for descriptions of the existing and new courses.

5.3 DEMONSTRATING STUDENT ACHIEVEMENT

As can be seen in our curriculum map, the core features of students' success in our program include the effective synthesis of theory and practice, the ability to collaborate and effectively communicate in both academic and community contexts, the successful application of their learning in these same contexts, and the ability to engage in all this with autonomy and self-direction. In these ways, our students will prepare themselves for lifelong engagement with their communities and society as a whole.

Especially important in this regard will be the Learning Portfolio that each student will be required to keep throughout the program. That is, each student will have access to an electronic portfolio in which they can collect and curate self-selected work that demonstrates acquired competencies and realized learning outcomes. These might include text documents, presentation slides, hyperlinks to webpages, graphs and data spreadsheets, photos, audio, videos, et cetera.

6 RESOURCES

6.1 UNDERGRADUATE PROGRAMS

6.1.1 ADMINISTRATIVE, PHYSICAL AND FINANCIAL RESOURCES

The administrative resources for the program consist of a program director (existing faculty), a half-time administrative assistant and a full-time program coordinator. The physical resources required for the program consist of existing classroom and laboratory space. There are no special requirements for labs or other physical spaces. The program will be funded through provincial grant funding, tuition, and fees for domestic and international students.

The program budget assumes full costing where the cost of instruction is based on the average cost of faculty in both Health Sciences and Humanities. Sessional instructors will be required for some of the teaching load and are included in the faculty below as well as the budget template, and approximately one teaching assistant per course in

Rehabilitation Science will be required.

At present, there is no centralized student advising at the FHS. Humanities has offered to provide these services until such time that FHS has a centralized system.

6.1.2 LIBRARY, TECHNOLOGY, AND LABORATORY RESOURCES

The program budget uses the budget template of undergraduate programs which properly compensates the library and UTS for the use of their resources. The current collections and resources are sufficient for the requirements of the program, see Appendix 9.

6.1.3 FACULTY

The following faculty will be involved in teaching the rehabilitation courses that will be developed. Note that sessional instructors will likely cover about 25-40% of the teaching.

Name	Academic Rank/ Appointment	Courses Load And Administrative Load Per Academic Year
Brenda Vrkljan	Professor (Research)	15 Credit Hours 20% Administrative
Dina Brooks	Professor (Research)	15 Credit Hours
Peter Rosenbaum	Professor (Teaching)	15 Credit Hours
Olaf Kraus De Camargo	Associate Professor (Scientist CanChild)	15 Credit Hours
Rebecca Gewurtz	Associate Professor (Research)	15 Credit Hours
Vanina Dal Bello-Haas (On Leave- Role To Be Confirmed On Return)	Professor (Research)	24 Credit Hours
TBD	Director of Experiential Learning	15 Credit Hours
TBD	Sessional Faculty	As Needed

[See Appendix 10: Faculty CVs]

6.1.4 ANTICIPATED CLASS SIZE

In September 2024, the first BHSC (Integrated Rehabilitation and Humanities) class of 50 will be admitted. This becomes the basis of a progressive increase in enrolment to 100 in 2026. The students will be enrolled in classes as a cohort for rehab courses. We estimated a 15% attrition yearly. The total program size will level out at 257 in 2028/29.

6.1.5 PROGRAM IMPLEMENTATION

Below is an outline of the timelines:

Date	Activities
January 2021	Application to the 2021 Strategic Alignment Fund, component of the University Fund
March 2021	Notice of acceptance received
April-August 2021	Development of the IQAP
Fall 2021	Submission of IQAP for approval
Spring 2022	Submit curricular changes, adding courses to University Calendar for 2023/24
Spring 2022	Filling the position of Director of the Program
Spring 2022-Fall 2022	Outreach campaign to student counsellors in Ontario high schools
Fall 2022- Spring 2023	Recruitment campaign for intake into program in 2023/24
September 2024	Intake of the first group of students into the program

7 QUALITY AND OTHER INDICATORS

7.1 ACADEMIC QUALITY OF THE PROGRAM

We will engage in an ongoing program evaluation that includes both formative and summative data. The following indicators will be evaluated on an ongoing basis. These will provide feedback on the academic quality of the program and contribute to the outcome evaluations.

Formative or annual feedback that informs the day-to-day delivery of the program:

- Student evaluations of faculty and courses
- Feedback from the Executive and Operating Committees
- Feedback from clinical preceptors and faculty for experiential and research settings

Summative feedback

- Graduate surveys
- Employer surveys
- Application numbers and completion rates
- Rates of employment
- External reviews

7.2 INTELLECTUAL QUALITY OF THE STUDENT EXPERIENCE

The hallmark of the program is an inquiry approach where students are initially introduced to a variety of rehabilitation perspectives with the aim of discussing and debating different viewpoints of health, disability and functioning to acquire a range of intellectual skills. These courses will facilitate the development of life-long and self-directed learning in the context of one or two rehabilitation issues.

Students will also be involved in group learning activities, experiential learning in other venues, and participating in research projects. Interprofessional education activities that promote cooperative learning among students will be provided through activities within SRS, Faculty of Health Sciences and Faculty of Humanities. Interdisciplinary learning encourages students to integrate content and skills across disciplinary fields and promotes a high-quality intellectual experience.

TRACKING THE APPROVALS PROCESS FOR NEW UNDERGRADUATE PROGRAMS

PLEASE NOTE: This table must be appended to the New Program Proposal Document and updated as each step in the approvals process is completed.

STEP IN THE NEW PROGRAM APPROVALS PROCESS	NAME OF COMMITTEE/ INDIVIDUAL PROVIDING CONSULTATION	DATE OF DOCUMENT APPROVAL
Resource Implications & Financial Viability Template (Budget)	Sean Van Koughnett, Associate Vice-President, Finance & Planning (Academic)	
University Students Fees Committee Approval of Budget		
Departmental & Faculty Approvals		

Please note that approvals from the following internal committees is also required before the New Program Proposal can be sent to Quality Council & MTCU: *Curriculum & Admissions Committee, Undergraduate Council, University Planning Committee and Senate.*

APPENDIX 1

Appendix 1

Hons B.Sc. (Rehabilitation, Health and Humanities)

Brainstorming sessions about
courses May/June 2021



Learning Objectives: Prior to graduating from the *Honours B.Sc. Rehabilitation, Health and Humanities*, each student will have the ability to:

- **Describe** the relationship between the humanities, health, and rehabilitation.
- **Employ** the creative arts to examine human experiences of health, healing, recovery, using rehabilitation frameworks.
- **Analyze** (& critique) existing health, wellness, and rehabilitation frameworks.
- **Develop and demonstrate** the skills of emotional intelligence (empathy, humility, curiosity, compassion) that are necessary for professional and therapeutic interactions that enhance inclusive excellence (equity, diversity, inclusion, belonging, decolonization, anti-oppression)
- **Understand and apply** professional standards, theory, evidence, and ethics to address current and future health and rehabilitation challenges.
- **Appraise** and apply evidence that advance everyday health and functioning.
- **Apply** their knowledge and skills in the humanities and rehabilitation science through experiential learning opportunities locally and globally.

Some updates! Hot off the press!

- **New Name for the degree:** Hons B.Sc. (Rehabilitation, Health, & Humanities)
- **Level 2 program entry:** after year 1 in Humanities, Social Science, Life Science or Science
- **Content:** Approximately 52.5 % of content is offered by the Faculty of Health Sciences, 35 % is provided by the Faculty of Humanities, the remaining 12.5% is from other university courses that are selected by the student.

Feedback on any of these changes?

Courses!

Year 1 (10 courses, 30 units)

No rehab courses. They are not in Hons B.Sc. (Rehabilitation, Health and Humanities)

- Some prerequisites (to be determined in discussion with Humanities)
 - Humanities prerequisites
 - Science prerequisite
 - Social Science prerequisites

Year 2 (10 courses, 30 units)

- 2 courses in partnership with BHS (Physiology and Anatomy)
- 1 Fundamentals of rehab Course (Rehab course already developed)in BHS
- 3 electives form humanities and/or other faculties
- 4 new courses by Rehabilitation; ideas?????
 - Rehab Inquiry 1
 - Theories, frameworks, & models of Rehab
 - Understanding Disability
 - Health Communication

Year 3 (10 courses, 30 units)

- 2 or 4 courses Experiential-focused Practicum (student can do 3 or 6 units)
- 2 or 4 electives from humanities or other faculties
- 4 Rehab and Humanities courses
 - 2 existing courses
 - 2 new courses: ideas????????????
 - Rehab Advanced Inquiry
 - Specialty populations (Pediatrics/geriatrics)
 - Human Rights and Disability

Year 4 (10 courses, 30 units)

- 2 or 4 Undergraduate research (student can do 3 or 6 units)
- 2 or 4 electives from humanities or other faculties
- 4 Rehab and Humanities courses
 - 2 existing courses
 - 2 new courses; ideas??????
 - Entrepreneurship & commercialization in rehab (?)
 - Advanced Concepts in rehabilitation
 - Community Engagement in rehab
 - Rehab focus digital design
 - CAPSTONE PROJECT vs. THESIS?

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Narrative Summary: Interviews with Community Stakeholders

J. Omar Aboelela
Director of Operations, Southwest Ontario
CBI Health
j.o.aboelela@gmail.com

As a prospective employer in the evolving private sector of healthcare, Omar indicated the proposed degree addressed a major gap in undergraduate education when it comes to the “human aspects” of working in across health and social sectors. These skills, he described, were “communication and teamwork” where there is a focus on the “patient experience.” In his leadership position, Omar is sitting at many tables, including the development of Ontario Health Teams. He identified that the health system is shifting its focus to more patient-centred care. When he is hiring, he is looking for the following skills: coachability, hard work, interest in learning and growing (growth mindset) but also realistic in their expectations of the organization and that further development of foundational skills can sometimes be needed before moving into leadership positions. Omar identified that graduates of this prospective program could be employed in many different roles within his organization including, clinical coordinators in their private clinics as well as clinical administration who could progress up the leadership chain, with further training in project management, to quality specialist roles or even clinical managers. Salaries would start at \$45,000-\$65,000 per year, depending on qualifications and background experience. The ability to communicate both internally with colleagues and externally, on behalf of the organization, using ‘stories’ that resonate with others is an increasingly important skill that is needed. In this way, he described how graduates from this program, with their abilities grounded in the arts and sciences, could be viewed as ‘translators’ or ‘bridges’ to different parts of the healthcare system. Omar also described how the health system will be moving to a wellness and health promotion model and saw the training at the undergraduate level with a focus on such models would be a competitive advantage for graduates from this program. Omar indicated CBI Health would be very open to offering experiential opportunities for students.

Julia Kowalski, MSc, Certified Music Therapist
President, Music Therapists of Ontario
Small Business Owner (will begin PhD, UofT, Fall 2021)

Based on her background as a music therapist and current leadership role with the Music Therapists of Ontario, Julia described how she saw prospective graduates from this program as “well-rounded.” While the program has the potential to provide the foundational knowledge and skills to a number of professions in the health sector, including music therapy, she indicated the importance of students understanding limitations in their respective scope and abilities. For example, when using a particular intervention, it can be important to “take a step back” with a client and refine the approach in question, rather than just simply trying a different technique. With further education, a music therapist’s income can range from \$40,000 to \$110,000, if they operate a successful practice. Some therapists are hired in hospitals and other settings, where there are benefits, but salary range may not be as high. Julia also identified how additional training is often combined with other approaches, such as psychotherapy, so graduates have more breadth in terms of skills. Julia indicated that she was open to offering experiential opportunities and was currently offering these internships in the virtual environment with

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success – from observation of interactions with clients to more hands-on coordination of sessions. She mentioned potential employment opportunities for graduates from the program in many different sectors, including group homes, although the salary and benefits packages may need to improve to attract graduates from degrees, such as the one under development.

Chelsea Mackinnon

BHSc Graduate (McMaster), MSc (Music - UofT); MSc (Health Innovation – Queen's)

CEO, IMHope - <https://imhope.ca/>

As a graduate of the Bachelor of Health Science program at McMaster, as well as a current instructor in the BHSc degree, Chelsea saw the proposed program as a 'unique' training ground for potential career in the health-related fields and a building block to pursuing additional education. However, Chelsea also had many questions, as to the scope of what was being proposed with the 'arts.' She highlighted that there are so many areas that can be encompassed in the humanities from music to sculpture as well as writing and film alongside gender studies, human rights and other fields. Hence, she identified the 'breadth and depth' of knowledge that is offered need to be carefully considered and, in turn, reflected in the operationalization of the proposed degree. However, the "marrying" of health and rehabilitation with the humanities is certainly needed, as STEM- related fields do not always emphasize the creativity of arts-focused programs. Chelsea also emphasized the importance of ensuring the program included skills where students could learn to self-advocate for positions, where their skillset would be both needed and valued. She identified that many paid positions do not exist per se, so it is critical that students understand the unique skillset they offer and how that fits with current postings. She could see such courses being offered that focus on development and integration of such skills (i.e., self-advocacy) in upper year courses within the proposed program. Chelsea was willing to offer placement opportunities for students in this program and was open to discussing other 'connection' opportunities as well, given her background and teaching experience in the Bachelor of Health Science program.

Steve Sherrer, CEO, Thrive Group, Hamilton ON.

Bahar Karimi, RN, MN, MHSc, Administrator, Idlewyld Manor Hamilton ON – LTC, Thrive Group

First, it is important to contextualize the organizations that comprise Thrive group to set the context for the perspectives and insights in relation to the proposed undergraduate degree. Thrive Group is both a private and non-profit charitable organization that serves as an umbrella organization for other mostly non-profit organizations with a healthcare focus. These organizations including support services for over 3000 individuals daily across long-term care (LTC), supportive housing and assisted living sites as well as in-home supports in the greater Golden Horseshoe and beyond in Mississauga, Oakville, Burlington, Waterdown, Dundas, Hamilton, and elsewhere. They also provide back office supports on a fee-for-service paces in finance, resources, facilities management, and strategic leadership that is customized to organization needs. During the discussion, the CEO and LTC administrator saw this program as offering an critical blended approach to learning by bringing together the arts and sciences of health and rehabilitation. They foresee graduates from such a program as being "well-rounded." With the Ontario Health Teams developing and the need for unique positions growing in the health and social sector, particularly LTC where care approaches are evolving. For example, Bahar (LTC administrator) commented that she could see graduates joining as 'recreation assistants' but with experience in the organization could grow into management roles if they desired. Steve (CEO) agreed that additional training would position these graduates

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to assist with quality assurance processes (QAP), which are also important in such organizations. The starting salary would be in the \$20-\$24 per hour range for recreation assistants. They also emphasized that a partnership in terms of placements is always welcome and really enjoy having students from different programs, such as the one being proposed. Students are viewed as an asset in terms of bringing a unique skillset and knowledge base that can enhance current care approaches.

Angela Dawe
Director, Organizational Performance
United Way – Halton & Hamilton, <http://uwhh.ca>

As Director of Organizational Performance for the United Way Halton & Hamilton (UWHH), Angela described the prospective degree as an exciting opportunity for students, faculty, as well as the health and social sector. Given the United Way's role as a knowledge broker to many service agencies that provide supports on the frontline, it would benefit students in the program to learn about organizations from a 'systems' level. The systems to which she referred are complex where many considerations are factored into strategic decisions regarding 'funding', particularly with the precarity caused by COVID-19 pandemic. For example, Angela described how her organization is focusing on issues specific to equity, diversity, and inclusion as well as the recent shift of the health sector to Ontario Health Teams. How does these policy decisions impact not only organizations but the people who are served? The UWHH is using design thinking and co-design methodologies when working with community partners to ensure approaches undertaken are reciprocal, mutually beneficial and accountable. As such, Angela described how students with empathetic and other requisite skills of emotional intelligence alongside patience, critical thinking and demonstrate resilience and continue to problem-solve in face of adversity, and who value growth and learning are essential skills. She emphasized the UWHH is open to placements for students from this and other McMaster programs. With the aging population, Angela identified that students with backgrounds in health and rehabilitation where the arts and sciences come together will be valued with strong academic backgrounds in communication and culture as well as experiential learning opportunities where they can learn about navigating complexities and conflict resolutions in real-world work environments like the UWHH.

Lisa Maychek
Project Manager, Age Friendly City
Healthy and Safe Communities
Children's Services and Neighbourhood Development Division, City of Hamilton
905-546-2424 ext. 1721

Lisa has over 15 years of experience in various divisions in the city of Hamilton. Given her perspective, Lisa was able to suggest different areas where students in the proposed undergraduate program would benefit from experiential learning opportunities as well as sectors of prospective employment. These areas included recreation, Ontarioworks, city housing, public health, including the youth strategy, children's services and neighbourhood division and even digital marketing and social media. For example, with Ontarioworks, Lisa identified that this service can be complex, as not only are you supporting people who are seeking employment, but often these individuals have complex needs, such as mental health, that also need to be addressed. She could see how graduates with strong 'soft' skills, including compassionate communication and working in teams, would do well in a number of city

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positions. Lisa suggested that presenting the program to city managers would be beneficial, so they were aware of the degree. City officials have worked with students from Health, Aging, and Society, for example, but would benefit from increasing their knowledge of other programs and forming strategic partnerships in terms of placements and, potentially, employment opportunities at a city level in Hamilton, and beyond. Lisa was enthusiastic about the program and its prospective graduates.

Genevieve Hladysh B.Kin,* MAL (Health), CHE
Senior Regional Manager, Health Fitness and Aquatics
The YMCA of Hamilton/Burlington/Brantford
Phone: 905-929-7273
genevieve.hladysh@ymcahbb.ca
YMCAHBB.CA

*Graduate Kinesiology Program, McMaster University

As a past graduate of the McMaster Kinesiology program and with ongoing training in health leadership, including recently completing a Master's degree in Leadership, Genevieve was very enthusiastic about the prospective undergraduate degree. Similar to the other community partners, she described how a graduate from this program have the potential to serve as a bridge to promoting health and wellness in the community. She raised the LiveWell program, as an example, which was began in Hamilton as a partnership between McMaster Faculty of Health Science, Hamilton Health Sciences and the YMCAHBB, and has just expanded to 20 sites nationally. She viewed this type of program as a natural fit for potential graduates as the importance of bridging health and social care systems is key. Community partners like the YMCA have a key role to play. She expected that graduates from this degree would have the ability to translate best practices pragmatically into the community settings as well as evaluate such practices. Genevieve also commented that having advanced digital skills in communication and the ability to tell stories in creative and unique ways could lead to all kinds of opportunities in the YMCA, including philanthropy and EDI implementation. In addition to health and fitness, she outlined the broad scope and reach of the YMCA, which has been different and moving (and evolving) parts, including, but not limited to, housing, newcomer and immigrant services, and childcare. She could see graduates of the program being able to work in a number of these areas and, with additional training, to have opportunities for advancement within the YMCA employment structure. The YMCAHBB takes students for placements from both colleges and universities. They would be very open to having students for such placements. The prospect of pairing students across disciplines as well as institutions was discussed and potential benefits of doing so for their learning. A key point that Genevieve raised was that for students at this stage in this learning exposure to different learning opportunities is important, so they learn and have an opportunity to explore potential areas of interest regarding their professional growth.

Christopher Harrison*
March of Dimes Canada (National Office)
Vice-President, Chief Administrative Officer, Director of Human Resources
charrison@marchofdimes.ca

*Undergraduate degree in labour studies, McMaster University

In his role as Vice-President and Chief Administrative Office of March of Dimes Canada, Chris shared that the March of Dimes has been evolving and expanding both its reach and

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strengths as an organization that supports individuals with different needs in the community. For example, they have applied and expect a contract to come through with Veteran Affairs Canada where they will help with employment prospects for veteran's and transition into the workforce. Chris described how many of their volunteers transition into paid roles. He described the benefits of 'exposure' placements for both the student and organization. Chris identified that there are a variety of roles that a student with a degree such as the one described would be a good fit with the organization if they demonstrated the "enthusiasm" and other key 'soft' skills that align with the March of Dimes culture, which has focus on inclusivity across its many divisions and sectors. He could see a student with this background and training in an administrative support type role, but with opportunities for both lateral opportunities for professional growth. As a designated Human Resources (HR) professional, Chris described that he also pursued additional training at a college level for advancing his knowledge and skills. Such training may be required for some positions with the March of Dimes. From fundraising to supportive employment, to program administration and other jobs. As the head of HR, he particularly sees the value of knowledge, skills and abilities in equity, diversity, and inclusion (EDI). With strong communication skills and EDI lens, students from this program would be important asset to any organization to facilitate such a culture with both employees and clients of March of Dimes. Chris saw value in students taking on volunteering opportunities within the March of Dimes and other charitable organizations where they work behind the scenes to support event planning. Through such experiences, they can meet many different people and through such networking one never knows where such opportunities can lead. He was very open to further discussion about the potential for placements and other opportunities for the March of Dimes to partner with this degree and in other ways with McMaster University.

Denise Christopherson
CEO, YWCA Hamilton
dchristopherson@ywcahamilton.org

As CEO of the YWCA Hamilton for the past 11 years, Denise described how the nonprofit sector has evolved. She emphasized the importance of developing the knowledge, skills, and abilities specific to the advancement of inclusive excellence, particularly when it comes to supporting gender diversity. In this way, she highlighted the skillset that will be developed among students taking the proposed degree as critical. For example, Denise shared recent programming that has been funded by the federal government with respect to housing initiatives for women and families in Hamilton. Within such initiatives, YWCA staff will also track effectiveness of such programs. A Manager of Housing will be one of many jobs for which graduates with this degree would be a good fit (Salary range: \$70,000-75,000 depending on background of individual). While Denise emphasized having previous experience in the non-profit sector is a consideration when hiring individuals in their organization, they are more interested with ensuring their values are congruent with the mission and vision of their organization. Denise indicated they will always support staff with professional development, which means previous experience is considered an asset rather than a requirement. She emphasized the importance of critical thinking, strong communication skills (verbal and written), awareness of world around them (i.e., current events) and empathy as critical to her success in her sector. Denise was highly enthusiastic about the proposed degree given its focus on creativity and problem-solving, alongside inclusive excellence. The YWCA currently offers placements for students and is looking forward to developing stronger partnerships with the proposed degree and McMaster.

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STUDENT SURVEY

Number of records in this query: 236
Total records in survey: 236
Percentage of total: 100%

Summary for Q1

What program are you registered in?

Answer	Count	Percentage
Bachelor of Science	24	10.17%
Humanities	15	6.36%
Life Science	22	9.32%
Occupational Therapy	42	17.80%
Physiotherapy	35	14.83%
Rehabilitation Science Graduate Program	25	10.59%
Speech-Language Pathology	16	6.78%
Other	56	23.73%
No answer	1	0.42%
Not displayed	0	0.00%

Summary for Q2

What year will be registered in September 2022?

Answer	Count	Percentage
1	6	2.54%
2	91	38.56%
3	74	31.36%
4	40	16.95%
No answer	25	10.59%
Not displayed	0	0.00%

Summary for Q3

If such a program were available, would you have considered it as an option?

Answer	Count	Percentage
Yes	84	35.59%
Maybe	60	25.42%
Not for me, but I think it would be valuable for other students	81	34.32%
No, I don't think it would be a valuable degree	9	3.81%
No	2	0.85%
Not displayed	0	0.00%

Summary for Q4

Indicate the reason

Answer	Count	Percentage
Not interested in humanities	3	1.27%
Not interested in rehabilitation	1	0.42%

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The degree is too broad	6	2.54%
The degree is too narrow	2	0.85%
Other	2	0.85%
Not displayed	227	96.19%

Do you have suggestions on how to make such an undergraduate degree attractive to students?

- Demonstrate the possibilities such a degree can create.
- This may be the goal already, but it could be marketed as a more arts-friendly avenue for professions such as PT, med, etc. Especially now that schools are transitioning to a more interview focused admissions process, the components of this degree would help with that as well. Not to mention it already has all the necessary pre-requisites that students don't always get in other science undergrad programs. Great idea!
- Emphasize and provide hands on skills, offer a wide range of electives so students can lead their own interests and pursue courses that are interesting to them. Also, in my last year at my undergrad school we had an option of doing a research practicum. Which was a course where we got to be apart of a lab/ research team with graduate students. You could do that with OT program for example. Have 2 undergrad research assistants, paired with 2 grad students and a supervisor. Then for the in-person/ lecture part we got to explore graduate program, practice applying for graduate programs by creating a letter of intent, a CV, and work on professional development such as learning about and creating a LinkedIn and research gate. This where I learned about OT and was a GREAT learning experience as it also helped me understand my research interests AND provided me with a great reference for applying to grad school! If you have any questions about anything I've said I'd be more than happy to chat! You can reach me by my email at ganhadem@mcmaster.ca
- Maybe have a co-op/internship program option
- Involve research options (i.e. thesis/placement courses)
- Offer specialized streams perhaps to upper years (3rd & 4th yrs) (similarly to the graduate program i.e., aging, PTSD, mobility, cardiovascular)
- I would alternatively frame it as interdisciplinary rehabilitation to provide course options that are also inclusive of the social sciences. With an increasing emphasis on the social determinants of health, it is critical that learners pursuing future degrees in rehabilitation are sensitive and aware of the social realities of those who we are working with.
- Emphasizing the changing landscape of healthcare and the importance of stepping away from strict biomedical traditions and toward a more complex, whole understanding of people! I think it has to be "sold" as practical and innovative within the context of a future HCP career for people to be interested
- The curriculum being more relevant to the market/industry needs.
- Hands on experience
- have courses that have real life experiences; ex. If you're looking at rehab in the context of the elderly, you could go to PULSE & have some work there
- promote as a program combining the humanities and health sciences and describe how students with varied interests can combine them under this one degree!
- I believe it would be nice to retain the problem-based learning style and flexible elective space. It would also be attractive if there are various research-based or project courses that are unique to the program.

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- co-op opportunities to either work with or shadow experts in the field to give them real-life experience and build connections
- Undergraduate hands-on experience working in different disciplines of rehabilitation
- Have co-ops and experiential learning, focus more on project work than on testing.
- including humanities makes it too broad. I would replace that aspect to instead focus on social work. This would allow it to feel like there is more real-world application
- including some types of formal accreditation and emphasizing job prospects
- Calling it a degree in Rehabilitation, Health, and Humanities (if that is what it is going to be called) is a bit confusing—I'm sure a description will make what students are going to learn from the degree more clear, but I believe the undergraduate degree will be more attractive to students if it is more obvious what they are going to get from it when they hear the name of the degree.
- Innovative pedagogical methods and small classes. Similar in nature to the integrated science, health sciences, and arts and sciences programs. Additionally, lots of guest speakers and interactions with the world outside of the 4 years of undergrad, so incoming students feel like they can get support from successful individuals in industry throughout their degree.
- Emphasizing the connections between science and the humanities and the importance of such links, focusing on issues relevant today
- Narrow it down to a genuinely practical focus.
- Highlighting disability studies and disability justice and how this lens can be used to analyze critical work from the arts, for example how people with disabilities are portrayed in the media. Potentially offer an opportunity for a research-focused stream and partnership with students in the rehabilitation science master's programs, or opportunities for placements/shadowing with OTs, PTs, SLPs.
- Co-op
- Include a project course
- I think it would be helpful to know what graduate programs/jobs this program can possibly lead to. I also think it is important to be clear about which graduate programs will have all their pre-requisites met by taking this undergraduate program (that is how I picked my undergrad program, I knew it would allow me to meet all the requirements for SLP!)
- disclose what the mandatory courses are?
- where can you apply after graduating
- Focus on what makes the program unique i.e. its combination of topics or approach to learning! It would be useful to outline what skills students would be able to develop and how they could apply to possible careers throughout the degree. Having a sample of what classes offered and videos from humanities/rehabilitation science students on their thoughts of their degrees/learning outcomes separately for an idea of what would entail.
- Even though I am not interested in this program myself, in general I value in person learning opportunities (placements, co-op) and this seems like a program that would be well suited to hands-on learning or combined work/study experience.
- To explain the interconnections and possible career options after obtaining the degree
- I feel that given the applied nature of rehab that courses with fieldwork opportunities would enhance learning.
- Since I had always been interested in Speech-Language Pathology, I picked an undergraduate degree that would prepare me for that graduate program. I took Cognitive Science of Languages as an undergraduate degree (at McMaster) but if this program existed and it was

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branded as a good undergraduate degree for Speech-Language Pathology, I would have considered it.

- I don't have a good understanding of where the degree might lead to as a career after completion. And if the degree were to lead to a rehabilitation science graduate program I'm not sure we wouldn't lose out on some of the diversity of candidate backgrounds that we get at admission - when I was a clinical OT student there were many kinesiology undergraduates but also engineering, business, social work, and others that added a diverse background knowledge to bring to the field.
- I think I just am questioning what continued education or job opportunities might be available with this undergraduate degree. I could see if being useful in marketing and leadership positions for healthcare fields post-grad, but I believe this is an important aspect to outline when creating new programs as bachelor's degrees are often not enough these days for work
- I like the idea, but I feel like I am confused about what gaps they might fill in our healthcare system
- I think the most key aspect is making sure that you market what skills this degree will help you to develop as well as what potential job opportunities are available post-degree. Lots of students worry about what types of jobs they can obtain after getting their degree so making sure that they are aware of their choices is very important.
- What students need most is skills that can get them good jobs after graduation. Adding a milestone project like the one that biomedical eng has would be valuable for after graduation. Working on real world projects throughout the program and creating a Portfolio that can be used to demonstrate the students' abilities. All these things can be incorporated as a coop.
- As a gateway to rehab masters programs; learn about a holistic model of health
- I think that an undergraduate degree is attractive when students are informed what career paths this degree could give rise to. Additionally, a program is attractive when there is an emphasis on how this degree is currently relevant in the world, as well as how it will continue to be relevant in an evolving world.
- Maybe including course requirements that prepare students (or would interest students) who are pursuing a career in the rehab sciences (PT, OT, SLP). For example, courses that set this program apart and also help students decide whether they should pursue this program versus the kinesiology/psychology/cognitive science of language programs at Mac that many students do before going into a rehab sciences professional program.
- Experiential learning. Allow for decent elective space to let students explore their interests. The kinesiology department already has some fantastic professors who may fit your program well!
- I would have been attracted to this degree if it included courses that introduce hard skills in rehabilitation (as PTs/OTs/SLPs) with an integrated lens on how to treat patients with equity, dignity, and respect. For example, including labs that teach how to do a preliminary patient assessment with emphasis on the ICF, patient-centred approaches, and interdisciplinary approaches.
- Advertise it! I think the issue with degrees is getting the word out.
- I am more interested in the science aspect and people skills required to work in rehab, not so much about music and creative arts (although I do understand it is a method of therapy).
- Redesign the educational system to be focused on pursuing academic excellence and not a career. Set the example and make the program very accessible and cohesive financially (i.e., allow opportunity to work and make money during the experience so they can integrate their classroom experiences). Make it so the students can visualize and understand their impact

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beyond the scope of just a career. Allow them to understand how they will shape and change the field they practice in. Design the course so they can develop a sense of agency in the world, not just a career in the world.

- Provide a list of various course lists that can be used to meet one specific program criteria rather than just providing a list of course that are ALL mandatory. This will provide students with a variety of options to mold the program to their interests.
- Explain what rehabilitation is to prospective students, because I feel like one of the main barriers you'll run into is people not knowing or understanding what it is coming out of high school.
- Make the information easily accessible and ensure that they know this program is available and new
- Co-op placements
- certification courses
- thesis based courses that can help them connect with PhD candidates, professors and professionals in the field
- building their portfolio to help them find employment opportunities after graduation (Program Assistants in Rehab... etc.)
- Having course options that involve shadowing or getting some experience or exposure to rehabilitation fields would be a major draw I think.
- I think emphasizing the relevance of the program and the various options a student can have post-grad - sometimes for more abstract undergraduate degrees, it can be daunting to pick something that is more specific than "Bachelor of Science" or "bachelor of arts" when you don't know what you want to do in the future.
- I think the best type of degree is one where it combines a bunch of different programs
- Allow them to know what you can do with an undergraduate degree. Show them how far ahead and advanced they would be compared to those that don't have one.
- Have courses that give students the opportunity to work alongside rehabilitation professionals such as physiotherapists, occupational therapists, physical medicine and rehabilitation physicians, mental health workers etc.
- To my understanding, this undergraduate program seems primarily suited towards those who are looking to pursue further education such as a graduate programs. Getting early exposure to placements (i.e. shadowing SLP or PT for a week) would be beneficial and attract me as a student not only to get experience, but also narrow down what I want to pursue in the future. I think it would also be beneficial to explore other options/careers are available if students do not want to pursue further education. Students are always looking at future job prospects when applying to programs because we don't want to feel like our time and money is being wasted.
- Promote it.
- The current scope is a little broad (which makes sense given it's still being developed) I think placing a large focus on both physical rehabilitation but also rehab for things such as substance abuse and its underlying causes, treatments, education would help create a great program. I think as a concept it's really fascinating and could make a great degree!
- Also I feel that programs (specifically in the humanities) should have a larger focus on working on marginalized groups and impoverished people. I think mandatory courses focusing on just better understanding intersectionality and issues many people face, that we may not due to our own privileges, would help create a more empathetic and understanding group of people

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- and I feel especially in a degree focusing on rehab, extensive courses examining and educating people on these topics could be very beneficial to students
- Let them know how it could benefit them in the long-term, and how they can apply the skills in careers
- I don't have any suggestions on the actual degree, it seems quite interesting already. I would consider maybe advertising the degree on the official McMaster Instagram, so people see it and learn about it because I'm sure some will definitely be attracted to it.
- May assist you in have an introduction to rehabilitation prior to going to the field of rehabilitation (may be important to list some disciplines such OT, PT, SLP, etc. as individual may not know what rehabilitation is)
- I think that the courses would need to include those that are prerequisites for a variety of allied health masters programs, such as physiology/anatomy.
- I think using social media to promote the new program will be key. Would also likely be beneficial to highlight the career/education path(s) you can take after completing this undergraduate degree (e.g., OT, PT, PA, Med School, etc.)
- seems like it may have a lot of overlap with kinesiology degrees. To make it attractive, I would want to know how it would help with my career, what kind of jobs will I have after this degree? etc
- I think the degree name is vague so getting the follow up blurb that describes it in more detail to people is valuable.
- Allow a variety of options to explore a PT, OT or other role of their selection as electives.
- Educate on how it can benefit future education/career in rehab, other fields
- Advertise/promote its comprehensiveness (not just science based but also humanities)
- Perhaps focusing on or emphasizing the intersection of science and art/humanities; I think a lot of students have a passion for both subject areas but typically don't see how they intersect and therefore focus more specifically in one area.
- I like it! It appears broad enough that it doesn't feel like a pre "track" for a very specific career, but still takes a particular perspective/focus (for example, I think I would have found the Art Science program too broad).
- Coming from a psychology undergrad degree, I found a lot of students in that stream ended up feeling a little lost in terms of where they can take that (either clinical practice or research, both of which can seem limiting). I think you might benefit from advertising this as an option for students interested in mental health /a holistic approach that leaves many options open down the road.
- Explore what you can do with the degree after in terms of further education or occupations.
- Ensure that they know which employment opportunities may be available to them, and if they need to pursue further education to obtain a specific career. (Students might think that they can be a physiotherapist by doing an undergraduate degree in rehabilitation).
- For me personally I knew I wanted to go into rehab sci but I was unsure if I wanted to do PT, OT or SLP. An opportunity to shadow and work with these professions would have been helpful
- More clear post grad options would need to be outlined.
- With this kind of a degree students would need further education (ie masters, diploma) and wouldn't really be able to find a job with this BSC stand alone as they would with kin (r.kin). The content of this program would also need to be clearly outlined for students prior to enrolment

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- It would be helpful to provide information about what's next after the degree. The potential career paths, job prospects, or further education pathways would be ideal to share.
 - Make it a minor. Would not be appealing for a major... what could you do when you graduate with this degree?
 - Outlining how it can lead to other degrees and career options
 - Include suggestions on how/where this could lead into further post-grad degree options or careers
 - Potential shadowing/ co-op opportunities
 - sharing the types of courses, what professions could come from the degree
 - Market the program well. Make it easy for students to find out that this is an option.
 - Perhaps emphasizing the relationship between arts AND sciences - since most program are one or the other
 - Opportunities to shadow; co-op/internship opportunity; courses to allow students to study specialized topics (i.e. mobility, aging, falls, stroke, etc...)
 - Explicitly describe what various career paths for which this degree lays the foundation.
 - differentiate it from other undergraduate degrees that are similar (i.e. kinesiology, humanities - what makes this program important)
 - provide the possible career options once obtaining this degree
-
- I think its important to highlight what sets this degree apart from what is currently available and the various degree trajectories this could prepare you for.
 - Based on my experience from my undergrad, and some of the concerns I had regarding the extreme competition in post graduate studies, you need to ensure there are skills developed in the degree that are applicable to the real world. In other words, don't just teach theory to students, but also teach skills and make sure the degree is produced to meet a demand in the health care field. If this is designed as another steppingstone degree for post graduate studies, I encourage you to make that evident for students applying to this program or make job opportunities clear or jobs the skills learned in this program can apply to.
 - List potential job opportunities individuals would be qualified for after completing this program
 - Understanding next steps of degree. Like "pre-med" in the states. Is this designed to lead to medicine, rehab degrees, stand alone? Overall sounds interesting and valuable!
 - Make it co-op to allow students to make money while in school.
 - Outline in the description possibly career paths (e.g. PT, OT, SLP, research, Medicine).
 - Have some general health care system interest courses (e.g. Ethics, Communication, Social determinants of health, healthy policy).
 - Speak more about the applicability in real world settings after undergraduate. What roles does it fill in the current health care system?
 - Speak more about the applicability of the program post-grad and how it fills a gap in the current healthcare system
 - It would be helpful to list some career options that students can pursue with this undergraduate degree and offer co-op as an option. I have found through my own and my peers' undergraduate experiences that these were the two key concerns.
 - Having the prerequisites within the program for physio, OT and SLP applications (ie: anatomy for PT and linguistics for SLP)
 - Provide information/ insight into the different rehab specialties with potential shadowing hours in different areas (OT/PT/SLP)

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- I believe this undergraduate degree would provide students with an excellent foundation for many different careers in rehab (OT, PT, SLP), counselling or education. To make this degree attractive to students I would highlight the career opportunities it would open up.
- Narrow the scope a little bit or provide examples of program outcomes— where can students work after obtaining this degree? What type of field? For they need postgraduate education?
- Explain that this undergraduate degree can be seen as a useful degree for those wanting to apply to Masters of Rehabilitation Science programs such as Physiotherapy, Occupational Therapy, and Speech Language Pathology.
- Describing the importance of learning about humanities in healthcare as well as telling students what doing this program could do for them after their degree and what they can do with it/what it would be useful for.
- Humanities and health science might seem like a weird/non-traditional fit to some people. Provide research showing the benefits of combining the two.
- emphasize that various rehabilitation professions will be reviewed in the program.
- if possible, have some lab and/or placement options where the students can observe what different rehabilitative professionals do.
- if possible, ask guest speakers to talk about their experience going through rehabilitation. I think this will help students see their perspectives.
- Identify novel ways in which students can apply knowledge that is a hybrid between the humanities and rehabilitation. Provide examples of how research questions would be specialized to this intersection of arts and science. I imagine that knowledge translation research in medicine would benefit from information about what people find meaningful (beyond productivity alone) in life such that an individual would want to invest time and energy into rehabilitation. Having said that, I really feel that society requires more personal free time for such journeys before sustaining trauma or illness. It is difficult to appreciate rich philosophical abstractions of health or multi-dimensional meanings of quality of life when the bottom line is always efficiency.
- clear descriptions on courses one would take as part of this degree and what value it provides as opposed to other undergraduate programs students often take in the hopes of getting into graduate programs (i.e. specialized information/courses, co-op, volunteer opportunities, etc.)
- I personally took Kinesiology as my undergraduate degree, and I felt that my strong background in anatomy, physiology, and athletic injuries has been an asset in starting the PT program. I feel that the Humanities focus would have been helpful for me, as these are topics my classmates who took Health Sciences are more familiar with. So, I think I would be more interested in this program as an undergrad student if it was also expressed that you would gain an understanding of anatomy and physiology too!

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OTHER HUMANITIES INTERDISCIPLINARY PROGRAMS OFFERED IN CANADA

<https://www.dal.ca/faculty/arts/programs/certificate-in-medical-humanities.html>

CERTIFICATE IN MEDICAL HUMANITIES

The field of studies described in scholarly literature by the names “Medical Humanities” or “Health Humanities” is a wide-ranging, interdisciplinary field that explores the complex relationships between medicine, health, society, and culture across a range of times and places. The Dalhousie / King’s Certificate in Medical Humanities is designed for anyone who wishes to learn more about the ways in which global human societies have constructed and engaged with health, wellness, medicine, illness, healing, and the body in the past; it also invites students to explore the means by which human societies might deepen their comprehension of these crucial concepts in the future.

<https://future.utoronto.ca/undergraduate-programs/health-humanities/>

HEALTH HUMANITIES

The Minor in Health Humanities provides an interdisciplinary exploration of human health and illness through the methods and materials of the creative arts, humanities, and critical social sciences. Students’ understanding of the humanistic, philosophical, historical, and artistic study of health—past and present—will be developed by attending closely to how literature, philosophy, history, and critical social sciences reveal the aesthetic, ethical, and multicultural contexts of health, disability, medical research and policy. This interdisciplinary Minor is open to all undergraduates regardless of major or disciplinary background.

<https://www.trentu.ca/futurestudents/option/health-medical-humanities?target=undergraduate>

HEALTH & MEDICAL HUMANITIES

Learn about arts-based approaches to health, what it takes to make good ethical decisions in a medical context, and how the arts influence and are influenced by cultural views on health and wellness. This option encourages students to make connections between how we imagine health, illness, and disabilities and our lived experiences of them. Designed for students considering a wider range of health-related and caring professions, not only as doctors, nurses, social workers, and pharmacists, this option will prepare you for a career working in public health, bioethics, arts-based therapies, pharmaceutical sales, medical insurance, health communication, health administration, and health law.

<https://www.ualberta.ca/medicine/programs/ahhm/index.html>

ARTS AND HUMANITIES IN HEALTH & MEDICINE

The Arts & Humanities in Health & Medicine (AHHM) program in the Faculty of Medicine & Dentistry at the University of Alberta was established in 2006. Offering explicit recognition that clinical practice is both an art and a science, AHHM recognizes the many relationships that exist between the arts, humanities, social sciences and medicine.

The mission of AHHM is to engender a balance of science and the humanities within the faculty, in order to foster the development of well-rounded health professionals who are skilled, caring, reflexive and compassionate practitioners. AHHM aims to contribute to the life of the faculty, the university at large, and the Edmonton community through innovative curricular offerings and extra-curricular experiences. In addition, the program promotes inquiry into the intersections of the arts and humanities in health and medicine. The AHHM program explicitly recognizes that clinical practice is both an art and a science; it's ongoing and expanding programming provides evidence of the commitment of the Faculty of Medicine & Dentistry to the human side of medicine.

<https://med.uottawa.ca/departement-innovation/medicine-humanities/why-humanities-medicine>

CERTIFICATE IN MEDICINE AND THE HUMANITIES

The Medicine and the Humanities program consists of mandatory curricular components that all students will receive as well as extracurricular or elective components for students who wish to pursue the arts and humanities in more detail. Students with special interests in this area will be able to earn special recognition for their interest in, and commitment to, the humanities in medicine as well as a Certificate of Excellence in Medicine and the Humanities if they fulfill all requirements.

For medical students in both language streams of the University of Ottawa Faculty of Medicine's Undergraduate Medical Education program, to gain competence in the non-medical expert CanMEDS roles through the Medicine and the Humanities program.

<http://health-humanities.com/>

HEALTH, ARTS & HUMANITIES PROGRAM

The Health Humanities (also called the Medical Humanities) can be defined as a sustained interdisciplinary/inter-professional enquiry into aspects of medical practice, education and research expressly concerned with the HUMAN SIDE of medicine and healthcare.

At the University of Toronto, for the last 10 years, the Health, Arts and Humanities program has encouraged ongoing dialogue, exchange, research and collaboration among several fields of study and practice:

- biomedicine (with representation from ALL healthcare disciplines)
- philosophy, theology and bioethics
- history of medicine and healthcare
- the arts (including music, theatre, dance, cinema, visual arts and graphic medicine)
- literary studies (including poetry, reflective and creative writing, close reading of literary texts, critical theory)
- anthropology
- sociology

All of our courses, lectures and workshops have been designed to help learners and practitioners to deepen their reflective capacity, narrative competence, critical thinking, visual literacy and personal/professional renewal through engagement with the arts.

We are an EDU-D educational Program with extensive affiliations across the university campus and within the arts and scholarly communities. We founded the first national Creating Space Conference in medical humanities and the arts in health professional education in Canada in 2010 and facilitated the creation of the Canadian Association for Health Humanities (www.cahh.ca) in 2019. We help curate humanities teaching at the medical school, for residents, fellows and postgraduate learners and practitioners working in the community. Our faculty include clinicians from all health disciplines, visual and performing artists and humanities scholars. We are fortunate to have four Artists-In-Residence and three Specialists in Arts-Based Education.

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Curriculum Map
BSc. Rehabilitation, Health, and the Humanities

Table 1. Year-by-year course/unit mapping (Year II-IV)

Year	# of Courses	# of Units	Course Name (See Appendix 2 for description of each course)	Faculty/program offering course
2 (Entry) Table 2	2	6	HTHSCI 2F03 & 2FF3: Human Anatomy and Physiology I & II	BHSc
	1	3	HTHSCI 2RS3: Exploring Foundations of Rehab. Science	BHSc/SRS
	1	3	CLA 2MT3: Ancient Roots of Medical Terminology	Humanities (Classics)
	1	3	PHIL 2D03: Bioethics	Humanities (Philosophy)
	1	3	Course list A* or B**	Humanities
	1	3	Elective	Any Faculty
	3	9	SRS 2RI3: RS Inquiry I SRS 2ER3: Evidence-based Rehab. SRS 2MF3: Measurement Fundamentals in Rehab. Science	SRS
3 Table 3	2	6	SRS 3EP3: Experiential-Focused Practicum	SRS
	2	6	Course list A only*	Humanities
	2	6	Course list A* or B**	Humanities
	1	3	Elective	Any Faculty
	3	9	SRS 3HI3: Rehab Inquiry II SRS 3UD3: Understanding Disability SRS 3ST3: Selected Topics (RS)	SRS
4 Table 4	2 or 4	6 or 9	SRS 4RT3: Research Thesis Project	SRS
	2	6	Course list C***	Humanities
	1 or 2	3 or 6	Elective	Any Faculty
	2	6	Humanities course	Humanities
	3	9	SRS 4RH3: RS Inquiry III SRS 4EC3: Entrepreneurship in RS SRS 4AT3: Adv. Technology in RS	SRS

Note: **BHSc**=Bachelor of Health Science; **SRS**=School of Rehabilitation Science; **RS**=Rehabilitation Science

*Course list A¹ (Humanities)	**Course list B² (Humanities)
HISTORY 1Q03: History of Medicine ENG 2NH3: Narratives of Health ENG 2S03: Spectacular Bodies ENG 2Z03: Nature, Literature, and Culture: Introduction to the Environmental Humanities LING 2S03: Language and Society PEACEST 2B03: Human Rights and Social Justice PHIL 2F03: Philosophical Psychology GENDRST 2AA3: Intro. to Feminist Thought	ARTHIST 2AA3: Intro to Practice of Art Therapy MUSIC 2MT3: Intro. to the Practice of Music Therapy MUSIC 2MU3: Intro. to Music Therapy Research CLA 3MT3: Adv. Ancient Roots of Medical Terminology ***Course List C³ (Humanities & BHSc) HUM 3CM3: Leadership: Cross-Cultural Mentoring Lab PEACEST 3B03: Peace-building and Health Initiatives PHIL 3C03: Advanced Bioethics HTHSCI 3AH3: Indigenous Health PEACEST 4L03: - Peace, Environment and Health HUMAN 4RM3: - Boundaries and Bridges: Relationship Skills for Effective Leaders

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¹ A = Introductory level – Contextual: These courses provide foundational knowledge in different areas, that are complementary to RS coursework.

² B = Practical/Applied: These courses have a focus on developing specific knowledge, skills, and/or abilities in particular areas that complement RS coursework.

³ C = Advanced level – Contextual: These courses build on introductory level coursework in the program during the third and 4th year of the degree.

Table 2. Year 2 - Required Courses

Rehabilitation Science (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Exploring the Foundations of Rehabilitation Science HTHSCI 2S3	Human Anatomy and Physiology I & II HTHSCI 2F03 HTH 2FF3
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Introductory	Introductory
		Assessment	Multiple Choice Exam, Reflections, Essay	No
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	Introductory	No
		Assessment	Essay, Reflections	No
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	Introductory	Introductory
		Assessment	Case study, Assignments, Reflections, Class Participation, Exam Major essay, case study	Case Study, Exam
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Introductory	No
		Assessment	Case Study Reflections, Essay, Group Project	N/A
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Introductory	Introductory
		Assessment	Assignments, Reflections, Essay	Exam
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	Introductory	No
		Assessment	Case Study Reflections, Essay, Group Project	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Introductory	No
		Assessment	Case Study Reflections, Essay, Group Project	N/A

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Table 2 Cont'd. Year 2 - Required Courses

Rehabilitation Science (Required Courses Cont'd)

Program Learning Outcomes (PLO)	Associated DLE	Course Name <small>*If code available; it is provided; if not, it is to be determined</small>	Rehabilitation Science: Inquiry I SRS 2RI3	Evidence-based practice (EBP) in Rehabilitation Science SRS 3EP3	Measurement fundamentals in Rehabilitation Science SRS MF3
		Required or Elective	Required	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Introductory	No	No
		Assessment	Case study, Class Participation, Exams	N/A	No
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	No	No	No
		Assessment	N/A	N/A	N/A
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	Introductory	Introductory	Introductory
		Assessment	Case study, Assignments, Reflections, Class Participation, Exam	Case Study Reflections, Class Participation	Case study, Reflection, Class Participation, Exam
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Introductory	No	Introductory
		Assessment	Case Study Reflection	N/A	Case study, Reflection, Class Participation, Exam
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Introductory	No	No
		Assessment	Assignments, class participation, reflections, and exams	N/A	N/A
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	No	Introductory	Introductory
		Assessment	N/A	Case study, class participation, exam	Case study, class participation, Exam
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Introductory	Introductory	No
		Assessment	Reflections, assignments, case studies, Group project	Case study, class participation, exam	N/A

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Table 2 Cont'd. Year 2 - Elective Courses

Humanities (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Bioethics PHIL 2D03	Ancient Roots Of Medical Terminology CLA 2MT3	Faculty of Humanities (1 Course from List – A*)
		Required or Elective	Required	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Introductory	Introductory	Introductory
		Assessment	Case Studies, Exams, Tutorial Participation	Case Studies, Exams	Case Studies Exams, Tutorial Participation, Essay
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	No	No	Introductory
		Assessment	N/A	N/A	Case Studies Exams, Tutorial Participation, Essay
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	Introductory	Introductory	Introductory
		Assessment	Case Studies, Exams, Tutorial Participation	Case Studies, Exams	Case Studies Exams, Tutorial Participation, Essay
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Introductory	Introductory	Introductory
		Assessment	Case Studies, Exams, Tutorial Participation	Case Studies, Exams	Case Studies Exams, Tutorial Participation, Essay
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Introductory	No	No
		Assessment	Case Studies, Exams, Class Participation	N/A	Case Studies Exams, Tutorial Participation, Essay
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	No	No	Introductory
		Assessment	N/A	N/A	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	No	No	Introductory
		Assessment	N/A	N/A	Case Studies Exams, Tutorial Participation, Essay

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Table 3. Year 3 - Required Courses

Rehabilitation Science (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Experiential-Focused Practicum SRS 3EP3	Rehabilitation Science: Inquiry II SRS 3RI3
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Intermediate	Intermediate
		Assessment	Community-based project, self-assessment, and reflections	Case study, Class Participation, Exams
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	No	No
		Assessment	N/A	N/A
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	Intermediate
		Assessment	N/A	Case study, Assignments, Reflections, Class Participation, Exam
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Intermediate	Intermediate
		Assessment	Community-based project, self-assessment and reflections	Case Study Reflection
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Intermediate	Intermediate
		Assessment	Community-based project, self-assessment, and reflections	Assignments, Class participation, reflections, and exams
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	Yes	Intermediate
		Assessment	Community-based project, self-assessment, and reflections	Assignments, Class participation, reflections, and exams
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Intermediate	Intermediate
		Assessment	Community-based project, self-assessment and reflections	Reflections, assignments, case studies, Group project

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Table 3. Year 3 - Required Courses

Rehabilitation Science (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Understanding Disability in Health & Rehabilitation Science SRS 3UD3	Selected Topics in Rehabilitation Science SRS 3ST3
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Intermediate	Intermediate
		Assessment	Analytical assignments, class participation, exams	Analytical assignments, class participation, exams
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	No	No
		Assessment	Analytical assignments, class participation, exams	N/A
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	No
		Assessment	N/A	N/A
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Intermediate	Intermediate
		Assessment	Analytical assignments, class participation, exams	Analytical assignments, class participation, exams
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Intermediate	Intermediate
		Assessment	Analytical assignments, class participation, exams	Analytical assignments, class participation, exams
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	No	No
		Assessment	N/A	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	No	No
		Assessment	Analytical assignments, class participation, exams	N/A

APPENDIX 5

Table 3 Cont'd. Year 3 - Required Courses

Humanities (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Faculty of Humanities 2 Courses (See List - A only*)	Faculty of Humanities 2 courses (See List - A* or B**)
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Introductory	Introductory/Practical
		Assessment	Exams, Tutorial Participation, Essay	Exams, Tutorial Participation, Essay
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	Introductory	Introductory/Practical
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Case Studies Exams, Tutorial Participation, Essay
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	No
		Assessment	N/A	N/A
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Introductory	Introductory/Practical
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Analytical assignments, class participation, exams
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	No	Introductory/Practical
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Analytical assignments, class participation, exams
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	No	No
		Assessment	N/A	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Introductory	No
		Assessment	Case Studies Exams, Tutorial Participation, Essay	N/A

APPENDIX 5

Table 4. Year 4 - Required Courses

Rehabilitation Science (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Research Thesis Project SRS 4RP3	Rehabilitation Science: Inquiry III SRS 4RI3
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Advanced	Advanced
		Assessment	Research-based, final term paper and reflections	Case study, Class Participation, Exams
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	No	No
		Assessment	N/a	N/A
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	Advanced
		Assessment	N/A	Case study, Assignments, Reflections, Class Participation, Exam
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	No	Advanced
		Assessment		Case Study Reflection
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Advanced	Advanced
		Assessment	Research-based, final term paper and reflections	Assignments, class participation, reflections, and exams
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	Advanced	No
		Assessment	Research-based, final term paper and reflections	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Advanced	Advanced
		Assessment	Research-based, final term paper and reflections	Reflections, assignments, case studies, Group project

APPENDIX 5

Table 4 Cont'd. Year 4 - Required Courses

Rehabilitation (Required Courses Cont'd)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Entrepreneurship in Rehabilitation Science SRS 4ER3	Advanced Techniques In Rehabilitation Science SRS 4AR3
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Advanced	Advanced
		Assessment	Group project, final term paper, reflections	Group project, final term paper, reflections
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	Advanced	Advanced
		Assessment	Group project, final term paper, reflections	Group project, final term paper, reflections
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	Advanced
		Assessment	N/A	Group project, final term paper, reflections
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Advanced	Advanced
		Assessment	Group project, final term paper, reflections	Group project, final term paper, reflections
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	Advanced	Advanced
		Assessment	Real-life team project, final term paper, reflections	Group project, final term paper, reflections
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	Advanced	Advanced
		Assessment	Group project, final term paper, reflections	Group project, final term paper, reflections
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Advanced	Advanced
		Assessment	Group project, final term paper, reflections	Group project, final term paper, reflections

APPENDIX 5

Table 4 Cont'd. Year 4 - Required Courses

Humanities (Required Courses)

Program Learning Outcomes (PLO)	Associated DLE	Course Name	Faculty of Humanities 3 Courses (See List: C***)	Faculty of Humanities 1 Course (See List: A*)
		Required or Elective	Required	Required
PLO #1 Relationship-based Culture	1,2,3,4,5,6	Teaching	Advanced	Introductory
		Assessment	Exams, Tutorial Participation, Essay	Exams, Tutorial Participation, Essay
PLO #2 Creativity & Human experience	1,2,3,5	Teaching	Advanced	Introductory
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Case Studies Exams, Tutorial Participation, Essay
PLO #3 Foundations of Clinical Reasoning	3,4,5,6	Teaching	No	No
		Assessment	N/A	N/A
PLO #4 Communication & Inclusive Excellence	1,2,4,5	Teaching	Advanced	Introductory
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Case Studies Exams, Tutorial Participation, Essay
PLO #5 Ethical Reasoning & Professional Conduct	4,5,6	Teaching	No	No
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Case Studies Exams, Tutorial Participation, Essay
PLO #6 Principles of Evidence-based Practice	1,2,3,5	Teaching	No	No
		Assessment	N/A	N/A
PLO #7 Local & Global Community Engagement	1,2,3,4,5,6	Teaching	Advanced	Introductory
		Assessment	Case Studies Exams, Tutorial Participation, Essay	Case Studies Exams, Tutorial Participation, Essay

APPENDIX 6

List and Description of Existing courses

Required

HTHSCI 1H06 A/B - Human Anatomy and Physiology I

An examination of structure-function relationships in the human body systems including the integument, nervous, musculoskeletal, endocrine, cardiovascular, immune, respiratory, gastrointestinal, urinary, and reproductive systems with an emphasis on the role of each system in maintaining homeostasis.

HTHSCI 3RS3 - Exploring the Foundations of Rehabilitation Sciences

Students will engage in discussions focused on the fundamental concepts and theories specific to the role of rehabilitation professions in the local, national, and global contexts. Students will explore the clinical practices and unique roles of physical therapy, occupational therapy, and speech language pathology.

Not required

YEAR 1 COURSES

HTHSCI 1M03 - Foundations of Data Science

This course focuses on promotion of data literacy skills and the introduction of fundamental data science concepts, practices, and tools. These include computation, data analytics, data ethics, data visualization, machine learning, and statistics.

HLTHAGE 1BB3 - Introduction to Aging and Society

Examines issues in aging from a multidisciplinary perspective including such topics as: myths and stereotypes of aging, social ties in later life and the aging of the Canadian population. Provides a deeper understanding of aging and the changing body, mind and self, as well as the meaning and experiences, challenges and opportunities of aging and later life.

LINGUIST 1A03 - Introduction to Linguistics: Sounds, Speech and Hearing

An introduction to the scientific study of language. The course focuses on the sounds of human languages, including how we produce and perceive them, and how words are formed in the world's languages.

IBH 1BA3 - Leadership Coaching

This course provides the foundations for building the critical competencies in Managing ("Doing things Right") to Leading ("Doing the Right Things"). Through in-class group coaching, students will develop and practice the successful thinking and associated behaviours required to grow Emotional Intelligence in the four primary components of Self-Awareness, Self- Management, Social Awareness, Social Management. The coaching model of "What?" (Understanding the critical theoretical foundations), "So What?" (Specific meaning/impacts for individual students), "Now What?" (action steps for application to self and other), provides the format for teaching and learning.

IBH 1BC3 - Fundamentals of Ethics

An introduction to ethical theory and to its application to contemporary moral problems. Topics covered may include the nature of morality and its relationship to culture, religion, and self-interest; the strengths and weaknesses of normative ethical theories, including utilitarianism, Kantianism, virtue ethics and social contract theory; and ethical issues raised by war, torture, world hunger, assisted dying, affirmative action, corporations, and the environment.

PSYCH 1X03 - Introduction to Psychology, Neuroscience and Behaviour

This course introduces the scientific methods used to study the psychology of higher order processes and interpersonal behaviour.

PSYCH 1XX3 - Foundations of Psychology, Neuroscience and Behaviour

This course introduces important themes as the foundations to investigate psychology, neuroscience, and behaviour with an emphasis on sensory systems, and behaviours critical to survival.

HISTORY 1Q03 - History of Medicine

This course explores developments in the history of health and medicine from a global perspective between 1500-present. Topics include religion and healing; global medical theories; medicine and colonialism; the impact of pandemics and epidemic diseases, the development of modern medicine.

PEACJUST 1A03 - Peace, Justice, Human Rights

From Black Lives Matter to #MeToo, migration crises and climate change news, this course examines values and ideologies in local and global struggles for peace, justice and human rights. Concepts: peace, conflict, war, injustice, violence, nonviolence, oppression, are introduced. Historical and contemporary case studies.

YEAR 2 COURSES

HTHSCI 2AE3 - Artistic Explorations of Community Issues

Students will research and explore topics relevant to the B.H.Sc. and Arts & Science communities through engaging with and investigating arts-based research methodologies.

HTHSCI 2DS3 - Global Health and the Complexities of Disease

This course will introduce students to the disease states that define the burden of morbidity and mortality in a global setting. Students will examine the relationships that define the static and dynamic patterns of health and illness by drawing on diverse fields of academic thought and research, including the biological, geographical, anthropological and political sciences.

HTHSCI 2F03 - Human Physiology and Anatomy I

An introduction to the principal organ systems including the endocrine, skin, CNS and locomotion.

HTHSCI 2G03 - Statistics & Epidemiology 1

An introduction to measure of health, the design and analysis of epidemiological studies, the statistical approaches used to analyze data and interpret measures of association, and understanding confounding and bias.

HTHSCI 2GG3 - Statistics & Epidemiology 2

Building on HTHSCI 2G03, this course will introduce more advanced concepts and methods in biostatistics, while examining crucial issues in the design and analysis of epidemiologic studies, and exploring specialized topics.

HTHSCI 2T03 - Sex, Gender, & Health

This course will explore the concepts of sex and gender, and take a critical perspective on how sex, gender, and social norms of masculinity and femininity affect health, healthcare, and health research.

HLTHAGE 2B03 - Social Identify, Health and Illness

A critical exploration of the role of class, race, gender, ability and age in patterns of health and illness.

HLTHAGE 2D03 - Continuum of Care

The course will critically examine the continuum of care options for older adults needing support and services in later life. Some of the topics addressed include quality of life and quality of care issues, challenges involved in care integration across the continuum, environmental design, human diversity and long term care needs, formal and informal support, as well as policy and funding issues.

HLTHAGE 2J03 - Selected Topics in Aging and Society

This course will provide an exploration of selected topics in aging. Topics may vary from year to year.

MUSIC 2MU3 - Introduction Music Therapy Research

Current research papers will be explored in the fields of education, rehabilitation, neurology and mental health.

ARTHIST 2AA3 - Introduction Practice of Art Therapy

An introduction to the practice of art therapy, with an overview of its history, the diversity of its applications within psychodynamic, solution focused, cognitive behavioural principles, embodiment theory, and its clinical implications including neuroscience, mindfulness, Post-traumatic Stress Disorder, and pain management.

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PHILOS 2D03 - Bioethics

An introduction to moral philosophy, through a consideration of issues in health care ethics. Topics such as abortion, human experimentation, euthanasia, and genetic screening will be investigated.

YEAR 3 COURSES

HTHSCI 3AH3 - Indigenous Health

The goal of this course is to provide students with knowledge and skills related to health care practice and policy from within Indigenous contexts. Enabling students to acquire and put into practice concepts and information required to understand and manage health for Indigenous peoples; to engage in culturally competent and safe practice through knowledge development; and the ability to identify areas of need specific to Indigenous health.

HTHSCI 3C04 - Research Appraisal and Utilization in Evidence Informed Decision Making

Introduction to quantitative and qualitative designs with a focus on critical appraisal of evidence and application to nursing practice and healthcare.

HTHSCI 3CC3 - Theatre for Development

This course, rooted in Applied Drama, will enable students to actively participate and explore their creativity, enhancing transferable skills like communication and active listening through drama games and exercises.

HTHSCI 3DD6 A/B - Engaging the City: An Introduction to Community-Based Research in Hamilton

An introduction to the city of Hamilton and community-based research. This course will place experiential emphasis on citizenship, community health, economics, geography, environment, and education.

HTHSCI 3EE3 - Biomedical Graphics

An art course for science students, participants will learn the basics of visual literacy, design and the software used to create effective illustrations or figures in support of scientific communication.

HTHSCI 3FC3 - Science of Fictional Characters

In this interdisciplinary inquiry course, students will use fictional characters as a model to apply and understand key concepts in various scientific disciplines (e.g. biology, psychology). Additional emphasis will be placed on science communication and the development of scientific inquiry skills.

HTHSCI 3G03 - Critical Appraisal of the Medical Literature

Students will learn quantitative research design and how to evaluate the internal validity of published research to determine the effectiveness of an intervention, diagnostic test, screening program, prognostic or risk factor and systemic review.

HTHSCI 3HL3 - Health Law: Current and Emerging Issues

In this course students will explore the use of legal instruments to understand their capacity to achieve health policy goals, as well as their limits as tools for health justice reform. Students will learn about Canadian jurisprudence, including legislation and case law, to critically apply them to emerging issues including the regulation of reproduction, access and rationing of care, and medical assistance in dying.

HTHSCI 3L03 - Introduction to Bioethics (this course can substitute for PHILOS 2D03 - Bioethics)

This course will cover ethical issues that are relevant to biological sciences. Topics will include genetic engineering and cloning, genetic screening, reproductive technology and the use of behavioural strategies to alter societal behaviours.

HTHSCI 3MH3 - Critical Examination of Mental Health

An examination of mental health and illness from different social, cultural and historical perspectives. In this course, students will consider a range of mental health issues and compare how these issues are commonly understood in a critical examination of mental health research and theory.

HTHSCI 3MU3 - Music, Health, & the Community

This experiential interdisciplinary course will develop community experience and leadership in the Hamilton Intergenerational Music Program. In-class discussions will focus on the function and role of music in health and healthcare, intergenerational issues, leadership skills, and music education.

HTHSCI 3N03 - Written Communication in Health Sciences I (this course is an alternative to HTHSCI 3S03 - Communication Skills)

This course will explore various genres of written communication. Students will develop their editing and writing skills in a small group.

HTHSCI 3QA3 - Qualitative Research Methods in Health

An inquiry-based course examining a wide range of qualitative methods used in health research, including ethnography, narrative, phenomenology, and arts-and science-based approaches. We explore qualitative methods in the clinical, public, and biomedical health sciences.

HTHSCI 3S03 - Communication Skills (this course can substitute for HTHSCI 3S03 - Communication Skills)

This course offers students a variety of learning experiences that will enable them to better understand the relationship between effective communication and desired health care outcomes. Students will be exposed to evidence based research, role playing, standardized simulations and audio-visual reviews.

LIFESCI 3AA3 - Human Pathophysiology

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This course examines the normal physiology of a healthy individual through to the pathophysiological consequences of disease at the cell and tissue level, and how this can lead to greater implications between the various systems of the body. Disease management with pharmacologic agents and other lifestyle approaches will be discussed.

LIFESCI 3BB3 - Neurobiology of Disease

Examination of the cellular, circuit and system level abnormalities that underlie nervous system diseases. Topics may include: addiction, epilepsy, spinal cord injury, neuromuscular diseases and neurodegenerative diseases.

LIFESCI 3K03 - Neural Control of Human Movement

The control of human movement studied in detail from neurophysiological, cognitive and dynamical perspectives. Topics include basic neurophysiology, mechanisms of sensation, reflexes, voluntary movement and theories of motor control.

LIFESCI 3Q03 - Global Human Health and Disease

This course explores some of the most pressing issues in global health, from infectious disease to addiction. Students will investigate disease mechanisms as well as societal factors that threaten health and wellbeing. Students will also think critically about the important role of communication between scientists, policymakers and communities.

HLTHAGE 3L03 - Embodied Aging

This course explores the centrality of the body in social gerontological knowledge, policies and practices related to aging, and the experiences of late life. Examples of the topics addressed include the classification of the old body, bodily change and impairment, technological advancements for the body/prosthetic devices, and the relationship between the body/identity/self over the life course.

HLTHAGE 3N03 - Aging and Mental Health

This course will examine the mental health of older adults from a variety of perspectives. Key topics include changes in cognitive functioning, dementia, assessment protocols, treatment methods, and older adults' sources of resilience.

LINGUIST 3F03 - Anatomy and Physiology for Speech, Language and Hearing

Anatomy and physiology of human speech production and hearing. Systems for speech production (lungs, glottis, vocal tract, jaw, lips) and perception (outer/middle/inner ear, auditory processing) and anatomy of brain areas for speech perception.

LINGUIST 3NL3 - Cognitive Neuroscience of Language

A survey of the current scientific literature dealing with brain function related to language processes in typical and special populations.

PSYCH 3AG3 – Aging

A survey of sensory, cognitive, personality, and social changes that occur during the normal aging process.

INDIGST 3H03 - Indigenous Medicine I: Philosophy

This course will examine Indigenous concepts of health and wellness. The wholistic traditional approach will be used in the classroom as well as in visits by elders, medicine people and class trips to places of health, wellness and healing.

ENGLISH 3NH3 - Narratives of Health

This course inquires into representations of health with reference to a range of media. Critical frameworks may include critical disability studies, environmental humanities, feminist research, critical race studies, science and technology studies, narrative medicine, and Indigenous studies.

ENGPHY 3EC4 - Professional Communication and Project Management

Introduction to communication styles, team dynamics, oral and written presentation skills, effective two-way communication strategies, project management, problem analysis, and job skills.

YEAR 4 COURSES

HTHSCI 4AC3 - Advanced Communication Skills

This course will build on Communication Skills acquired in HTHSCI 3S03 and expose students to more in-depth learning experiences via the Centre for Simulation Based Learning and classroom debriefs/presentations. This course will employ video and multimedia analysis to enhance learning and develop advanced-level communication skills for difficult conversations.

HTHSCI 4CU3 - Cultural Competency in Health Sciences

Culturally competent practitioners can interpret and effectively act on the cultural context of an individual in their health care environment. Relationship building is key to cultural competence. Communications skills help us understand and manage each other's expectations and attitudes and highlight each other's strength using a wide range of individual and community resources. This course will use theoretical and practical exercises to build our cultural competency and examine how we can effectively act in our health care community.

LIFESCI 4Y03 - Applied Biomechanics

A combination of lectures and problem-based learning on aspects of human movement facing the modern biomechanist. Topics and problems are taken from occupational, clinical and sport biomechanics.

HLTHAGE 4B03 - Death and Dying in Later Life

This course addresses quality of life at the end of life. Examines issues related to death, dying and bereavement from interdisciplinary perspectives by highlighting cultural, ethical, and spiritual aspects, as well as end of life care.

HLTHAGE 4J03 - Narratives of Illness

This seminar explores the role that narratives of illness play in describing, shaping and interrogating the experiences of those who are 'unwell'.

HLTHAGE 4P03 - Leisure and Recreation in Later Life

This course focuses upon characteristics of the aging population and the theoretical aspects of aging as related to recreation, leisure and lifestyle explores the diverse meanings of health and wellness to older adults and analyzes the different mechanisms through which health and well-being can be maximized such as providing for physical, emotional, economic and political needs of older people.

ARTSSCI 4CT3 – Medical Humanities Inquiry

This course exposes students to the rapidly developing international field known as medical humanities. It explores the interconnections between health, medicine, the arts, and the humanities, with a particular focus on issues of medical ethics and narrative in medicine.

HISTORY 4FF3 - History of Health and Medicine

Themes will vary and may include health and medicine from a comparative perspective, the relationship between imperialism and medicine, public health and urban environment, exercise, and health.

PEACJUST 4L03 - Peace, Environment and Health

Selected environmental issues influencing peace and health. Topics may include social, ecological and economic perspectives on global change, biodiversity and water issues locally and globally.

APPENDIX 7

List and Description of Proposed New Courses

Rehabilitation Inquiry: Introduction, Intermediate, and Advanced (3 separate courses in year 2, 3 and 4)

Within the program, there is a core group of three (3) required inquiry courses where students are initially introduced to a variety of rehabilitation perspectives with the aim of discussing and debating different viewpoints of health, disability and functioning to acquire a range of intellectual skills. This course will facilitate the development of life-long and self-directed learning in the context of one or two rehabilitation issues. A problem-based course applying principles of scientific inquiry to selected rehabilitation issues.

Theories, Frameworks & Models of Rehabilitation (year 2)

This course will examine historical, current, and emerging theories and models in Rehabilitation and Health. Theories provide a blueprint or framework from which to view rehabilitation research, practice, and policy. Such theories and associated models can clarify behavior and provide guidance in the selection of assessment tools and rehabilitation interventions, as appropriate.

Evidence-based practice in rehabilitation: Understanding & Application (year 2)

This course will introduce the knowledge, skill, and application of evidence-based research, including the history and definition of evidence-based practice, which will complement concepts specific to the measurement and appraisal of assessment and outcome measures, as well as interventions. Theories and frameworks for translating such emerging evidence to practice and policy will also be discussed.

Measurement fundamentals in Rehabilitation (year 2)

This course will provide an overview of the measurement theory as it applies to rehabilitation science including selection of outcomes measures, assessment tools and interventions in clinical practice and an introduction to how to appraise measures in terms of clinical feasibility, usability, and other properties.

Selected Topics in Rehabilitation (year 3)

This selected topics in rehabilitation course is designed to allow the exploration of leading-edge issues in emerging and developing areas of Rehabilitation Science. The specific topics will be developed in response to the needs identified by faculty together with interests from students.

Understanding Disability in a Health and Rehabilitation Context (year 3)

This course provides a broad overview of definitions and paradigms of impairment, dysfunction, and disability. Attention is given to the historical and cultural development of concepts and categories of disability, critical disability theory, recent policies focused on equity, diversity and inclusion, where the implications of rehabilitation and health on the lives of persons with disabilities will be examined.

Experiential-Focused Practicum (year 3)

This course will include supervised, practical experience in an employment-related field of study. The site could be a long-term care facility, rehab center, hospital, community, private practice, or business. The experiential-focused practicum could be 3 or 6 units depending on student-site interests and corresponding preference.

Entrepreneurship & Commercialization in Rehabilitation (year 4)

This course will focus on the development and application of strategic thinking, problem solving and clinical understanding. The scope of commercialization and entrepreneurship in rehabilitation Science is wide-ranging and far-reaching. Many rehabilitation professionals own their own practice, which requires a specialized skillset. However, many large and medium-sized health organizations are seeking intrapreneurs, meaning those who have leading-edge ideas, but prefer to work inside such organizations, rather than to start or run their own business. These different roles and skillsets will be explored and discussed.

Community Engagement in Rehabilitation (year 4)

Community engagement focuses on building authentic relationships with off-campus partners. Such relationships are often influenced by preceding (historic) policies and practices that continue to shape rehabilitation. This course will use a seminar format with case scenarios allowing for in-depth discussion of definitions and theories of community engagement, participation, and health with a rehabilitation lens.

Innovation in Rehabilitation (year 4)

This course examines both conceptual and practical approaches to innovations in rehabilitation practice and will focus on evidence-informed ways to implement changes in rehabilitation-focused research, policy, and practice.

Undergraduate Research Course (year 4)

This course includes research under the supervision of a faculty member. This research experience will provide an understanding of clinical (rehabilitation) research. The undergraduate research course could be 3 or 6 units depending on the complexity and time commitment of the project and could include a review of the literature, data collection and/or analysis, as well as preparing presentations and other modes of knowledge translation.

APPENDIX 8

TERMS OF REFERENCE
Director, Rehabilitation, Health and Humanities
School of Rehabilitation Science and the
Faculty of Humanities
May 2021

1. Outline of the Position

The Director of Rehabilitation, Health and Humanities (RHH) is responsible for managing the organization, promotion, and delivery of the Program within the School of Rehabilitation Science (SRS) and Faculty of Humanities, McMaster University.

2. Requirements of the Position

- Faculty member of the School of Rehabilitation Science or Faculty of Humanities.
- Demonstrated commitment to high-quality undergraduate education; and,
- Strong interest in, and commitment to, effective program management.

3. Report Requirements

The Program Director will report jointly to the Vice Dean from the SRS and the Dean of the Faculty of the Humanities.

4. Appointment and Re-appointment

The Program Director will be selected by a committee co-chaired by the Dean/Vice Dean (or their delegates) from the School of Rehabilitation Science and the Faculty of Humanities. The membership of the selection committee consists of two (2) faculty members from SRS and the Faculty of Humanities and is appointed by the Co-Chairs. The normal term appointment for the Program Director shall be five (5) years, with the possibility of renewal. Every effort will be made to rotate the Directorship of the program between SRS and Humanities depending on the interest and qualifications of the faculty members.

The performance of the Director will be reviewed annually by the Vice-Dean/Dean of the School of Rehabilitation Science and Humanities.

5. Responsibilities and Activities of the Position

The Program Director's responsibilities include the following:

- Ensuring that the program's admission criteria are properly implemented.
- ensure that all academic regulations governing the program and its students are properly applied.
- Working with the appropriate offices and individuals, primarily within the School of Rehabilitation Science and the Faculty of Humanities, on the various activities involved in promoting, delivering, and enhancing the Program, including, but not limited to:
 - Student recruitment
 - Financial assistance

APPENDIX 8

- Academic advising
- Curriculum planning and implementation
- Instructional recruitment and support
- Student career preparation
- Alumni development activities.

In carrying out these activities, the Director will Work with a dedicated Program Coordinator, who will receive assistance as needed in consultation with the Directors of Administration of the School of Rehabilitation Science and Humanities.

6. Other Considerations

- The Program Director will receive the equivalent of two (2) sections of teaching relief per year.
- Though no formal budget is assigned, the Director, from time to time, may incur modest out-of-pocket reimbursable expenses arising from faculty-student events, student job recruitment and alumni development activities.
- The Program Director will consult with members of the appropriate committee and the Vice Dean/Dean of SRS and Humanities in planning future directions for the program.

APPENDIX 9

October 6th,

Dear Dr. Brooks,

I am writing in support of the new Honours BSc (Rehabilitation, Health and Humanities) program. There are many areas where the Health Sciences Library (HSL) is well poised to support learners in this new program. In particular, we have a long history of working with programs focused on experiential and inquiry-based learning. HSL librarians are well versed in the processes necessary to teach learners the merits of finding, evaluating, and using the information to pursue the application of evidence-based practice and evidence-informed decision making. However, when trying to understand the impact of any new program on the McMaster libraries, three aspects must be carefully considered: collections, services and space.

Collections: The HSL already subscribes to and purchases a vast collection of journals, books, evidence-informed decision-making tools and video content in subject areas related to rehabilitation sciences, health care research, evidence-based practice, and the social determinants of health. The HSL's interprofessional and interdisciplinary approach to collecting health content means that we are more than ready to provide the information needed to develop curricula, complete assignments, and support research. It is unlikely any new content will need to be purchased. Also working in our favour is the fact that, in most cases, the HSL is already invoiced as a major research institution (meaning our subscription costs fall into the highest billing tier). This means that the addition of new students will not bump us into a new payment category. Growing undergraduate enrollment will not impact excising collection costs, nor will it force us to renegotiate the terms of our existing licenses.

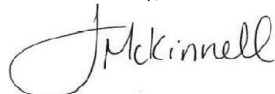
Services: The HSL has unused capacity in its interlibrary loan and consultation services, and undergraduate students tend to be low users of these particular services. Given the proposed size of the program and the level of study, the HSL is more than able to support these students. Walk-in and virtual reference services also have ample capacity and expertise.

When considering undergraduate research activity, particularly as it relates to self-directed, inquiry-based learning, the HSL may struggle to meet demand. Assuming funds to hire additional library staff are limited, I recommend that curriculum developers work closely with the HSL to ensure ample time to plan learner interventions and information literacy support activities. It may be necessary to develop self-paced modules and other asynchronous learning activities to ensure the students develop the advanced information evaluation, use, and management skills we normally expect from health sciences learners.

Space: McMaster's libraries have been operating well beyond space capacity for many years. Students often report that they cannot find a place to study in the library. However, it is unlikely the proposed additional students will create significant extra strain on existing library space.

I am intrigued and excited to learn of the newly proposed Honours BSc (Rehabilitation, Health and Humanities) program. The HSL is ready and willing to support the new learners. Although there are some areas where creative problem solving and careful planning are required, I am pleased to endorse the program proposal. Please feel free to contact me if you have any questions or require additional information.

Yours sincerely,



Jennifer McKinnell
Director, Health Sciences Library

EXTERNAL REVIEWERS'

REPORT ON Proposed BHSc (Integrated Rehabilitation and Humanities)

March 8, 2022

Reviewer 1

Name: Kim Sawchuk

University Address: Communication Studies, Concordia University, Montreal Quebec 7141
Sherbrooke St West H4B1r6

Reviewer 2

Name: Stella Ng

University Address: University of Toronto Dept of Speech-Language Pathology and Centre for
Interprofessional Education, 399 Bathurst St, Nassau Annex, Toronto Western Hospital, Toronto
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Internal Reviewer

Name: Stacey Ritz

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Was the site visit: In person: ☐ Virtual site visit: X [Desk Review](#): ☐

If the review was conducted either virtually or via desk review, was this format agreed to by both external reviewers? Yes X No ☐

Was sufficient rationale provided by the Provost/Provost's delegate for an off-site visit?

Yes X No ☐

For those reviews that included an in-person or virtual visit, please indicate the following (or insert the site visit schedule below:

- Who was interviewed?
- What facilities were seen?
- Comment on any other activities relevant to the appraisal

Or: insert the site visit schedule below;

Tuesday, January 25, 2022		Zoom Link
8:30 am – 9:00 am	Review Team Introductory meeting with: Dr. Kim Dej, Vice-Provost, Faculty Dr. Amy Gullage, Lead Educational Developer, Curriculum Development	<p>Join Zoom Meeting https://mcmaster.zoom.us/j/97134454309</p> <p>Meeting ID: 971 3445 4309</p> <p>One tap mobile</p> <p>+16132093054,,97134454309# Canada</p> <p>+16473744685,,97134454309# Canada</p>
9 am – 10:15 am	Meeting with Vice Dean and Associate Dean Dr. Dina Brooks Vice Dean, School of Rehabilitation Science (SRS) Dr. Sean Corner, Associate Dean, Faculty of Humanities (Humanities)	
10:15- 10:45 am	Break	
11:00 – 12:00 pm	Meeting with Faculty Dr. Brenda Vrkljan, Professor, SRS Dr. Claude Eilers, Professor, Humanites	
12:00 pm – 1:30	Break	
1:30 pm – 2:45 pm	Meet with administrative staff: Zrinka Granic, Director of Administration, SRS Marcy Murchie, Director of Administration, Humanities Jessica Gasewicz, SRS Program Manager Liz Dzaman, SRS Program Coordinator	
2:45 pm – 3:15 p	Break	
3:15 pm – 4:00 pm	Review team meeting time	

In order to continuously improve the effectiveness and efficiency of site visits/virtual site visits, please comment on the following:

How effective was the proposal brief in preparing you for the visit/virtual site visit?

The proposal brief that the evaluation team received was thorough and clear. It provided ample information to prepare the team for the virtual site visit. That said, a minor suggestion would be to include an abstract or executive summary of the proposal brief in future documents as well as other summary figures/diagrams to provide a bird's eye view of all "moving parts" more easily.

How could the logistics of the visit/virtual site visit be improved?

In general, the logistics for the virtual site visit were excellent, although the term "visit" is perhaps a misnomer. Logistically, the two days were well-organized. The team appreciated that we were provided with breaks from the Zoom environment, which also afforded us time to review the information gathered from the interviews.

We found the student input extremely valuable. They are future "clients" of the program, so allowing time for them to provide insight was vital for this evaluation. It was important that different levels of students were represented, as well as students from different sectors. While there was representation from each sector, the Humanities students seemed somewhat under-represented, as only two undergraduate students from this sector were included in the student interviews. Students could have even more time and opportunity to share their voices in future visits.

We have three recommendations related to the inclusion of students:

- 1) Allow more time to interview the students;
- 2) Let the team know, in advance, what students will be included, and what programs they come from;
- 3) Set up a more deliberate recruitment of student representation from across the disciplines that are involved in the establishment of the new program.

PROGRAM

Comment on if the program's objectives clearly described;

The program's objectives are clearly described in the brief, and the clarity of these objectives, and the deep level of commitment to this future program was confirmed in our interviews. The program's 'champions' (the 2 Dean's, in particular), articulated why and how this program should exist, and justified its need at this particular moment. Students articulated the need for this connection to be made between Rehabilitation and Humanities, for very clear reasons, reflected back into the statement of the program's objectives. As one student noted, "We need to understand our clients as more than just mechanical parts to be able to work towards treatment". Another commented on the need to rethink health and rehabilitation in ways that acknowledges "the diversity and differences of clients". Still another commented on the need to be able to communicate with clients in a way that takes their definition of health, and their goals and objectives into account.

Many of our interviewees commented that “I can’t believe this doesn’t exist”. They also made it clear that they saw this program as providing new career opportunities for “the next-generation” of Rehab students in health care. As one students stated, they saw the addition (or deep integration) a Humanities perspective as essential to their future prospects: There is a practicality to this proposed degree that will help us in our career and for prospective jobs.” This perspective was echoed throughout our interviews.

Comment on the appropriateness of the degree nomenclature, given the program’s objectives

The nomenclature is fine and the terms are well chosen. While the Humanities comes at the end of the nomenclature, this should not be taken as a sign that it is secondary. It should be noted that the use of the term and concept “integration” instead of, for example, “transformation,” is educationally meaningful. Many interviewees stressed that this integration would be substantial or “deep.” We will comment more on this later in the report.

Comment on the consistency of the program with McMaster’s mission and academic plan; whether the program learning outcomes are clear, appropriate and aligned with the undergraduate or graduate Degree Level Expectations.

The proposed program is very consistent with McMaster’s history as an innovator in pedagogical innovations in relation to health sciences education. We find that it is consistent with innovations in McMaster’s curricula (e.g. inquiry-based learning). It is also consistent with the nascent relationships in place that will benefit from this program. These relationships include those between researchers, teachers, existing programs and community organisations within the Hamilton region, and beyond (e.g. Northern program).

The program connects to McMaster’s Current Priorities and Strategic Mandate Agreement. McMaster is focused on inclusive excellence, teaching and learning, research and scholarship, and engaging local, national, global and Indigenous communities, all with operational excellence. Clearly teaching and learning, research and scholarship, and the engagement of communities are highlighted in the proposed program. In particular, the three goals outlined in the 2020-21 Strategic Goals & Priorities:

- a) Developing a distinctive, personalized, engaging, and sustainable student experience;
- b) Enhancing the connections between McMaster and the communities we serve, locally, provincially, nationally, and around the globe;
- c) Strengthening the excellence of our research and our graduate education and training, while seeking opportunities to integrate research more purposefully into our academic mission.

Comments: In general, from upper levels of administration to staff and students, the enthusiasm of the interviewees leads us to conclude that the new program is not only *consistent* with McMaster’s brand and identity as an institution, it will actually serve to enhance McMaster’s brand and identity. In the words of one interviewee: “This is a missing piece.”

The program objectives clearly align with three aspects of this program: the student experience; community engagement; and research.

Specific Recommendations (where applicable):

The clear enthusiasm for this program by all parties is an obvious strength and is absolutely necessary to ensure its success. However, it will also be necessary to ensure that mechanisms are put into place to ensure that this goodwill is deployed to advantage. Expectations are high.

As such we recommend the following:

1) Formalize discussions: Need to set up a mechanism for coming together regularly, and need to set this up in advance of the program launching and in a formal way. We recommend the formalization of ongoing collaborative means to review the objectives of the program. Such mechanisms, and joint activities beyond the classroom, may assist the Humanities and Rehabilitation faculties and departments to continually and collaboratively reflect on their convergent (and productively divergent) vision and goals for the integrated program, advance their disciplines and fields, community relationships, and ensure growth and sustainability.

2) Innovative Internships: We recommend exploring opportunities to set up internships that go beyond traditional “rehabilitation” sites, and bring in locations such as museums, libraries, galleries where such learning could take place. Importantly, such opportunities should be purposefully integrated into the overall curriculum with clear purposes, and with guidance made available to students. We emphasise that creating “an internship” is not pedagogy unto itself; rather how is the internship constructed meaningfully, and how is it integrated into the broader curriculum? Faculty interviews pointed to potential ways to integrate students into research projects. This also fits with experiential learning objectives.

3) Hybrid/Digital Delivery of Rehab?: The program may need to consider more deliberately the role that digital and remote rehabilitation can play for engaging with different communities, including those living in rural or remote areas. This is also one of the lessons commented on that was learned in the pandemic.

4) Equity, Diversity, Inclusion, Accessibility: We recommend careful, thoughtful, meaningful work be done in relation to equity, diversity, inclusion and accessibility. Admissions must attend to equity and diversity, faculty must be appropriately representative of diversity of students and communities, community partnership must consider accessibility and inclusion (who is engaged and how), and curricula must attend to all of these principles in terms of both content and pedagogy. The overall culture of the program—for faculty, students, and partners—must be continually monitored to ensure a

welcoming space that models the ideals of critical inquiry and diverse and reasoned dialogue.

ADMISSION & ENROLMENT

Comment on whether the admission requirements (including any alternative requirements) are appropriately aligned with the program learning outcomes (and/or Degree Level Expectations) established for completion of the program.

Are there any applicable alternative admission requirements, including how the program recognizes prior work or learning experience, and if so, are they appropriate?

COMMENTS: In general the admissions requirements are appropriately aligned with the admissions requirements, That said, during interviews, at least two key questions emerged worth considering and monitoring as the program evolves:

- 1) How will the introduction of this program impact admissions and enrolments in other programs?
- 2) How does one ensure that a diversity of students are attracted and admitted to the program? This diversity includes potential students from the Humanities who may not have the Sciences needed, but may be excellent potential candidates, as well as students from communities under-represented in the Rehabilitation Sciences, whose communities would benefit from the program, but who also may have an impact on how Rehabilitation is considered?

Specific Recommendations (where applicable):

We suggest the following:

- 1) Monitor impact of program after it is implemented;
- 2) Consider how EDI may be taken into account in terms of admissions.

STRUCTURE

Comment on how the program's structure and regulations meet the specified program learning outcomes.

Is the program's structure and the requirements to meet the program objectives and program-level learning outcomes appropriate?

Do the program's structure, requirements and program-level learning outcomes ensure students meet the institution's Undergraduate or Graduate Degree Level Expectations?

Does the (proposed) mode of delivery facilitate students' successful completion of the program-level learning outcomes?

Does the curriculum address the current state of the discipline or area of study?

COMMENTS: The program's structure and requirements are appropriate and meet the institution's expectations for undergraduate level degrees, although as mentioned above, there will be a need to monitor if these requirements facilitate the inclusion of a diversity of students in the program. The proposed delivery modes are not only matched to program level outcomes—they are opportune and may enhance learning if leveraged strategically and in an evidence-informed way. The curriculum addresses the current state given a call in the health professions to engage more with the humanities, and a call within the humanities to re-articulate its societal good.

Specific Recommendations (where applicable):

At risk of being repetitive, we underscore that a curricular or program committee meet regularly to ensure:

- 1) Continual revisiting of program level purpose;
- 2) Aligning these to course-level purposes or objectives;
- 3) The experiences/placements and pedagogies align to course objectives and the program purpose;
- 4) The assessment approaches align with the pedagogies used per course;
- 5) All of the above is done in an (education) evidence-informed, pedagogically sound, and meaningful way.
 - To do so, regular student feedback should be sought and considered;
 - Regular consultation with education experts available at McMaster;
 - Ongoing consultation with the home/partnered faculties to ensure the program continually meets both faculties' needs.

CURRICULUM AND TEACHING

Comment on how the curriculum reflects the current state of the discipline or area of study; evidence of significant innovation or creativity in the content and/or delivery of the program; the appropriateness and effectiveness of the modes of delivery at meeting program learning outcomes; and how teaching in the program prioritizes areas of accessibility and removes barriers to learning.

COMMENTS: The current curriculum is well-described. It may not represent significant innovation beyond the creation of the integrated program itself. The site visit did illuminate that ongoing curricular exploration would occur and that the integration of programs may indeed lead to innovation both within and beyond the program itself. As such, it is possible the combination of the Humanities and Rehabilitation may lead to the transformation of both fields. For this reason, we view *integration* as a key value, conceptually. We discussed its choice over, for example, “transformation.” It suggests that the Humanities sector is joining with the Health sector to broaden perspectives and deepen attention and understanding to humanistic aspects of health and care. In the words of one Faculty member: “Rehab starts with being human.” This suggests purposeful consideration of how the two fields will come together. Again, ongoing discussions should monitor and assess if and how the Humanities are being integrated throughout the program.

Specific Recommendations (where applicable):

- 1) Courses that are developed will need to be tracked to assess if they are meeting the needs of training students to take a more “humanistic approach” to care and rehabilitation. The program will also need to continually ask: how does a Humanities approach mean that course content stays up to date with current issues and challenges?
- 2) We further recommend paying attention to how “integration” is occurring. Is it occurring at the level of curriculum design, content/knowledge, and pedagogy? In faculty members? We have witnessed other attempts, at other institutions, at adding Humanities to health professions education or health sciences programs. Often these attempts merely provide additional coursework, leaving students to do the integrative cognitive work. This approach can lead to sub-optimal learning experiences, satisfaction, and outcomes.
- 3) There are evidence-informed ways to support cognitive integration of different forms of knowledge with practical application, through integrated instruction. We suggest continual review of literature (e.g. by McMaster’s own Geoffery Norman and colleagues), curricular monitoring for this form of instruction, and evaluation of outcomes.

ASSESSMENT OF LEARNING

Comment on the appropriateness and effectiveness of the proposed methods of assessment in demonstrating achievement of the program learning outcomes, as well as the extent to which the program(s) assess graduating student achievement of the program learning outcomes.

Are the plans in place to monitor and assess the following, both appropriate and effective?

- i. The overall quality of the program;***
- ii. Whether the program is achieving in practice its proposed objectives;***

- iii. ***Whether its students are achieving the program-level learning outcomes; and***
- iv. ***How the resulting information will be documented and subsequently used to inform continuous program improvement.***

COMMENTS: Given the different epistemological and historical backgrounds of the Humanities and Rehabilitation as academic fields, this will be an ongoing challenge and opportunity: aligning assessment with each the paradigms and pedagogies of each course, and ensuring thoughtful diversity and integration of assessment approaches across the program.

Specific Recommendations (where applicable):

We recommend the establishment of an assessment committee that focuses specifically on:

- 1) Articulating the epistemologies and paradigms involved in the course (e.g. see Baker et al (re: paradigms) and Charise et al (re: epistemologies) in *Advances in Health Sciences Education* for other recent examples of blending humanities and health sciences);
- 2) Ensuring assessment is compatible and in alignment with the epistemologies and paradigms of the course (e.g. see Taveres et al in *Advances in Health Sciences Education* for the principle of compatibility in assessment when health sciences incorporates humanistic goals);
- 3) Considering how the course's assessments relate to the broader program;
- 4) Reviewing the assessments for quality, validity, and epistemological compatibility and paradigmatic alignment;
- 5) Reviewing how students are doing on the assessments

RESOURCES TO MEET PROGRAM REQUIREMENTS

Comment on evidence that there are adequate human, physical and financial resources to sustain the quality of scholarship produced by undergraduate students.

Given the program's class sizes and cohorts as well as its program-level learning outcomes:

- a) ***Is the number and quality of core faculty who are competent to teach and/or supervise sufficient to achieve the goals of the program and foster the appropriate academic environment?***

- b) When adjunct/sessional faculty play a large role in the delivery of the program, is their role appropriate? Are plans in place to ensure the sustainability of the program and the quality of student experience and if so, are these suitable?*
- c) Is the provision of supervision of experiential learning opportunities adequate, if applicable?*
- d) Taking into consideration implications for other existing programs at the university, is the administrative unit's planned use of existing human, physical and financial resources appropriate?*
- e) Are there adequate resources available to sustain the quality of scholarship and research activities produced by students, including library support, information technology support, and laboratory access?*

NOTE: *External Reviewers are not expected to assess the financial viability of a program, and internal budgets are not under the purview of the External Review of a New Program Proposal. Provide a general assessment of the administrative unit's planned use of existing financial resources.*

COMMENTS: The willingness by all parties to cooperate on implementing this program was strongly expressed. Interviews indicated the resources, and expertise in place at all levels- from the staff to the faculty- to make the program a success, and indicated deep commitment.

There was no clear or substantial plan in place to hire new faculty to meet the (additional) teaching demands of this new program. All parties indicated that a heavy reliance on sessional instructors would be the norm for the program. Recruiting or retaining sessional instructors was not foreseen as a problem or issue. The experience these instructors bring to the program was emphasized with enthusiasm.

That said, there will be challenges in ensuring that all sessional instructors are adequately informed about the program goals, and how the perspective of the humanities in particular may be integrated into their teaching practice. Furthermore, the knowledge and expertise of session instructors must be respected, recognized, and integrated meaningfully and appropriately as the program evolves. .

Specific Recommendations (where applicable):

- 1) Ensure that all sessional instructors are given adequate information on how the methodologies, approaches and perspectives of the program may or may not entail some revision to their current pedagogical approaches and curricular goals;
- 2) Continually commit to and monitor for the equitable and respectful inclusion and compensation for the valuable experience brought to the program by sessional instructors.

QUALITY AND OTHER INDICATORS

Please provide commentary on the indicators the department will use over the first five years to document and to demonstrate the quality of the program.

Comment on the quality of the faculty (e.g., qualifications, funding, honours, awards, research, innovation and scholarly record, appropriateness of collective faculty expertise to contribute substantively to the program and commitment to student mentoring).

Comment on any other evidence that the program and faculty will ensure the intellectual quality of the student experience.

Comment on any evidence of how faculty members will ensure the intellectual quality of the student experience.

COMMENTS: Indicators: The indicators, as outlined in the document's received, to assess the quality of the program over 5 years have been reviewed. We have no comments to make on these indicators, as the applicants have done an excellent job.

Quality of the faculty: This is an exceptionally strong group of faculty members, who have garnered significant amounts of funding from all three major national funding bodies: SSHRC, NSERC and CIHR. Several are included on major collaborative research teams, including SSHRC partnership grants. Team members have garnered awards for highly competitive interdisciplinary collaborations such as the New Frontiers programs. Team members also bring a variety of expertise, from innovative ways to engage in community outreach through the arts, to expertise in bioethics, to linguistics, to innovative approaches to conceptualising the social determinants of health as it relates to treatment, to innovations in pedagogy and learning. These are all indications of the ability of this group to work collaboratively, inter-sectorally and in an interdisciplinary fashion.

The quality and commitment of the faculty to their research was evident throughout the interviews, and underscored during meetings with faculty members where their collegiality was continually in evidence. The combined scholarly record indicates that this is a highly productive faculty who not only publish at an impressive rate, but also in high quality journals and for renowned International presses.

Faculty members and the student experience:

In our meetings, the faculty interviewed expressed their interest in developing new courses for the curriculum to meet the ever-changing needs of the field, of their students, and of their community. They were also articulate in their expressions of how bringing these two sectors could and would benefit their research and their pedagogy, and there was an openness to learning from each other. For example, there was a robust discussion of how and why narrative approaches matter in the context of Rehabilitation.

Interviews conveyed that faculty members were not only thinking about their individual courses. They were willing and able to discuss how individual courses would operate within a broader arc and set of goals and values. Others recognized this as an "opportunity" to be seized. Faculty spoke of the many potential mentorship opportunities this program would

create for students. All of this indicates that this new program is not simply seen as an opportunity for the expansion of programs, but as having the potential to be transformative for both the Humanities and the Rehabilitation Sciences. Thus, indicators could focus on markers of integration, influence, and transformation for the program itself, the Rehabilitation field, and the Humanities field.

CONFIDENTIAL SECTION

Provide any commentary or recommendations on confidential areas.

Comments: We have nothing confidential to share. We are happy to share all our comments and recommendations with all stakeholders.

Specific Recommendations (where applicable):

SUMMARY & RECOMMENDATIONS

Provide a brief summary of the review. Please include commentary on any clearly innovative aspects of the proposed program together with recommendations on any essential or otherwise desirable modifications to it, as applicable.

Recommendations that are clear, concise, and actionable are the most helpful for universities as they prepare to launch new programs. Include specific steps to be taken on any essential or otherwise desirable modifications to the proposed program.

NOTE: *The responsibility for arriving at a recommendation on the final classification of the program belongs to the Appraisal Committee. Individual reviewers are asked to refrain from making recommendations in this respect.*

Brief Summary of the Review:

The team, in particular the external examiners, commend the architects and champions of this program. We have conducted other external reviews, and despite the use of Zoom, this was an outstanding experience. The commitment and enthusiasm for this program was palpable at each and every session. We commend the work of the entire team who contributed to the making of this.

The program, rightly, understands both its timeliness and import both for the local community, the University, and the disciplines and sectors involved. There was also clearly a mutual and reciprocal respect on each side of the equation, and an excitement in seeing what this program would generate, even beyond the very clear and specific objectives of program development.

Given the commitment of everyone to the future success of this program, we offer these three practical recommendations, in addition to the detailed recommendations listed throughout this evaluation.

Recommendation 1:

We recommend the program establish and implement formal structures and processes for faculty development. Associated with faculty development, we recommend structures to co-

develop curriculum and share course-by-course domain foci and pedagogies, including assessment methods, across all faculty. We make this suggestion because the diversity of faculty in any interdisciplinary program is a strength best bolstered through thoughtful and deliberate educational choices. The differing epistemologies and education paradigms common in the Humanities and Rehabilitation fields offer rich potential for exchanges in learning and research; yet left unchecked they can also present incongruencies and misalignments that may be unhelpful or even detrimental to learners. The faculty development recommendation is particularly important given the diversity of faculty positionality imposed by a program that intermingles faculties and permanent, tenured, and sessional faculty.

Recommendation 2:

We recommend establishing principles and processes to ensure sessional instructors are kept abreast of the program's philosophical evolution and operational issues. In turn, we also recommend monitoring processes to ensure that sessional instructors are respected and recognized (and compensated) in an equitable and ethical manner. This recommendation is both ethical and pragmatic, as well as crucial to the sustainability of the program.

Recommendation 3:

We recommend continually monitoring for principles of equity, diversity, inclusion and accessibility in all aspects of the program, from admissions to faculty development to overall content of the curriculum. Importantly we also recommend attending to these principles in the program's culture—for both faculty and students. We believe Recommendation 2 will serve to model these principles in action.

Signature: 

Signature: 

Date: March 8, 2022

Program Response
Institutional Quality Assurance Program (IQAP) New Program Review
BHSc (Integrated Rehabilitation and Humanities)

Date of Review: January 25th and 26, 2022

Review Team Members:

External: Drs. Kim Sawchuk and Stella Ng

Internal: Dr. Stacey Ritz

Program Response prepared by: Dina Brooks, Brenda Vrkljan, Sean Corner, Claude Eilers

Response date prepared: March 23, 2022

Program Response Summary

We would like to thank the external reviewers, Dr. Kim Sawchuk (Concordia University) and Dr. Stella Ng (University of Toronto) and the internal reviewer, Dr. Stacey Ritz (Assistant Dean, BHSc), for their very thoughtful review and feedback on the BHSc (Integrated Rehabilitation and Humanities). We were pleased by the many favorable comments about the program, including the commitment and enthusiasm shared by staff, faculty, and students, and their praise of the innovative teaching and learning approach. We were appreciative that the reviewers noted that the program is well aligned with the strategic priorities of the University and has significant support from all levels, and, current, and potential students.

We appreciate the reviewers' thoughtful comments and corresponding recommendations. We have addressed each of their recommendations below.

Program Response to Reviewers' Recommendations

There were 3 practical recommendations from the reviewers, which are addressed below:

Recommendation 1: We recommend the program establish and implement formal structures and processes for faculty development. Associated with faculty development, we recommend structures to co-develop curriculum and share course-by-course domain foci and pedagogies, including assessment methods, across all faculty. We make this suggestion because the diversity of faculty in any interdisciplinary program is a strength best bolstered through thoughtful and deliberate educational choices. The differing epistemologies and education paradigms common in the Humanities and Rehabilitation fields offer rich potential for exchanges in learning and research; yet left unchecked they can also present incongruencies and misalignments that may be unhelpful or even detrimental to learners. The faculty development recommendation is particularly important given the diversity of faculty positionality imposed by a program that intermingles faculties and permanent, tenured, and sessional faculty.

RESPONSE: We thank the reviewers for this excellent recommendation. In addition to the Admissions subcommittee, we will set-up another subcommittee focused on Faculty Development that will also sit under the Operations Committee. The Faculty Development subcommittee will be set-up immediately upon program approval. Within our original IQAP

proposal, we identified existing courses (Appendix 6), as well as new courses (Appendix 7) that will be developed respectively for this degree. As the reviewers noted, the development of these courses will offer the opportunity to “co-develop curriculum and share course-by-course domain foci and pedagogies, including assessment methods, across all faculty.” Hence, the Faculty Development subcommittee will be comprised of equal numbers of Rehabilitation Science and Humanities faculty who will, in turn, consult their respective faculty more broadly, as needed. By working together in this way, we expect the different yet complementary epistemologies across faculties to be reflected within and across the curriculum and corresponding courses. This committee will meet bimonthly until the program is launched. We have added a description of this committee in Section 3 of our IQAP report.

Once this program is launched, this subcommittee will meet at least once every academic term where its ‘*Terms of Reference*’ will aim to:

- 1) Ensure a ‘culture of collaboration’ where resources and expertise among faculty members (permanent, tenured, and sessional) in Humanities and Health Sciences are shared.
- 2) Provide a forum for faculty of all levels (permanent, tenured, and sessional) to share course-by-course domain foci and pedagogies, including assessment methods

***Recommendation 2:** We recommend establishing principles and processes to ensure sessional instructors are kept abreast of the program’s philosophical evolution and operational issues. In turn, we also recommend monitoring processes to ensure that sessional instructors are respected and recognized (and compensated) in an equitable and ethical manner. This recommendation is both ethical and pragmatic, as well as crucial to the sustainability of the program.*

RESPONSE: We fully agree with this recommendation. Both the School of Rehabilitation Science and the Faculty of Humanities have had success with hiring and sustaining a strong cohort of sessional instructors who enjoy teaching and are committed to excellence. We would use a similar approach with the establishment of this new program regarding sessional instructor involvement. For example, sessional instructors are given the same consideration as tenured and part-time faculty, in that they receive feedback on their teaching from peers and participate in annual retreats in the respective programs. Compensation for their contributions are open and transparent with ‘contracts’ set-up in accordance with [McMaster HR policies](#).¹ The Faculty Development subcommittee, as described above, will ensure representation from sessional faculty, which will provide an opportunity for input and keep abreast of philosophical evolution, as well as operational issues of the program. In addition to this committee, an e-communications bulletin will be set-up for the program and delivered monthly by email to ensure all faculty, including sessionals, are kept up to date on the program. In addition to the Faculty Development subcommittee proposed above, the program will hold annual retreats that include all instructors in the program. These retreats would have an agenda with clearly articulated goals for the discussion, focused primarily on short- and long-term planning. These retreats would focus on a combination of faculty development and pedagogical exploration. The organization and specific focus of these retreats would be the responsibility of the Director

of the program, with input from with the Executive committee, Operating Committee and, in consultation, with the Faculty Development subcommittee.

¹Link: <https://hr.mcmaster.ca/employees/total-rewards/sessional-faculty/>

***Recommendation 3:** We recommend continually monitoring for principles of equity, diversity, inclusion, and accessibility in all aspects of the program, from admissions to faculty development to overall content of the curriculum. Importantly we also recommend attending to these principles in the program's culture—for both faculty and students. We believe Recommendation 2 will serve to model these principles in action.*

RESPONSE: Both the School of Rehabilitation Science and the Faculty of Humanities are strongly committed to the principles of equity, diversity, inclusion (EDI), accessibility, and Indigenous Reconciliation (IR). Within the School of Rehabilitation Science, every program has an Advisory Committee on Anti-Racism, Anti-Bias and Anti-Oppression (ARABAO). Two representatives (a student and a faculty member) from each program are then part of the School's ARABAO committee where both individual- and cross-program initiatives are determined and supported accordingly (e.g., Facilitated Black Admissions process, invited speakers on EDI). The Vice-Dean of the School sits on the ARABAO committee. The Faculty of Health Sciences has also recently established the [Indigenous Health Learning Lodge](#)², which is critical to upholding the principles of Truth and Reconciliation, particularly those linked to health and well-being of Indigenous People in Canada. The Faculty of Humanities is also currently finalizing the terms of reference for its Advisory Committee on Equity (ACE) to ensure proper attention is given to issues of equity and diversity in all our programs. Students, faculty, and staff in the BHSc (Integrated Rehabilitation Science and Humanities) will benefit from the teaching and learning opportunities offered through the learning lodge, which will also be integrated within the curriculum.

For the proposed BHSc (Integrated Rehabilitation and Humanities), we will set-up an ARABAO subcommittee, which will be co-chaired by a faculty and a student member, and include staff, students, faculty, as well as community stakeholders, such as those who host student internships where the focus is on shared practices, communication strategies, language, inclusive and accessible teaching and learning principles across all courses, and educational initiatives through the lens of anti-racism, anti-bias and anti-oppression. The committee will also ensure that the curriculum reflects culturally diverse/relevant approaches and reflects anti-racism, anti-bias, and anti-oppression content. This subcommittee will provide ongoing guidance and input to the Operating committees concerning equity and diversity initiatives as well as consult, where needed and appropriate, with the Faculty Development Subcommittee to ensure initiatives are inclusive and accessible to both learners and course instructor. This committee will set annual goals. This committee will be accountable to the Operating Committee to ensure that these initiatives and shared practices are implemented in a timely fashion. An overview of this subcommittee is described in section 3 of the revised IQAP report.

²Link: <https://healthsci.mcmaster.ca/ihl>

In addition to the above *practical* recommendations, there were *detailed* recommendations that were outlined by the reviewers across their report that have also been addressed below:

Program:

- 1) *Formalize discussions: Need to set up a mechanism for coming together regularly and need to set this up in advance of the program launching and in a formal way. We recommend the formalization of ongoing collaborative means to review the objectives of the program. Such mechanisms, and joint activities beyond the classroom, may assist the Humanities and Rehabilitation faculties and departments to reflect on their convergent (and productively divergent) vision and goals continually and collaboratively for the integrated program, advance their disciplines and fields, community relationships, and ensure growth and sustainability.*

RESPONSE: As noted previously, we aim to immediately establish a Faculty Development subcommittee of the Operating committee. This subcommittee will have an important role, as the reviewers have recommended, to discuss and collaborate on joint formal learning activities (coursework) within and beyond the classroom. These ‘integrated’ activities will advance their knowledge, skills, and abilities to understand the complex nature of health and well-being. Hence, learners who graduate from this program will be optimally positioned to address emerging needs of their clients and communities. Based on the reviewer’s recommendation, the Faculty Development subcommittee will be a critical conduit to ensure the “convergent (and productively divergent)” vision and goals are integrated within and across the program, including supporting the growth and sustainability of community relationships that extend from the immediate community and beyond.

- 2) *Innovative Internships: We recommend exploring opportunities to set up internships that go beyond traditional “rehabilitation” sites, and bring in locations such as museums, libraries, galleries where such learning could take place. Importantly, such opportunities should be purposefully integrated into the overall curriculum with clear purposes, and with guidance made available to students. We emphasize that creating “an internship” is not pedagogy unto itself; rather how is the internship constructed meaningfully, and how is it integrated into the broader curriculum? Faculty interviews pointed to potential ways to integrate students into research projects. This also fits with experiential learning objectives.*

RESPONSE: We appreciate the reviewers raising the importance of going beyond traditional rehabilitation sites to include locations, such as museums, libraries, and galleries. As outlined in the section of our report (4.2) ‘Program Innovation’ (p. 19), the learning environment will be a community and academic partnered environment. While we listed hospitals, nursing homes, rehabilitation centres, community centres, private clinics, organizations, or mental health departments in this section, the School of Rehabilitation Science and the Faculty of Humanities has many non-traditional community partnerships. The interviews with stakeholders (Appendix 2, p. 36) highlighted many opportunities for which the perspectives of students of this program would be of value to their setting. For example, the School of Rehabilitation and its respective

programs have established many ‘role-emerging’ placements with organizations and divisions within the City of Hamilton. One of our faculty, Dr. Brenda Vrkljan, is leading a project, that has funding by the University Provost and Vice-Dean, that involves seniors and aging in partnership with the Hamilton Public Library. The library has expressed interest in hosting students for such placements, as they are also evolving as an organization in terms of offerings that go beyond what is ‘traditional’ for libraries. The coordinator of experiential learning for program will work on developing further relationships with community organizations both within the local community, as well as the potential for hybrid/digital learning opportunities (as response below to next question).

- 3) Hybrid/Digital Delivery of Rehab: The program may need to consider more deliberately the role that digital and remote rehabilitation can play for engaging with different communities, including those living in rural or remote areas. This is also one of the lessons commented on that was learned in the pandemic.

RESPONSE: There are many lessons from the COVID-19 pandemic when it comes to supporting not only student learning using digital and remote technologies, but also how we can engage with communities in rural and remote locations. The School of Rehabilitation Science has a strong history of partnering with rural and remote communities, as evidenced by the Northern Studies Stream that has been in place for over 20 years. Moreover, during the recent pandemic, the School of Rehabilitation Science had students on hybrid/digital placements for which guidelines were developed.

- 4) Equity, Diversity, Inclusion, Accessibility: We recommend careful, thoughtful, meaningful work be done in relation to equity, diversity, inclusion, and accessibility. Admissions must attend to equity and diversity, faculty must be appropriately representative of diversity of students and communities, community partnership must consider accessibility and inclusion (who is engaged and how), and curricula must attend to all of these principles in terms of both content and pedagogy. The overall culture of the program—for faculty, students, and partners—must be continually monitored to ensure a welcoming space that models the ideals of critical inquiry and diverse and reasoned dialogue.

RESPONSE: We appreciate the reviewers’ emphasis on ensuring the principles of equity, diversity, inclusion, and accessibility are integrated across the proposed program. As outlined above, we will develop an Advisory Committee on Anti-Racism, Anti-Bias and Anti-Oppression (ARABAO) that will include learners, staff and faculty who will identify specific metrics, as well as a strategy for measuring (evaluating) such outcomes. While the University, as well as the Faculty of Health Sciences conduct an annual census where the metrics are helpful, there is a need, as the reviewers note to continually monitor the culture of the program to ensure it is welcoming space, particularly given the courses involve critical inquiry and dialogue. The ARABAO committee for the program will be responsible for determining outcomes and monitoring progress in terms of representation of a diversity of students, staff, and faculty. This committee will be accountable to the Operating Committee. The ARABAO committee will

provide ongoing guidance and advice to the Operating committees about equity and diversity initiatives and advise on such initiatives to ensure they are inclusive and accessible to both learners and course instructors. A similar organizational structure has been implemented successfully in other programs in SRS, particularly through a pan-School integration ARABAO Committee, which minimizes duplication of efforts and initiatives.

Admissions

- 5) How will the introduction of this program impact admissions and enrolments in other programs? Monitor impact of program after it is implemented;

RESPONSE: The initial enrolment number of students in the BHSc (Integrated Rehabilitation and Humanities) is relatively low (i.e., 50 students) and increases gradually over the next few years to a maximum of 100 students. At present, the existing BHSc at McMaster (the main competitor for this program), only accepts 10-20% of applicants. Therefore, the BHSc (Integrated Rehabilitation and Humanities) should have little or no impact on admission numbers of the other BHSc program. We also intentionally selected level II as the entry point for this new program so that students could come from level I programs across the university so as to minimize the impact on any one Faculty or program.

For all programs, we keep record of applications and admissions. For the BHSc integrated Rehabilitation Science and Humanities, we will also monitor the number of applicants, as well as their characteristics, such as GPA and EDI parameters (see response below to next question).

- 6) How does one ensure that a diversity of students are attracted and admitted to the program? This diversity includes potential students from the Humanities who may not have the Sciences needed, but may be excellent potential candidates, as well as students from communities underrepresented in the Rehabilitation Sciences, whose communities would benefit from the program, but who also may have an impact on how Rehabilitation is considered?
Consider how EDI may be taken into account in terms of admissions.

RESPONSE: The ARABAO committee will ensure that EDI is accounted for during the admission process for the new program. Within the School of Rehabilitation Science, a black facilitated admission process was developed will launch in 2023. The lessons learned from this recent process will be applied in the new program. For example, the black facilitated admission process includes the opportunity for applicants to provide supplementary material to provide context for their responses to questions and ensure their voice is heard. McMaster's Faculty of Health Science also has a facilitated admission process for Indigenous applicants to its [programs](#).³The reviewers also raised an important point to ensure diversity of applicants from Level I Humanities programs. In the supplemental material required of applicants, we will include questions that consider the knowledge, skills, and abilities of applicants with a background and interest in the Humanities.

³Link: <https://ishs.mcmaster.ca/admissions/self-identification>

Structure: 7) At risk of being repetitive, we underscore that a curricular or program committee meet regularly to ensure:

- a. Continual revisiting of program level purpose;
 - b. Aligning these to course-level purposes or objectives;
 - c. The experiences/placements and pedagogies align to course objectives and the
 - d. program purpose;
 - e. The assessment approaches align with the pedagogies used per course;
 - f. All of the above is done in an (education) evidence-informed, pedagogically sound, and meaningful way.
- To do so, regular student feedback should be sought and considered;
 - Regular consultation with education experts available at McMaster;
 - Ongoing consultation with the home/partnered faculties to ensure the program continually meets both faculties' needs.

RESPONSE: We fully agree with all of these recommendations, which are reflected in the Terms of Reference for the program's Operating Committee and corresponding subcommittee focused on Faculty Development. As previously noted, this subcommittee will meet bimonthly and continually monitor the program's vision and alignment with courses (& learning objectives) as well as the placement/internships and other experiential learning opportunities. This committee will seek input and consultation regarding pedagogical design, as the reviewers recommend, from the MacPherson Institute for Teaching and Learning within McMaster, as well as seek ongoing consultation with similar (integrated) programs at McMaster (i.e., integrated biomedical engineering and health sciences; integrated humanities and business).

Curriculum and Teaching

8) Courses that are developed will need to be tracked to assess if they are meeting the needs of training students to take a more "humanistic approach" to care and rehabilitation. The program will also need to continually ask: how does a Humanities approach mean that course content stays up to date with current issues and challenges?

9) We further recommend paying attention to how "integration" is occurring. Is it occurring at the level of curriculum design, content/knowledge, and pedagogy? In faculty members?

10) There are evidence-informed ways to support cognitive integration of different forms of knowledge with practical application, through integrated instruction. We suggest continual review of literature (e.g., by McMaster's own Geoffery Norman and colleagues), curricular monitoring for this form of instruction, and evaluation of outcomes.

RESPONSE: We fully agree with these recommendations, which have been outlined in the Terms of Reference of the Operating Committee. We have also suggested the addition of the Faculty Development subcommittee that will consult with the pedagogical experts at McMaster and beyond.

Assessment of Learning

11) We recommend the establishment of an assessment committee that focuses specifically on:

- Articulating the epistemologies and paradigms involved in the course (e.g., see Baker et al (re: paradigms) and Charise et al (re: epistemologies) in *Advances in Health Sciences Education* for other recent examples of blending humanities and health sciences);
- Ensuring assessment is compatible and in alignment with the epistemologies and paradigms of the course (e.g., see Taveres et al in *Advances in Health Sciences Education* for the principle of compatibility in assessment when health sciences incorporate humanistic goals);
- Considering how the course's assessments relate to the broader program;
- Reviewing the assessments for quality, validity, and epistemological compatibility and paradigmatic alignment;
- Reviewing how students are doing on the assessments
- Ensure that all sessional instructors are given adequate information on how the methodologies, approaches and perspectives of the program may or may not entail some revision to their current pedagogical approaches and curricular goals;
- Continually commit to and monitor for the equitable and respectful inclusion and compensation for the valuable experience brought to the program by sessional instructors.

RESPONSE: We thank the reviewers for this excellent recommendation. We have proposed a Faculty Development subcommittee of the Operating committee that has responsibility for curriculum development. Within this subcommittee, an 'Assessment' working group will be established whose Terms of Reference will reflect the important points outlined in the above comments. We have described this working group in the revised IQAP report in Section 3.

Resources to meet Program needs

12) Ensure that all sessional instructors are given adequate information on how the methodologies, approaches and perspectives of the program may or may not entail some revision to their current pedagogical approaches and curricular goals;

We have proposed a Faculty Development Committee that will meet throughout the academic year as well as annual retreats to ensure that pedagogical approach and curriculum goals are discussed at regular intervals.

13) Continually commit to and monitor for the equitable and respectful inclusion and compensation for the valuable experience brought to the program by sessional instructors.

RESPONSE: The Director and Executive committee will be responsible for monitoring all the parameters related to the sessional involvement in the program. Thank you for this suggestion.

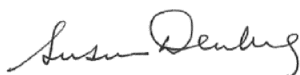
Deans' Response
Institutional Quality Assurance Program (IQAP) New Program Review
Bachelor of Health Science [BHSc] (Integrated Rehabilitation & Humanities)
Review Date: January 25-26, 2022

March 24, 2022

We were grateful to receive the External Reviewers' Report on the recent review of the new BHSc (Integrated Rehabilitation & Humanities) program. We wish to extend our thanks to the external reviewers, Drs. Kim Sawchuk of Concordia University and Stella Ng of University of Toronto; and to our internal reviewer, Dr. Stacey Ritz. Their review of this new program was collegial, thorough, and thoughtful; and their insights were both affirming and supportive in the further development of the Integrated Rehabilitation & Humanities program.

We have reviewed the report carefully alongside the Program's responses to the recommendations raised by the reviewers. We are satisfied that the Program has earnestly attended to each of the recommendations and their associated concerns. We remain highly supportive of this Program, the efforts of the Program development and oversight team, and the potential it represents to address important issues for our learners and society.

Sincerely,



Dr. Susan Denburg
Executive Vice-Dean & Associate
Vice-President, Academic
Faculty of Health Sciences



Dr. Pamela Swett
Dean, Faculty of Humanities
Department of History